AUES PROJECT NO. TCS/00704/14

CONTRACT NO. MTRC6593-13C –
WAN CHAI STATION LEE TUNG STREET SUBWAY

12TH ENVIRONMENTAL MONITORING AND AUDIT (EM&A) MONTHLY REPORT – AUGUST 2015

PREPARED FOR
KADEN CONSTRUCTION LIMITED

Quality Index

Date	Reference No.	Prepared By	Approved By
14 September 2015	TCS00704/14/600/R0065v2	 Nicola Hon Environmental Consultant	 T.W. Tam Environmental Team Leader

Version	Date	Description
1	8 September 2015	First Submission
2	15 September 2015	Amended according to the IEC's comment on 11 September 2015

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15 September 2015

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Attention: Mr Kenneth Chow / Environmental Engineer II

Dear Sir

Consultancy Agreement A130-13
Independent Environmental Checker for CRS and LTS
LTS - Verification for 12th Monthly Environmental Monitoring and Audit (EM&A) Report (August 2015) (Report No.: TCS00704/14/600/R0065v2)

We refer to the 12th Monthly EM&A Report (August 2015) received under cover of the email from the Environmental Team, AUES, dated on 8 September 2015.

Further to our comments provided on 11 September 2015 and subsequent revision of the Report by AUES on 15 September 2015, we have no further comment and have verified the captioned report (Report No.: TCS00704/14/600/R0065v2).

Should you have any queries, please feel free to contact the undersigned at 2410 3750 or our Dr. Alex Cheung at 2410 3796.

Yours faithfully
AECOM Consulting Services Ltd

P.P.

Rodney Ip
Independent Environmental Checker

ACWH/wwsc

cc Kaden Construction Limited (Attn.: Mr. Ronald Fung) via email
AUES (Attn.: Ms. Nicola Hon) via email

EXECUTIVE SUMMARY

ES01 This is the **12th** monthly EM&A Report presenting the monitoring results and inspection findings for the period from **1 to 31 August 2015** (hereinafter 'the Reporting Period').

SUMMARY OF ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES02 The monitoring and audit activities during the Reporting Period are summarized in below:-

Environmental Aspect	Environmental Monitoring Parameters / Inspection	Reporting Period	
		Number of Monitoring Location	Total Occasions
Air Quality	24-hour TSP	**1**	**6**
Construction Noise	$L_{eq(30min)}$ Daytime	**2**	**8**
Site Inspection / Audit	Joint with ET, the Contractor and RE	--	**3**
	Joint with IEC, ET, the Contractor and RE	--	**1**

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES03 In the Reporting Period, no air quality and noise monitoring exceedances were registered. The statistics of environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation	Corrective Actions
Air Quality	24-hour TSP	0	0	0	0	0
Construction Noise	$L_{eq(30min)}$ Daytime	0	0	0	0	0

ENVIRONMENTAL COMPLAINT

ES04 No public complaint was received in the Reporting Period.

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES05 No environmental summons or successful prosecutions were recorded in the Reporting Period.

REPORTING CHANGE

ES06 No reporting changes were made in the Reporting Period.

SITE INSPECTION

ES07 In the Reporting Period, weekly site inspection by the MTRC, ET and Contractor was carried out on **6, 13, 20 and 27 August 2015** and the IEC was joined the site inspection on **27 August 2015**. No non-compliance was observed during the site inspection.

FUTURE KEY ISSUES

ES08 Construction noise is the key environmental issue during construction work of the Project as there are residential buildings nearby. Noise mitigation measures should be fully implemented in accordance with the EM&A requirement.

ES09 Special attention should be paid on the potential construction dust impact as the construction site is located near the residential area. The Contractor should fully implement the construction dust mitigation measures properly.

ES010 The Contractor should prevent muddy water and other water pollutants via site surface water runoff get into public areas and implement water quality mitigation measures properly. Any discharge water should be strictly complied with wastewater discharge license requirement.

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1 INTRODUCTION

PROJECT BACKGROUND

1.01 **KADEN CONSTRUCTION LIMITED** (hereinafter 'KCL') has been awarded by the MTR Corporation Limited (MTRCL) the Contract No. *MTRC6593-13C – Wan Chai Station Lee Tung Street Subway* (hereinafter "the Project'), which is a Designated Project to be implemented under Environmental Permit EP-444/2012 (hereinafter referred as "the EP-444/2012" or "the EP").

1.02 The Project includes redevelopment of the Lee Tung Street area to improve pedestrian networking by enhancing the accessibility, connectivity and circulation of human traffic north-south from Queen's Road East area to Wan Chai MTR Station, and providing a safe and attractive means for pedestrian crossing of Johnston Road. The Project site layout plan is shown in ***Appendix A*** and works under the Project comprise of:

(i) Construction of a pedestrian subway link between Urban Renewal Authority's Redevelopment at Site H15 (the Development) and Wan Chai Station (WAC);

(ii) Construction of two ventilation shafts; and

(iii) Modification works of some of the station concourse.

1.03 The Project is expected to be undertaken for 36 months. In order to effectively implement the environmental protection measures as stipulated in the Particular Specification (PS), an Environmental Monitoring and Audit Plan (EMAP) which enclosed in the Project Profile (PP) was prepared to guide the setup of the environmental monitoring and audit (EM&A) programme of the Project.

1.04 Action-United Environmental Services and Consulting (AUES) has been commissioned by the KCL as the independent environmental team (ET) to implement the relevant EM&A programme for the Project.

1.05 The baseline monitoring program was carried out between 3 June 2014 and 19 June 2014 at the proposed monitoring locations by the ET according to the approved EMAP. The "Baseline Monitoring Report (R0010 Version 4)" has been verified by IEC submitted to the EPD on *15 July 2014* before commencement of major construction works. The construction of the Project was commenced on 28 August 2014 as notified by KCL. Accordingly, relevant EM&A programme was started on 28 August 2014.

1.06 This is **12th** monthly EM&A report presenting the monitoring results and inspection findings in the Reporting Period from **1 to 31 August 2015**.

REPORT STRUCTURE

1.07 This Report is structured into the following sections:-

Section 1 *Introduction*
Section 2 *Project Organization*
Section 3 *Environmental Impact Monitoring Requirement*
Section 4 *Monitoring Results*
Section 5 *Waste Management*
Section 6 *Site Inspections*
Section 7 *Environmental Complaint and Non-Compliance*
Section 8 *Implementation Status of Mitigation Measures*
Section 9 *Conclusions and Recommendations*

2 PROJECT ORGANIZATION AND SUBMISSION

PROJECT ORGANIZATION

2.01 The project organization is shown in ***Appendix B***. The responsibilities of respective parties are:

MTR Corporation Limited (MTRCL)

2.02 MTRCL is the Project Proponent and the Permit Holder of the EP of the development of the Project and will assume overall responsibility for the project. Also, an Independent Environmental Checker (IEC) should be employed by MTRCL to audit the results of the EM&A work conducted by Environmental Team.

Environmental Protection Department (EPD)

2.03 EPD is the statutory enforcement body for environmental protection matters in Hong Kong.

Resident Engineer (RE)

2.04 The RE is responsible for overseeing the construction works and for ensuring that the works are undertaken by the Contractor in accordance with the specification and contract requirements. The duties and responsibilities of the ER with respect to EM&A are:

- Monitor the Contractor's compliance with Contract Specifications, including the effective implementation and operation of the environmental mitigation measures;
- Inform the Contractor when action is required to reduce impacts in accordance with the Event and Action Plans;
- Participate in site inspections undertaken by the ET; and
- Co-operate with the ET in providing all the necessary information and assistance for completion of the complaint investigation works.

Independent Environmental Checker (IEC)

2.05 The IEC should advise the ET and RE on environmental issues related to the project. The IEC should audit from an independent viewpoint on the environmental performance during the construction of the project. The IEC should be a person who has relevant professional qualifications in environmental control and at least 7 years' experience in EM&A and environmental management. The duties and responsibilities of the IEC are:

- Review and audit in an independent, objective and professional manner in all aspects of the EM&A programme;
- Validate and confirm the accuracy of monitoring results, appropriateness of monitoring equipment, monitoring locations with reference to the locations of the nearby sensitive receivers, and monitoring procedures;
- Carry out random sample check and audit on monitoring data and sampling procedures, etc;
- Conduct random site inspection;
- Review the effectiveness of environmental mitigation measures and project environmental performance;
- On an as-need basis, verify and certify the environmental acceptability of the construction methodology (both temporary and permanent works), relevant design plans and submissions under the environmental permit. Where necessary, the IEC should agree in consultation with the ET and the Contractor least impact alternative;
- Check complaint cases and the effectiveness of corrective measures;
- Verify EM&A report certified by the ET Leader; and
- Feedback audit results to RE/ET according to the Event/Action Plan.

Environmental Team (ET)

2.06 The ET should conduct the EM&A programme and ensure the Contractor's compliance with the project's environmental performance requirements during construction. The ET should plan, organize and manage the implementation of the EM&A programme and ensure that the EM&A works are undertaken to the required standard.

2.07 The ET should be led and managed by the ET Leader. The ET Leader should have relevant

professional qualifications in environmental control and possess at least 7 years' experience in EM&A. The ET Leader should be responsible for the implementation of the EM&A programmes in accordance with the EM&A requirements. The duties and responsibilities of the ET include:

- Sampling, analysis and statistical evaluation of monitoring parameters;
- Environmental site surveillance;
- Inspection and audit of compliance with environmental protection, and pollution prevention and control regulations;
- Assess the effectiveness of the environmental mitigation measures implemented;
- Monitor compliance with the environmental protection clauses/specifications in the Contract;
- Review construction programme and comment as necessary;
- Review work methodologies which may affect the extent of environmental impact during the construction phase and comment as necessary;
- Complaint investigation, evaluation and identification of corrective measures;
- Liaison with the IEC on all environmental performance matters, and timely submission of all relevant EM&A proforma for IEC's approval; and
- Advice to Contractor on environmental improvement, awareness and enhancement matters etc.

The Contractor

2.08 The Contractor should report to the RE. The duties and responsibilities of the Contractor are:

- Comply with the relevant contract conditions and specifications on environmental protection
- Participate in the site inspections undertaken by the ET;
- Provide assistance to ET to carry out monitoring;
- Provide requested information to the ET in the event of any exceedance in the environmental criteria (Action/Limit levels);
- Submit proposals on mitigation measures in case of exceedances of Action and Limit levels in accordance with the Event / Action Plans; and
- Cooperate with the ET in providing all the necessary information and assistance for completion of the complaint investigation works. If mitigation measures are required following the investigation, the Contractor should promptly carry out these measures.

SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.09 In accordance with the EP stipulation, the required documents and submission status to EPD are listed in Table 2-1.

Table 2-1 Submission/Set-up Status of the EP Requirements

EP Condition	Submission	Status
2.3	Management Organization of Main Construction Companies	Submitted
2.7	Landscape Plan	Submitted
3.3	Baseline Monitoring Report (*TCS00704/14/600/R0010v4*)	Submitted
4.2	Internet website	live

2.10 Summary of environmental permits, licenses, and relevant notifications on environmental protection for the Project are presented in ***Table 2-2***.

Table 2-2 Status of Environmental Licenses and Permits of the Project

Item	Description	License/Permit Status
1	Air pollution Control (Construction Dust) Regulation	Notified EPD.
2	Chemical Waste Producer Registration - Waste Producers Number	WPN:5213-131-K3099-01 Approved on 14/05/2014
3	Water Pollution Control Ordinance - Discharge License	License no.: WT00019539-2014 Approved on 16/07/2014 Valid to: 31/07/2019
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account no.: 7019837 Approved on 30/04/2014

Item	Description	License/Permit Status
5	Construction Noise Permit under Noise Control Ordinance	GW-RS0290-15 obtained on 18 March 2015 Valid from 19:00 of 19 March 2015 to 07:00 of 11 September 2015
		GW-RS0600-15 obtained on 4 June 2015 Valid from 19:00 of 23 June 2015 to 07:00 of 12 December 2015
		GW-RS0656-15 obtained on 12 June 2015 Valid from 01:30 of 12 June 2015 to 04:30 of 11 December 2015

CONSTRUCTION PROGRESS

2.11 The construction activities conducted in the Reporting Period are listed in below. Moreover, the master construction program is shown in ***Appendix B***.

- Sheet piling
- Reinstatement
- Concerting
- Grouting
- Pre-Drilling
- Cable Containment works

3 ENVIRONMENTAL IMPACT MONITORING REQUIREMENT

3.01 The ET will implement the EM&A programme in accordance with the requirements in EMAP. Details of the EM&A programme are presented in the following sub-sections.

MONITORING PARAMETERS

3.02 The EM&A impact monitoring program covers the following environmental aspects:

- Air quality; and
- Construction noise

3.03 A summary of the monitoring parameters is presented in ***Table 3-1***:

Table 3-1 Summary of the monitoring parameters of EM&A Requirements

Environmental Issue	Parameters
Air Quality	• 24-hour Total Suspended Particulate (hereinafter '24-hour TSP') • 1-hour TSP monitoring (*)
Construction Noise	• A-weighted equivalent continuous sound pressure level (30min) (hereinafter '$L_{eq(30min)}$' during the normal working hours

Remarks:
(*) *In case 24-hour TSP exceed the air quality criteria to be carried out*

MONITORING LOCATIONS

3.04 According to Sections 2.3 and 3.4 of the EMAP which enclosed in the Project Profile (Register No. PP-472/2012), construction noise and air quality monitoring locations are required to be set up at Hennessy Building and Chiu Hin Mansion. In early May 2014, site visit was conducted to select suitable locations to carry out relevant noise and air monitoring for the EM&A Programme. It was noted that both Hennessy Building and Chiu Hin Mansion are residential buildings and only the 1/F to 2/F of the buildings could be accessed which are commercial premises. It is not possible to set up the monitoring station at upper floors inside the residential apartment which will cause nuisance to the residents. Finally, two locations at lower floor were selected which access were successfully granted by the premises occupiers. The monitoring stations proposed for the Project are summarized in ***Table 3-2*** and illustrated in ***Appendix C***.

Table 3-2 Air and Noise Monitoring Locations

Aspect	Monitoring Location	Location ID	Address	Description
Air Quality	Chiu Hin Mansion	A1	balcony at 1/F of Chiu Hin Mansion	ASR close to the Project site
Construction Noise	Hennessey Building	N1	2/F floor of Hennessey Building	NSR facing to the Project site
	Chiu Hin Mansion	N2	balcony at 1/F of Chiu Hin Mansion	NSR facing to the Project site

MONITORING FREQUENCY AND PERIOD

3.05 The requirements of impact monitoring as stipulated in the EMAP are presented in following.

Air Quality

3.06 Frequency of impact air quality monitoring:

- 24-hour TSP Once every 6 days during course of works.

3.07 In case of non-compliance with the air quality criteria, a more frequent monitoring exercise adopting 1-hour TSP monitoring undertaken when the highest dust impact occurs, as specified in the Event and Action Plan, should be conducted within 24 hours after the result is obtained. This additional monitoring should be continued until excessive dust emission or the deterioration in air quality is rectified.

Construction Noise

3.08 One set of $L_{eq(30min)}$ as 6 consecutive $L_{eq(5min)}$ between 0700-1900 hours on normal weekdays and once every week during course of works. If construction work necessary to carry out at other time periods, i.e. restricted time period (19:00 to 07:00 the next morning and whole day on public holidays) (hereinafter referred as "the restricted hours"), 3 consecutive $L_{eq(5min)}$ measurement will be depended on CNP requirements to undertake. Supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.

MONITORING EQUIPMENT

Air Quality Monitoring

3.09 The 24-hour TSP shall be measured by following the standard high volume sampling method as set out in the *Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B (USEPA)*. A direct reading dust meter is used to measure 1-hour TSP air quality, in case of non-compliance of air quality criteria occurred in 24-hour TSP measurement.

3.10 The filter paper sample collected in 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory. All equipments to be used for air quality monitoring are listed in ***Table 3-3***.

Table 3-3 Air Quality Monitoring Equipment

Equipment	Model
24-hour TSP	
High Volume Air Sampler	TISCH High Volume Air Sampler, HVS Model TE-5170
Calibration Kit	TISCH Model TE-5028A
1- hour TSP	
Portable Dust Meter	TSI Model 8520 DustTrak Aerosol Monitor / Aerocet 531 Handheld Particle Mass Profiler & Counter / Sibata LD-3A Laser Dust Monitor

3.11 According to the EMAP, wind data monitoring equipment shall be provided and set up for logging wind speed and wind direction near the dust monitoring locations. The equipment installation location shall be proposed by the ET and agreed with the IEC. For installation and operation of wind data monitoring equipment, the following points shall be observed:

1) The wind sensors should be installed 10 m above ground so that they are clear of obstructions or turbulence caused by buildings.
2) The wind data should be captured by a data logger. The data shall be downloaded for analysis at least once a month.
3) The wind data monitoring equipment should be re-calibrated at least once every six months.
4) Wind direction should be divided into 16 sectors of 22.5 degrees each.

3.12 Although ET was successful granted HVS installation premises, the owners rejected to install wind data monitoring equipment.

3.13 In this situation, the ET proposed to adopt the meteorological information from King's Park Weather Station from the Hong Kong Observatory as the representative wind data. King's Park Station provided all useful from information such as humidity, rainfall, and air pressure and temperature etc.

3.14 Although there are other closer weather stations, King's Park Station was selected as it is the nearest weather station that measures all the relevant parameters mentioned above. Moreover, the ET has compared the data among the stations, and concluded that there is minimal difference between meteorological data collected at the King's Park station and other stations.

Construction Noise Monitoring

3.15 Sound level meter in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. The sound level meter shall be checked using an acoustic calibrator. The wind

speed shall be checked with a portable wind speed meter capable of measuring the wind speed in ms^{-1}. Furthermore, an acoustic calibrator and sound level meter shall be calibrated yearly.

3.16 Noise monitoring equipment to be used for monitoring is listed in ***Table 3-4***.

Table 3-4 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	B&K Type 2238 or Rion NL-14
Calibrator	Rion NC-73 / B&K Type 4231
Portable Wind Speed Indicator	Testo Anemometer

MONITORING METHODOLOGY

24-hour TSP

3.17 The equipment used for 24-hour TSP measurement is a Tisch Environmental, Inc. Model TE-5170 TSP high volume air sampling system, which complied with USEPA Code of Federal Regulation, Appendix B to Part 50. The High Volume Air Sampler (HVS) consists of the following:

a. An anodized aluminum shelter;
b. A 8"x10" stainless steel filter holder;
c. A blower motor assembly;
d. A continuous flow/pressure recorder;
e. A motor speed-voltage control/elapsed time indicator;
f. A 7-day mechanical timer, and
g. A power supply of 220v/50 hz

3.18 The HVS is calibrated in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5028A). The 24-hour TSP monitoring using the HVS is also processed in accordance with the manufacturer's Operations Manual. The valid calibration certificate of the calibration kit with the certificate of HVS calibrated is shown in ***Appendix D***.

3.19 24-hour TSP is collected on filters of the HVS and quantified by a local HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (ALS), upon receipt of the samples. The ET will keep all the sampled 24-hour TSP filters in normal air conditioned room conditions, i.e. 70% HR (Relative Humidity) and 25°C, for six months prior to disposal. HOKLAS-accreditation certificate of ALS Technichem (HK) Pty Ltd (ALS) is provided in ***Appendix E***.

Noise

3.20 Sound level meter complied with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications, as recommended in Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO). The valid of calibration certificates including sound level meter and an acoustic were shown in ***Appendix D***.

3.21 The noise measurement is performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq(30min)}$ in six consecutive $L_{eq(5min)}$ measurements were used as the monitoring parameter.

3.22 During monitoring, the sound level meter mounted at the monitoring locations and oriented such that the microphone pointed to the site with the microphone facing perpendicular to the line of sight. The windshield was fitted for the measurement. For the monitoring, N1 and N2 are conducted 1 m from the exterior of the building façade.

3.23 Prior construction noise measurement, the accuracy of the sound level meter checked using an acoustic calibrator generating a known sound pressure level at a known frequency. The calibration level from before and after the noise measurement agrees to within 1.0dB.

DERIVATION OF ACTION/LIMIT (A/L) LEVELS

3.24 The baseline results form the basis for determining the environmental acceptance criteria for the impact monitoring. According to EMAP, the air quality and construction noise criteria were set up, namely Action and Limit levels are listed in ***Tables 3-5*** and ***3-6***.

Table 3-5 Action and Limit Levels for Air Quality Monitoring

Monitoring Station	Action Level (μg /m^3)		Limit Level (μg/m^3)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
A1	290	162	500	260

Table 3-6 Action and Limit Levels for Construction Noise

Monitoring Station	0700-1900 hours on normal weekdays	
	Action Level	Limit Level
N1 and N2	When one documented complaint is received	75 dB(A)

Note: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the NCA have to be followed.

3.25 Should non-compliance of the environmental quality criteria occurs, remedial actions will be triggered according to the Event and Action Plan which presented in ***Appendix F.***

DATA MANAGEMENT AND DATA QA/QC CONTROL

3.26 The all monitoring data were handled by the ET's in-house data recording and management system.

3.27 The monitoring data recorded in the equipment were downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data were input into a computerized database properly maintained by the ET. The laboratory results were input directly into the computerized database and checked by personnel other than those who input the data.

3.28 For monitoring parameters that require laboratory analysis, the local laboratory shall follow the QA/QC requirements as set out under the HOKLAS scheme for the relevant laboratory tests.

4 MONITORING RESULTS

4.01 The impact air quality and construction noise monitoring schedule is presented in ***Appendix G*** and the monitoring results are summarized in the following sub-sections.

24-HOUR TSP AIR QUALITY MONITORING RESULTS

4.02 In the Reporting Period, **6** occasions of 24-hours TSP monitoring were carried out at the proposed location A1 and the monitoring results are summarized in ***Table 4-1***. The detailed 24-hour TSP monitoring data are presented in ***Appendix H*** and the relevant graphical plots are shown in ***Appendix I***.

Table 4-1 Summary of 24-hour TSP Monitoring Results – A1

Date	24-hour TSP (μg/m^3)	Action Level	Limit Level
1-Aug-15	32	162	260
7-Aug-15	140		
13-Aug-15	43		
19-Aug-15	50		
25-Aug-15	56		
31-Aug-15	44		
Average (Range)	**61 (32-140)**		

4.03 As shown in ***Table 4-1***, 24-hour TSP monitoring results are fluctuated below Action/ Limit Levels.

NOISE MONITORING RESULTS

4.04 In the Reporting Period, **8** occasions noise measurement were conducted at N1 and N2. The sound level meter was set in 1m from the exterior of the building façade at N1 and N2. Therefore, no façade correction (+3dB(A)) is added according to acoustical principles and EPD guidelines. The noise measurement results at N1 and N2 are listed in ***Tables 4-2*** and ***4-3.*** The relevant graphical plots are shown in ***Appendix I***.

Table 4-2 Noise Monitoring Results of N1 (2/F floor of Hennessey Building), dB(A)

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	$L_{eq30min}$
4-Aug-15	11:09	75.4	74.7	73.5	75.9	75.2	74.2	75
11-Aug-15	11:32	74.7	75.0	74.7	74.2	75.5	74.2	75
18-Aug-15	13:59	73.8	75.1	74.7	75.4	75.3	75.1	75
25-Aug-15	10:55	72.8	73.1	74.4	73.9	73.2	74.3	74
Limit Level of Construction Noise		**75 dB(A)**						

Table 4-3 Noise Monitoring Results of N2 (balcony at 1/F of Chiu Hin Mansion), dB(A)

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	$L_{eq30min}$
4-Aug-15	10:34	67.7	66.4	66.8	66.6	68.3	67.4	67
11-Aug-15	13:19	70.7	69.3	70.2	69.9	70.9	70.4	70
18-Aug-15	13:21	65.7	66.0	64.6	65.0	65.7	70.4	67
25-Aug-15	10:20	72.3	69.9	71.8	71.8	69.7	69.4	71
Limit Level of Construction Noise		**75 B(A)**						

4.05 Referred to above tables, no noise measurement exceedance was recorded at both N1 and N2. Furthermore, there is no noise complaint (Action Level exceedance) received by the MTRCL and Contractor or EPD in the Reporting Period. The meteorological data during the impact monitoring days are shown in ***Appendix J***.

5 WASTE MANAGEMENT

GENERAL WASTE MANAGEMENT

5.01 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time.

RECORDS OF WASTE QUANTITIES

5.02 All types of waste arising from the construction work are classified into the following:

- Construction & Demolition (C&D) Material;
- Chemical Waste;
- General Refuse; and
- Excavated Soil.

5.03 The quantities of waste for disposal in this Reporting Period are summarized in ***Tables 5-1*** and ***5-2*** and the Monthly Summary Waste Flow Table is shown in ***Appendix K***.

Table 5-1 Summary of Quantities of Inert C&D Materials

Type of Waste	Quantity	Disposal Location
Total C&D Materials (Inert) (m^3)	0.06101	-
Reused in this Contract (Inert) (m^3)	0	-
Reused in other Projects (Inert) (m^3)	0	-
Disposal as Public Fill (Inert) (m^3)	0.06101	TKO 137

Table 5-2 Summary of Quantities of Non-Inert C&D Wastes

Type of Waste	Quantity	Disposal Location
Recycled Metal (m^3)	0	-
Recycled Paper / Cardboard Packing (m^3)	0	-
Recycled Plastic (m^3)	0	-
Chemical Wastes (m^3/L)	0	-
General Refuses (m^3)	0.00731	SENT Landfill

5.04 In the Reporting Period, effluent generated from the Project was discharged in accordance with the Wastewater Discharge License.

5.05 Moreover, it is reminded that C&D materials would be reused on-site as far as practicable.

6 SITE INSPECTION

6.01 According to the EMAP, the environmental site inspection shall be formulation by ET Leader. Weekly environmental site inspections should carry out to confirm the environmental performance.

FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH

6.02 During the Reporting Period, four (4) occasions of weekly site inspections to evaluate site environmental performance was carried out by the RE, ET and the Contractor on **6, 12, 21 and 27 August 2015** and the IEC was joined the site inspection on **27 August 2015**.

6.03 No non-compliance was noted. However, two (2) observations and five (5) reminders were recorded by the ET. The findings / deficiencies observed during the weekly site inspections are listed in ***Table 6-1***.

Table 6-1 Site Observations

Date	Findings / Deficiencies	Follow-Up Status
6 August 2015	• The Contractor was reminded to maintain the protective fence for the retained tree within the site.	Not required for reminder.
12 August 2015	• The Contractor was reminded to display the updated EP at the new works area. • The Contractor was reminded to provide chemical waste storage area at the new works area.	Not required for reminder. Not required for reminder.
21 August 2015	• No adverse environmental issues were observed.	• NA
27 August 2015	• Proper full screen site hoarding should be provided for the new works area • Protective fence should be provided for the retained trees within the new works area • The Contractor was reminded to display the updated EP at exit of the new works area. • The Contractor was reminded to provide wheel washing facilities for new works area.	To be followed. Protective fence was provided for the retained trees. Not required for reminder. Not required for reminder.

6.04 In the Reporting Period, the Contractor was reminded regular checking and maintenance wastewater treatment facilities ensure compliance with the currently Discharge License stipulation.

6.05 No site inspection was undertaken by external parties i.e. EPD in this Reporting Month.

7 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

7.01 For the Project, no environmental complaint, summons and prosecution was received in the Reporting Period. The statistical summary table of environmental complaint is presented in ***Tables 7-1, 7-2*** and ***7-3***.

Table 7-1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics					
	Frequency	Cumulative	Complaint Nature			
			Air	Noise	Water	Others
28 Aug 2014 – 31 Jul 2015	0	0	NA	NA	NA	NA
1– 31 Aug 2015	0	0	NA	NA	NA	NA

Table 7-2 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics					
	Frequency	Cumulative	Complaint Nature			
			Air	Noise	Water	Others
28 Aug 2014 – 31 Jul 2015	0	0	NA	NA	NA	NA
1– 31 Aug 2015	0	0	NA	NA	NA	NA

Table 7-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics					
	Frequency	Cumulative	Complaint Nature			
			Air	Noise	Water	Others
28 Aug 2014 – 31 Jul 2015	0	0	NA	NA	NA	NA
1– 31 Aug 2015	0	0	NA	NA	NA	NA

8 IMPLEMENTATION STATUS OF MITIGATION MEASURES

GENERAL REQUIREMENTS

8.01 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the EMAP covered the issues of dust, noise, water and waste and they are summarized presented in ***Appendix L.***

8.02 The Works under the Project shall be implementing the required environmental mitigation measures according to the EMAP as subject to the site condition. Environmental mitigation measures generally to be implemented by the Contractor is listed in ***Table 8-1***.

Table 8-1 Environmental Mitigation Measures

Issues	Environmental Mitigation Measures
Air Quality	• Regular watering to reduce dust emissions from all exposed site surface, particularly during dry weather; • Frequent watering for particularly dusty construction areas and areas close to air sensitive receivers; • Cover all excavated or stockpile of dusty material by impervious sheeting or sprayed with water to maintain the entire surface wet; • Public areas around the site entrance/exit had been kept clean and free from dust; and • Tarpaulin covering of any dusty materials on a vehicle leaving the site.
Noise	• Good site practices to limit noise emissions at the sources; • Use of quiet plant and working methods; • Use of site hoarding or other mass materials as noise barrier to screen the working site; • Use of shrouds/temporary noise barriers to screen noise from relatively static PMEs; and • Limiting as use one construction plant within worksite, where practicable.
Water Quality	• Wastewater were appropriately treated by treatment facilities; • Drainage channels were provided to convey run-off into the treatment facilities; and • Drainage systems were regularly and adequately maintained.
Waste and Chemical Management	• Excavated material should be reused on site as far as possible to minimize off-site disposal. Scrap metals or abandoned equipment should be recycled if possible; • Waste arising should be kept to a minimum and be handled, transported and disposed of in a suitable manner; • The Contractor should adopt a trip ticket system for the disposal of C&D materials to any designed public filling facility and/or landfill; and • Chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.
Landscape and Visual	• Clear demarcation of works area to prevent damages to existing trees in close proximity; • Protection of all trees planned to be retained onsite; • Preserving all affected trees by transplanting where practical. Tree transplanting application and tree removal application shall be submitted for approval in accordance with ETWB TCW 3/2006; and • Screening of construction works by hoardings/noise barriers around Works area in visually unobtrusive colors.
General	• The site was generally kept tidy and clean.

TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

8.03 Construction activities as undertaken in the coming month for the Project lists below:

- Bay 3A & 3B RC Structural Works for top slab
- Sheet Piling & curtain grout of Stage 2 ELS on Johnston Road Eastbound fast lane
- Mini-piles at Eastbound fastlane
- Temporary Traffic Deck of Stage 2 ELS on Johnston Road Eastbound
- Stage 3 ELS works
- Re-commencing of Stage 2 ELS at Johnston Road Westbound and footpath
- BS installation at WAC Station plant room and concourse

KEY ISSUES FOR THE COMING MONTH

8.04 Key issues to be considered in the coming month of the Project include:

- Implementation of dust suppression measures at all times;
- Potential wastewater quality impact due to surface runoff;
- Potential fugitive dust quality impact due from the dry/loose/exposure soil surface/dusty material;
- Disposal of empty engine oil containers within site area;
- Ensure dust suppression measures are implemented properly;
- Silt removal facilities should be regularly maintained;
- Management of chemical wastes;
- Discharge of site effluent and stockpiling or disposal of materials at this area are prohibited;
- Follow-up of improvement on general waste management issues; and
- Implementation of construction noise preventative control measures

8.05 In addition, mosquito control measures should be continued to prevent mosquito breeding on site.

9 CONCLUSIONS AND RECOMMENDATIONS

CONCLUSION

9.01 This is the **12th** monthly EM&A report presenting the monitoring results and inspection findings in the Reporting Period from **1** to **31 August 2015**.

9.02 In the Reporting Period, **6** occasions of 24-hours TSP monitoring were conducted at A1. The monitoring results are all below the Action/ Limit Level. No Notifications of Exceedances (NOEs) or the associated corrective actions were therefore issued.

9.03 In the Reporting Period, total of **8** occasions of noise measurement were conducted at N1 and N2 and no exceedance were recorded.

9.04 No environmental complaint, notification of summons or successful prosecution was received in the Reporting Period.

9.05 **Four (4)** occasions of weekly site inspections to evaluate site environmental performance was carried out by the RE, ET and the Contractor on **6, 12, 21 and 27 August 2015** and the IEC was joined the site inspection **27 August 2015**. No non-compliance was noted but six (6) observations were recorded by the ET.

9.06 In the Reporting Period, no site inspection was undertaken by external parties i.e. EPD.

RECOMMENDATIONS

9.07 Construction noise is the key environmental issue during construction work of the Project as there are residential buildings nearby. Noise mitigation measures should be fully implemented in accordance with the EM&A requirement.

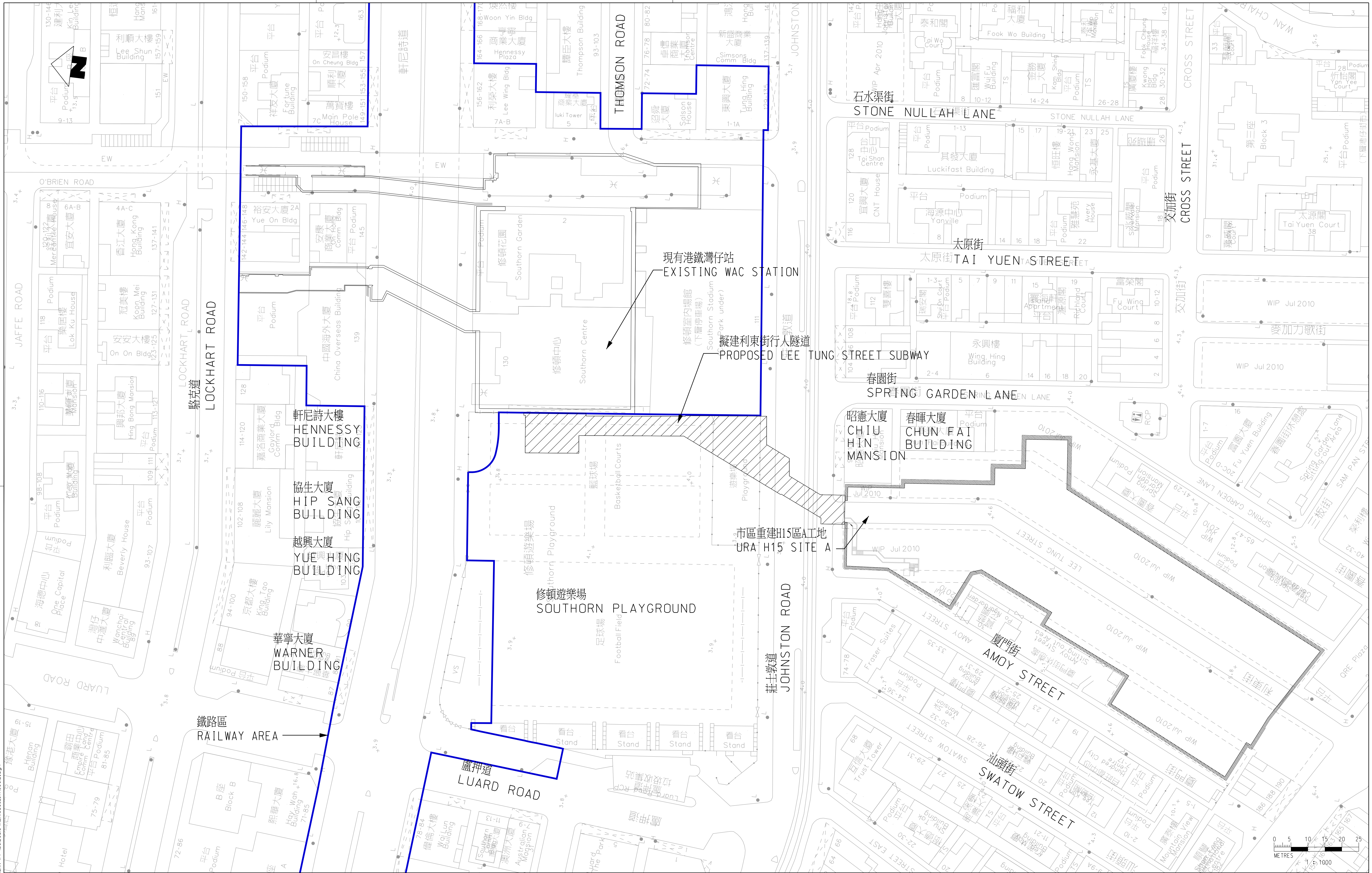
9.08 Also, special attention should be paid on the potential construction dust impact as the construction site is located near the residential area. The Contractor should fully implement the construction dust mitigation measures properly.

9.09 The Contractor should also prevent muddy water and other water pollutants via site surface water runoff get into public areas. Any discharge water should be strictly complied with wastewater discharge license requirement. As a reminder, water quality mitigation measures should be properly implemented in accordance with the EM&A requirement.

9.10 As a reminder, the Contractor should be regular checking and maintenance wastewater treatment facilities ensure compliance with the currently Discharge License stipulation. A warning sign should be provided all the retained trees as remind the workers prevent scratch the trees. In addition, mosquito control should be kept to prevent mosquito breeding on site.

Appendix A

Project Site Layout Plan



DRAWN	HO			
DESIGNED	BW			
CHECKED	BL			
APPROVED	AFK			
DATE	04MAY2011			

REV	DESCRIPTION	BY	DATE	APPROVED
D	GENERAL REVISION	HO	16MAY12	AFK
C	GENERAL REVISION	HO	12AUG11	AFK
B	GENERAL REVISION	HO	18JUL11	AFK
A	PROJECT PROFILE	HO	04MAY11	AFK

DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.

MTR

WAC STATION LEE TUNG STREET SUBWAY

ORIGINATOR: Mott MacDonald
20/F Two Landmark East, 100 How Ming Street, Kwun Tong, Kowloon, Hong Kong

CADD REF. NEX1050_2.7A_001D.dgn

TITLE
CONSULTANCY AGREEMENT NO. NEX/1050
DETAILED DESIGN FOR LEE TUNG STREET SUBWAY
SITE LOCATION PLAN
施工位置圖

SCALE 1:1000 (A3)
DRAWING NO. NEX1050/2.7A/001
REV. D

PLOT DRV: C:\ProgramData\Bentley\MicroStation V8i (SELECTseries)\WorkSpace\System\pltcfg\MTR_PDF_BW_COL_3000P.plt
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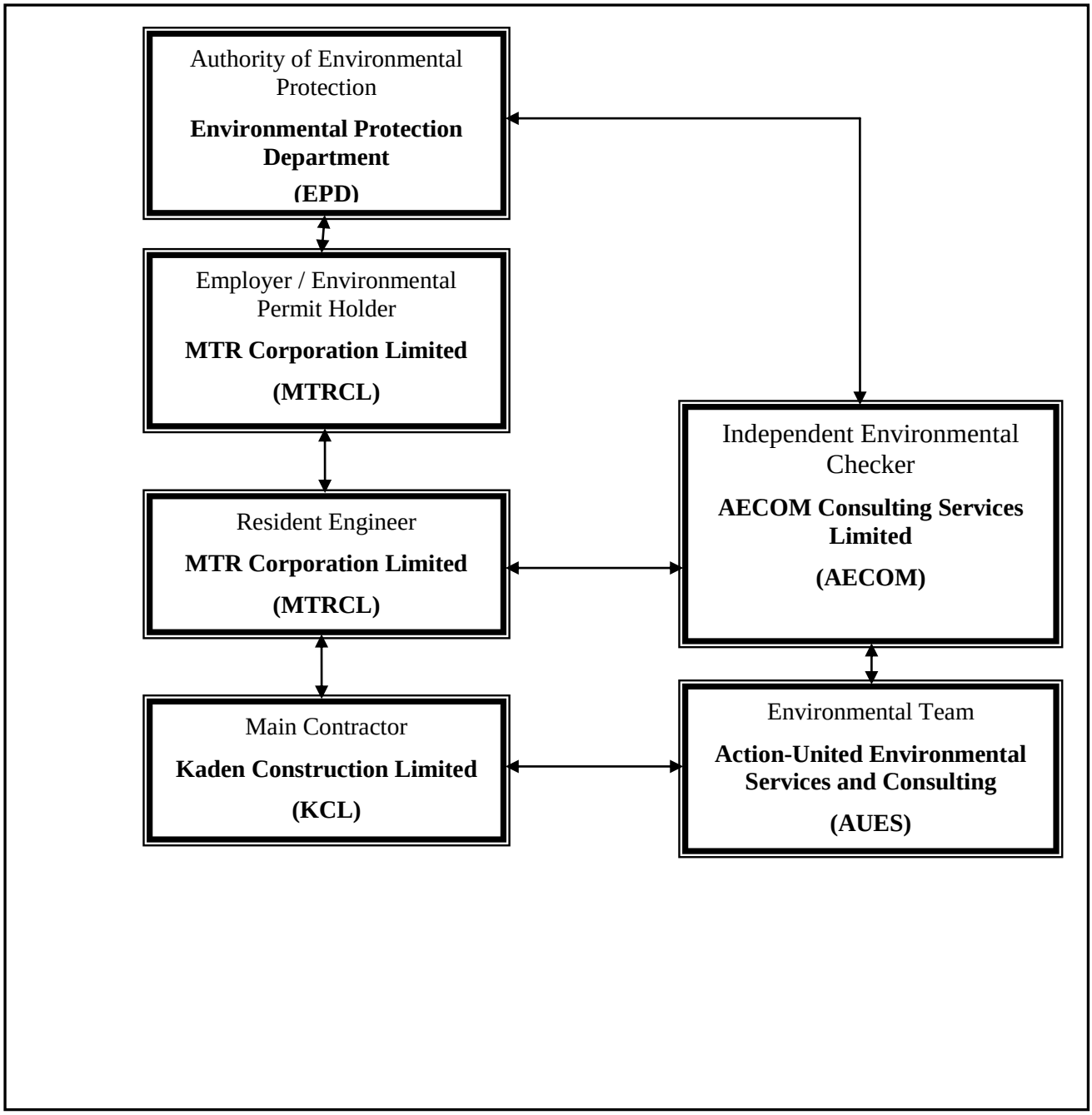
Appendix B

Organization of the Project and Master Construction Programme


Authority of Environmental Protection
Environmental Protection Department
(EPD)
Employer / Environmental Permit Holder
MTR Corporation Limited
(MTRCL)
Resident Engineer
MTR Corporation Limited
(MTRCL)
Main Contractor
Kaden Construction Limited
(KCL)
Independent Environmental Checker
AECOM Consulting Services Limited
(AECOM)
Environmental Team
Action-United Environmental Services and Consulting
(AUES)

Contact Details of Key Personnel for the Project

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
MTRCL	Resident Engineer	Mr. Raymond Lee	3547 0002	3547 0090
AECOM	Independent Environmental Checker	Mr. Rodney Ip	2410 3750	2428 9922
KCL	Project Manager	Mr. Vincent, Kwan Chun Yin	9833 1313	2770 4278
KCL	Site Agent	Mr. Chan Kam Chuen	6462 8910	2770 4278
KCL	Environmental Officer	Ms. Ricci Poon Wai Tin	9533 1115	2770 4278
AUES	Environmental Team Leader	Mr. T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ms. Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Mr. Ben Tam	2959 6059	2959 6079

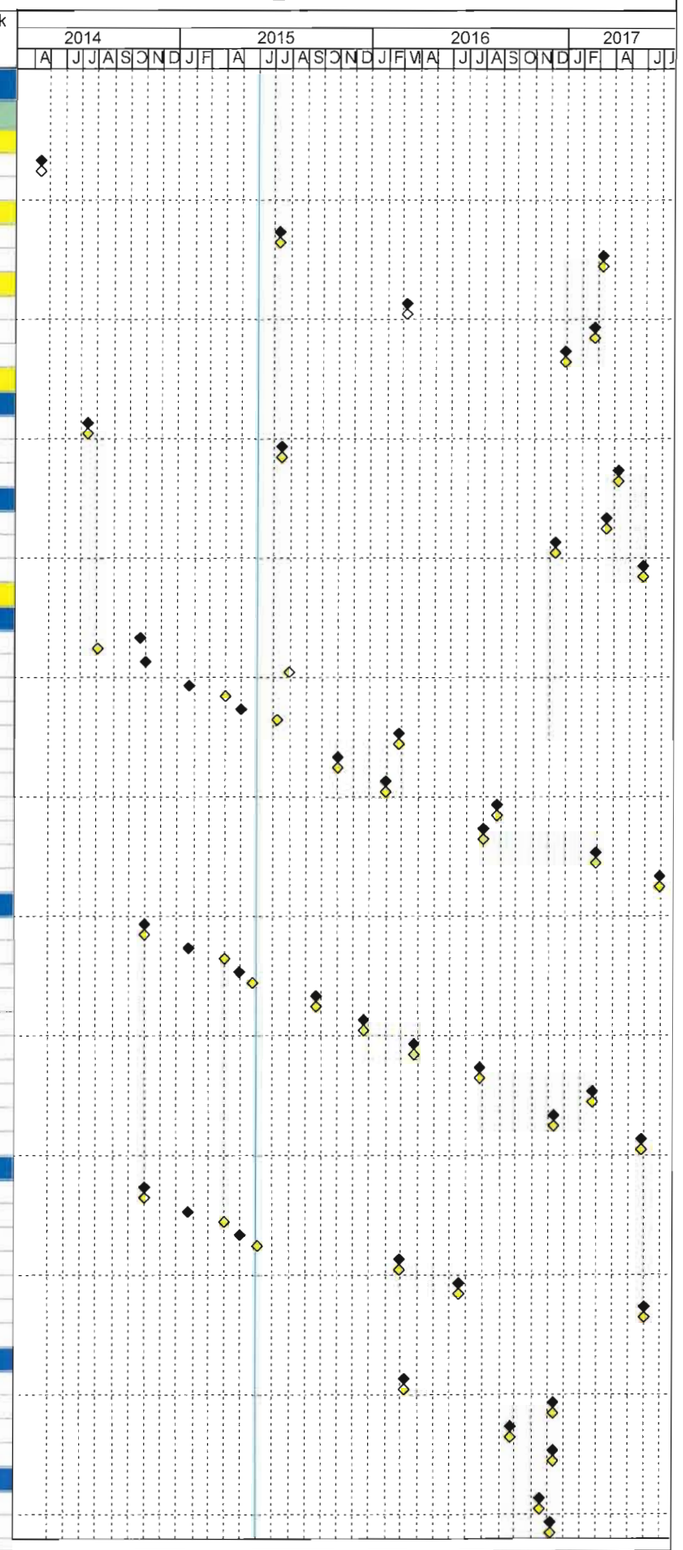
Legend:

MTRCL (Employer) – MTR Corporation Limited
MTRCL (Resident Engineer) – MTR Corporation Limited
KCL (Main Contractor) – Kaden Construction Limited
AECOM (IEC) – AECOM Consulting Services Limited
AUES (ET) – Action-United Environmental Services & Consulting

Appendix M.

C6593-13C LTS PMP Rev.C _BL_Report (May'15) | *09-Jun-15_14:52*

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
C6593-13C LTS PMP Rev.C _BL_Report (May'15)							
Key Dates							
Commencement and Completion							
KD.COMM	Commencement of the Works (14-Apr'14)	0.0d	14-Apr-14		14-Apr-14		
KD.COMP	Completion of the Whole of the Works, No.Cal.Wk. 150 (26-Feb'17)	0.0d		25-Feb-17			
Specified Parts of the Works							
KD.2A	2A - SBC Complete backfill, resurfacing, fencing, utilities, lighting and return to LCSD (28-Jun'15)	0.0d		27-Jun-15			
KD.2B	2B - Complete all works at the 2 new Shop Kiosks and hand over to the Employer (1-May'16)	0.0d		27-Apr-16			
Programme Data / Interface Key Dates							
INF.AFC	Interface Access for AFC, C&C DC in new AFC Audit Room inside WAC, Concourse Level (27-Apr'15)	0.0d	27-Apr-15				
INF.H15	Interface Access for Contract H15, All Levels, No.Cal.Wk. 120 (31-Jul'16)	0.0d	31-Jul-16				
INF.SAMS	Interface Access for SAMS, Comms, MCS to All Areas, All Levels and Locations (10-Oct'16)	0.0d	10-Oct-16				
Site Area Possession and Return Dates							
Site Area Possession Date							
WAP.W1	Works Area 6593.W1, Within 3 months from commencement of works (14-Jul'14)	0.0d	14-Jul-14		14-Jul-14		
WAP.W2	Works Area 6593.W2, Within 9 months from commencement of works (14-Jan'15)	0.0d	07-Jul-15				
WAP.W3	Works Area 6593.W3, No later than 1 month after completion of resinstatement works at Works Area 6539.W1	0.0d	10-Jan-17				
Site Area Return Date							
WAR.W1	Works Area 6593.W1, Within 36 months from commencement of works (14-Apr'17)	0.0d		16-Dec-16			
WAR.W2	Works Area 6593.W2, Within 36 months from commencement of works (14-Apr'17)	0.0d		21-Oct-16			
WAR.W3	Works Area 6593.W3, Within 2 months after possession date of Works Area 6593.W3	0.0d		26-Feb-17			
Milestone Schedule							
Milestones A							
MS.A01	A1 Approval of Preliminary Master Program, ICE, TTA, ELS & Temporay decking (3-Aug'14)	0.0d		02-Aug-14		21-Oct-14	
MS.A02	A2 Approval of Design of Mined Tunnel ESS; Hoarding phase/plan;TW under TramTrack; QP, SAP, PMP, H&SP, EMP (2-Nov'14)	0.0d		01-Nov-14		01-Nov-14	
MS.A03	A3 Satisfactory Implementation of Specified Plans (25-Jan'15)	0.0d		24-Jan-15		24-Jan-15	
MS.A04	A4 Approval of excavation method under Tram Track; Satisfactory Implementation of PMS (3-May'15)	0.0d		02-May-15		02-May-15	
MS.A05	A5 Approval of WAC D-wall demolition; Satisfactory Implementation of Specified Plans (2-Aug'15)	0.0d		01-Aug-15			
MS.A06	A6 Satisfactory Implementation of PMS (1-Nov'15)	0.0d		31-Oct-15			
MS.A07	A7 Satisfactory Implementation of Specified Plans (31-Jan'16)	0.0d		30-Jan-16			
MS.A08	A8 AIP for T&C of BS and ABWF works; Satisfactory Implementation of PMS (1-May'16)	0.0d		30-Apr-16			
MS.A09	A9 Satisfactory Implementation of Specified Plans (31-Jul'16)	0.0d		30-Jul-16			
MS.A10	A10 AIP of Draft O&M manual and Draft As-built Drawings; Satisfactory Implementation of PMS (30-Oct'16)	0.0d		29-Oct-16			
MS.A11	A11 Approval of O&M manual and As-built drawings for the Works (26-Feb'17)	0.0d		22-Feb-17			
Milestones B							
MS.B01	B1 Excavate to +2.5 of Southern Basketball Court & Children's Play Area - Cofferdam construction completed (2-Nov'14)	0.0d		01-Nov-14		01-Nov-14	
MS.B02	B2 SBC Excavation satisfactorily completed & Children's Play Area Excavation has reached -1.3mPD (25-Jan'15)	0.0d		24-Jan-15		24-Jan-15	
MS.B03	B3 SBC Roof slab RC, JnR NFP & EBC 67% cofferdam Tram Track support 10%, JnR WBC UU diversions completed (3-May'15)	0.0d		02-May-15		29-Apr-15	
MS.B04	B4 SBC return, NBC Site entry formed, CPA RC base slab, JnR NFP & EBC Cofferdam & traffic decks complete (2-Aug'15)	0.0d		31-Jul-15			
MS.B05	B5 NBC cofferdam complete, CPA RC & vent shaft 1.2m above ground complete, Tram Tracks Excavation to +0.0 mPD (1-Nov'15)	0.0d		31-Oct-15			
MS.B06	B6 NBC Excavation to formation complete, JnR All Carriageways & Footpaths & Tram Tracks Excavation complete (31-Jan'16)	0.0d		30-Jan-16			
MS.B07	B7 NBC RC roof slab complete, JnR CW & FP & TT RC construction except temp opening, CPA RC complete (1-May'16)	0.0d		30-Apr-16			
MS.B08	B8 ABWF Degree 1 achieved, NBC All reinstatement complete, Opening through H15 D-wall formed (31-Jul'16)	0.0d		30-Jul-16			
MS.B09	B9 ABWF Degree 3 achieved, All road reinstatement in Johnston Road & Hennessy Road complete (30-Oct'16)	0.0d		27-Oct-16			
MS.B10	B10 All works in Cost Centre B satisfactorily completed (26-Feb'17)	0.0d		25-Feb-17			
Milestones C							
MS.C01	C1 AIP BS detail design, suppliers & model types of major BS equipment & materials (2-Nov'14)	0.0d		01-Nov-14		01-Nov-14	
MS.C02	C2 AIP BS shop drawings (25-Jan'15)	0.0d		23-Jan-15		23-Jan-15	
MS.C03	C3 Order all BS equiptment and materials (3-May'15)	0.0d		02-May-15		02-May-15	
MS.C04	C4 Complete all factory acceptence testings (29-Nov'15)	0.0d		28-Nov-15			
MS.C05	C5 Complete all delivery to site for ECS plant room (31-Jul'16)	0.0d		19-Mar-16			
MS.C06	C6 Complete all installation, T&C for New Subway (4-Dec'16)	0.0d		14-Nov-16			
MS.C07	C7 Complete and pass all statutory inspections, Operations Team (26-Feb'17)	0.0d		25-Feb-17			
Milestones D							
MS.D01	D1 New AFC Audit Room construction completed, including (3-May'15)	0.0d		25-Apr-15			
MS.D02	D2 Old AFC Audit Room and Maxim's/ Circle K kiosks demolished (31-Jan'16)	0.0d		28-Jan-16			
MS.D03	D3 Breakthrought into WAC (31-Jul'16)	0.0d		30-Jul-16			
MS.D04	D4 All works in Cost Centre D satisfactorily completed (28-Aug'16)	0.0d		27-Aug-16			
Milestones E							
MS.E01	E1- AFC gates and barrier relocation works completed (3-Jan'16)	0.0d		02-Jan-16			
MS.E02	E2- All structural A&A works for TIM completed (30-Oct'16)	0.0d		17-Oct-16			



Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone
Milestone

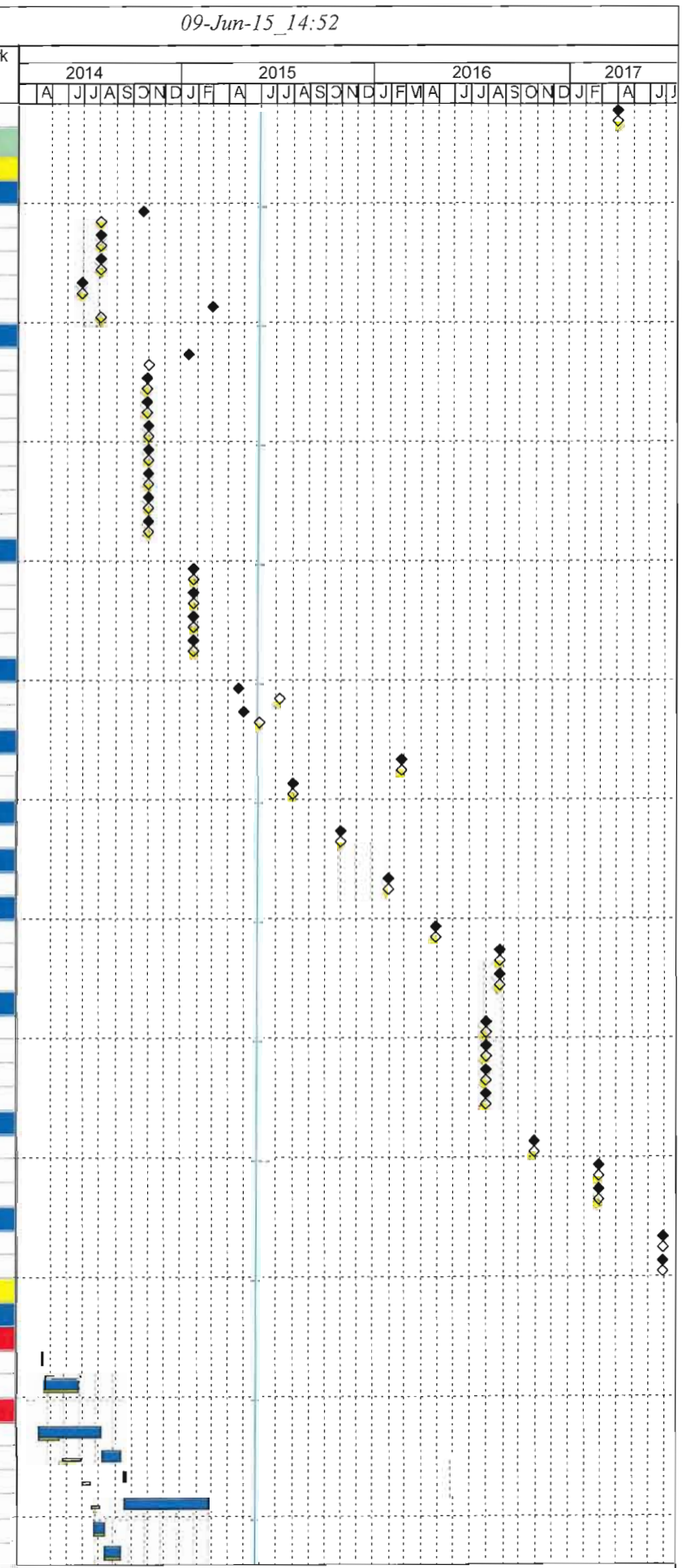
Contract C6593-13C Wan Chai Station Lee Tung Street Subway

Preliminary Master Program (Rev.C)

Progress vs Program

Kaden 基利

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
MS.E03	E3- All works in milestone E completed (26-Feb'17)	0.0d		09-Feb-17			
A: Preliminaries and General Items							
Cost Centre A- Milestone Schedules							
A1 Approval of Preliminary Master Program, ICE, TTA, ELS & Temporay decking (3-Aug'14)							
A01_0010	Approval of Preliminary Master Program (3-Aug'14)	0.0d		02-Aug-14		21-Oct-14	
A01_0020	Approval of Specified Plans (3-Aug'14)	0.0d		01-Aug-14		01-Aug-14	
A01_0030	Approval of Independent Checking Engineer (3-Aug'14)	0.0d		01-Aug-14		01-Aug-14	
A01_0040	Approval of the TTM Scheme by the Relevant Authorities (3-Aug'14)	0.0d		27-Jun-14		27-Jun-14	
A01_0050	Approval for the design of ELS systems for cofferdams & temporary decking (3-Aug'14)	0.0d		01-Aug-14		03-Mar-15	
A2 Approval Design of Mined Tunnel ESS; Hoarding phase/plan; QP, SAP, PMP, H&SP, EMP (2-Nov'14)							
A02_0010	Approval for the design of excavation support systems of the mined tunnel section (2-Nov'14)	0.0d		01-Nov-14		16-Jan-15	
A02_0020	Approval of all phasing plans & hoarding arrangements (2-Nov'14)	0.0d		28-Oct-14		28-Oct-14	
A02_0030	Approval of all method statements for Part B works (2-Nov'14)	0.0d		30-Oct-14		30-Oct-14	
A02_0040	Engineer's confirmation of satisfactory implementation of Quality Plan (2-Nov'14)	0.0d		01-Nov-14		01-Nov-14	
A02_0050	Engineer's confirmation of satisfactory implementation of System Assurance Plan (2-Nov'14)	0.0d		01-Nov-14		01-Nov-14	
A02_0060	Engineer's confirmation of satisfactory implementation of Programming Management System (2-Nov'14)	0.0d		01-Nov-14		01-Nov-14	
A02_0070	Engineer's confirmation of satisfactory implementation of Health & Safety Plan (2-Nov'14)	0.0d		01-Nov-14		01-Nov-14	
A02_0080	Engineer's confirmation of satisfactory implementation of Environmental Management Plan (2-Nov'14)	0.0d		01-Nov-14		01-Nov-14	
A3 Satisfactory Implementation of Specified Plans (25-Jan'15)							
A03_0010	Engineer's confirmation of satisfactory implementation of System Assurance Plan (25-Jan'15)	0.0d		24-Jan-15		24-Jan-15	
A03_0020	Engineer's confirmation of satisfactory implementation of Health & Safety Plan (25-Jan'15)	0.0d		24-Jan-15		24-Jan-15	
A03_0030	Engineer's confirmation of satisfactory implementation of Quality Plan (25-Jan'15)	0.0d		24-Jan-15		24-Jan-15	
A03_0040	Engineer's confirmation of satisfactory implementation of Environmental Management Plan (25-Jan'15)	0.0d		24-Jan-15		24-Jan-15	
A4 Approval of excavation method under Tram Track; Satisfactory Implementation of PMS (3-May'15)							
A04_0010	Approval for method of excavation & support for mined tunnel section beneath tram tracks (3-May'15)	0.0d		02-May-15		21-Apr-15	
A04_0020	Engineer's confirmation of satisfactory implementation of Programming Management System (3-May'15)	0.0d		02-May-15		02-May-15	
A5 Approval of WAC D-wall demolition; Satisfactory Implementation of Specified Plans (2-Aug'15)							
A05_0010	Approval for method for demolition of WAC Diaphragm Wall (2-Aug'15)	0.0d		01-Aug-15			
A05_0020	Engineer's confirmation of satisfactory implementation of Specified Plans (2-Aug'15)	0.0d		01-Aug-15			
A6 Satisfactory Implementation of PMS (1-Nov'15)							
A06_0010	Engineer's confirmation of satisfactory implementation of Programming Management System (1-Nov'15)	0.0d		31-Oct-15			
A7 Satisfactory Implementation of Specified Plans (31-Jan'16)							
A07_0010	Engineer's confirmation of satisfactory implementation of Specified Plans (31-Jan'16)	0.0d		30-Jan-16			
A8 AIP for T&C of BS and ABWF works; Satisfactory Implementation of PMS (1-May'16)							
A08_0010	Engineer's confirmation of satisfactory implementation of Programming Management System (1-May'16)	0.0d		30-Apr-16			
A08_0020	Approval in principle of all procedures for Testing & Commissioning of all Building Services (1-May'16)	0.0d		27-Apr-16			
A08_0030	Approval in principle of all acceptance procedures of all of the ABWF works (1-May'16)	0.0d		27-Apr-16			
A9 Satisfactory Implementation of Specified Plans (31-Jul'16)							
A09_0010	Engineer's confirmation of satisfactory implementation of System Assurance Plan (31-Jul'16)	0.0d		30-Jul-16			
A09_0020	Engineer's confirmation of satisfactory implementation of Health & Safety Plan (31-Jul'16)	0.0d		30-Jul-16			
A09_0030	Engineer's confirmation of satisfactory implementation of Quality Plan (31-Jul'16)	0.0d		30-Jul-16			
A09_0040	Engineer's confirmation of satisfactory implementation of Environmental Management Plan (31-Jul'16)	0.0d		30-Jul-16			
A10 AIP Draft O&M manual & Draft As-built Drawings; Satisfactory Implementation of PMS (30-Oct'16)							
A10_0010	Engineer's confirmation of satisfactory implementation of Programming Management System (30-Oct'16)	0.0d		29-Oct-16			
A10_0020	Approval in principle of draft Operating & Maintenance Manuals for the Whole Works (30-Oct'16)	0.0d		27-Oct-16			
A10_0030	Approval in principle of draft As-built Drawings for the Whole Works (30-Oct'16)	0.0d		27-Oct-16			
A11 Approval of O&M manual and As-built drawings for the Works (26-Feb'17)							
A11_0010	Approval of Operating & Maintenance Manual for Whole Works (26-Feb'17)	0.0d		22-Feb-17			
A11_0020	Approval of As-built drawings for Whole Works (26-Feb'17)	0.0d		22-Feb-17			
Cost Centre A: Preliminaries and General Items							
Design, ICE, Submission and Approval							
Design. IEC, TMLG Submission and Approval							
D.I.T_0010	TTMS - Submission to Members of TMLG for Approval, ref. ITT 6.2	4.0d	14-Apr-14	17-Apr-14	14-Apr-14	17-Apr-14	
D.I.T_0020	TTMS - TMLG Meetings and Approval, Resubmission if required, RMO Applicataions	55.0d	22-Apr-14	27-Jun-14	22-Apr-14	27-Jun-14	
Design, ICE, BD Submission and Approval							
D.I.T_0030	A1 - ELS & Temporary Decking - Design, ICE, Submission to BD for Approval	30.0d	14-Apr-14	23-May-14	14-Apr-14	11-Aug-14	
D.I.T_0040	A1 - ELS & Temporary Decking - Review the submission	30.0d	24-May-14	28-Jun-14	12-Aug-14	16-Sep-14	
D.I.T_0050	A1 - ELS & Temporary Decking - Preparation of re-submission (If Require)	14.0d	30-Jun-14	16-Jul-14	17-Sep-14	23-Sep-14	
D.I.T_0060	A1 - ELS & Temporary Decking - BD Review, Resubmission if required, and Approval (If Require)	14.0d	17-Jul-14	01-Aug-14	24-Sep-14	03-Mar-15	
D.I.T_0070	A1 - ELS - Verification (based on 4 additinal SI. AD-01 to AD-04), ICE	17.0d	29-Jul-14	16-Aug-14	29-Jul-14	16-Aug-14	
D.I.T_0080	A1 - ELS - Verification (based on 4 additinal SI. AD-01 to AD-04), ICE, Submission & Approval	24.0d	18-Aug-14	15-Sep-14	18-Aug-14	15-Sep-14	



Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
◇ Baseline Milestone
◆ Milestone

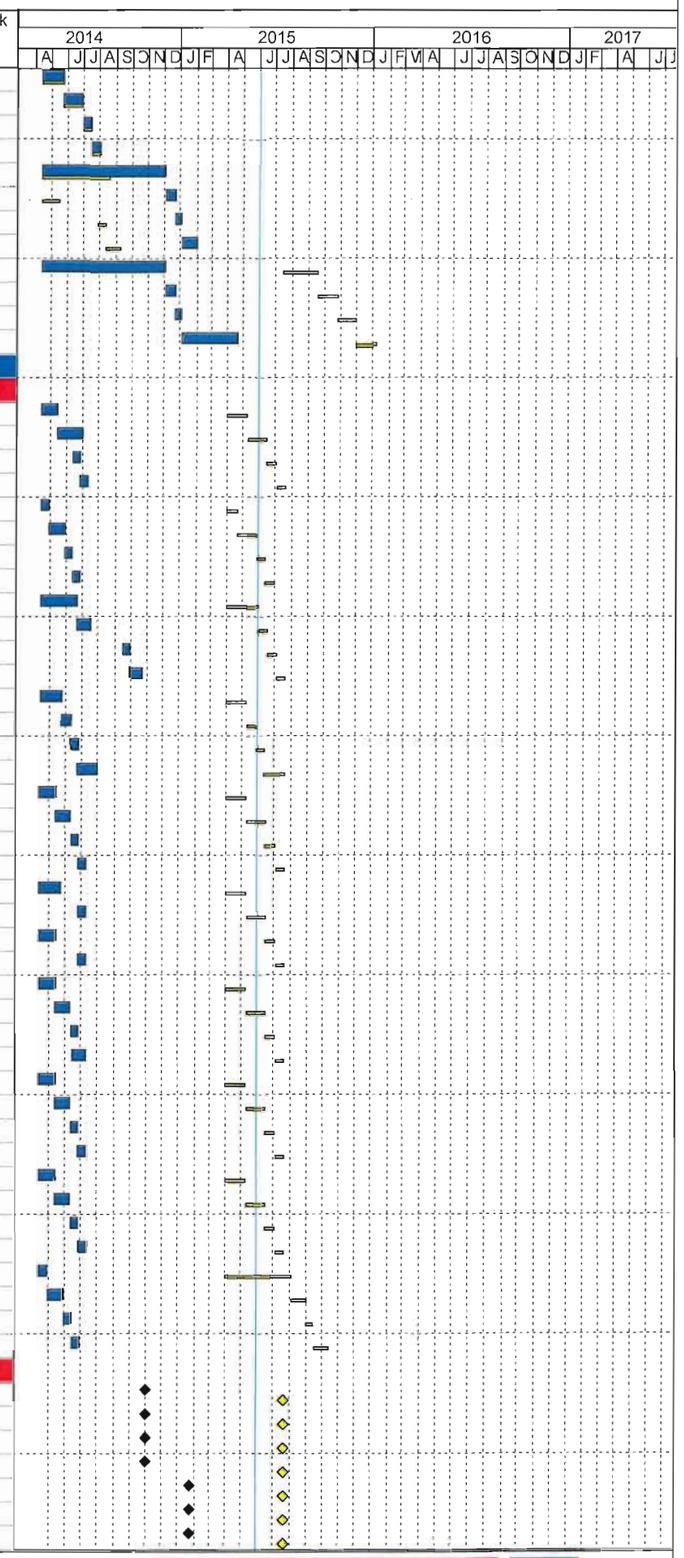
Contract C6593-13C Wan Chai Station Lee Tung Street Subway

Preliminary Master Program (Rev.C)

Progress vs Program

Kaden 基利

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
D.I.T_0090	Independent Checking Engineer - Preparation & Submission for Approval	30.0d	14-Apr-14	23-May-14	14-Apr-14	23-May-14	
D.I.T_0100	Independent Checking Engineer - Review the submission	30.0d	24-May-14	28-Jun-14	24-May-14	28-Jun-14	
D.I.T_0110	Independent Checking Engineer - Preparation of re-submission (If Require)	14.0d	30-Jun-14	16-Jul-14	30-Jun-14	16-Jul-14	
D.I.T_0120	Independent Checking Engineer - Resubmission if required, & Approval (If Require)	14.0d	17-Jul-14	01-Aug-14	17-Jul-14	01-Aug-14	
D.I.T_0130	A2 - Excavation support system for the mined tunnel section design - Prepare, ICE and submission to BD/ GEO for Approval	104.0d	14-Apr-14	20-Aug-14	14-Apr-14	05-Dec-14	
D.I.T_0140	A2 - Excavation support system for the mined tunnel section design - Review submission	24.0d	21-Aug-14	18-Sep-14	06-Dec-14	23-Dec-14	
D.I.T_0150	A2 - Excavation support system for the mined tunnel section design - Address comments, ICE & Resubmission (if required)	12.0d	19-Sep-14	04-Oct-14	24-Dec-14	03-Jan-15	
D.I.T_0160	A2 - Excavation support system for the mined tunnel section design - Review & Approval (if required)	24.0d	06-Oct-14	01-Nov-14	05-Jan-15	01-Feb-15	
D.I.T_0170	A4 - Excavation method under tram track and TW design - Prepare, ICE and submission to BD/ GEO for Approval	55.0d	03-Nov-14	08-Jan-15	14-Apr-14	05-Dec-14	
D.I.T_0180	A4 - Excavation method under tram track and TW design - Review submission	30.0d	09-Jan-15	12-Feb-15	06-Dec-14	23-Dec-14	
D.I.T_0190	A4 - Excavation method under tram track and TW design - Address comments, ICE & Resubmission (if required)	30.0d	13-Feb-15	23-Mar-15	24-Dec-14	03-Jan-15	
D.I.T_0200	A4 - Excavation method under tram track and TW design - Review & Approval (if required)	30.0d	24-Mar-15	02-May-15	05-Jan-15	21-Apr-15	
Contractor Submission and Approval							
Programming, Specified Plans and Hoarding Plan							
P.SP.H_0010	Submission schedule - Preparation & submission	30.0d	14-Apr-14	23-May-14	14-Apr-14	14-May-14	
P.SP.H_0020	Submission schedule - Review & Approval	30.0d	24-May-14	28-Jun-14	15-May-14	30-Jun-14	
P.SP.H_0030	Submission schedule - Preparation for Re-submission (If Require)	14.0d	30-Jun-14	16-Jul-14	13-Jun-14	26-Jun-14	
P.SP.H_0040	Submission schedule - Review and Approval (If Require)	14.0d	17-Jul-14	01-Aug-14	27-Jun-14	11-Jul-14	
P.SP.H_0050	Initial Three Month Rolling Program - Preparation & submission	14.0d	14-Apr-14	03-May-14	14-Apr-14	28-Apr-14	
P.SP.H_0060	Initial Three Month Rolling Program - Review & Approval	30.0d	05-May-14	10-Jun-14	29-Apr-14	28-May-14	
P.SP.H_0070	Initial Three Month Rolling Program - Preparation for Re-submission (If Require)	14.0d	11-Jun-14	26-Jun-14	29-May-14	12-Jun-14	
P.SP.H_0080	Initial Three Month Rolling Program - Review and Approval (If Require)	14.0d	27-Jun-14	14-Jul-14	13-Jun-14	26-Jun-14	
P.SP.H_0090	Preliminary Master Program - Preparation & submission	47.0d	14-Apr-14	13-Jun-14	14-Apr-14	20-Jun-14	
P.SP.H_0100	Preliminary Master Program - Review & Approval	14.0d	14-Jun-14	30-Jun-14	21-Jun-14	19-Jul-14	
P.SP.H_0110	Preliminary Master Program - Preparation for Re-submission (If Require)	14.0d	02-Jul-14	17-Jul-14	16-Sep-14	30-Sep-14	
P.SP.H_0120	Preliminary Master Program - Review and Approval (If Require)	14.0d	18-Jul-14	02-Aug-14	30-Sep-14	22-Oct-14	
P.SP.H_0130	Specified Plans (QP, SAP, PMS, H&SP, EP) - Preparation & submission	30.0d	14-Apr-14	23-May-14	14-Apr-14	23-May-14	
P.SP.H_0140	Specified Plans (QP, SAP, PMS, H&SP, EP) - Review & Approval	14.0d	24-May-14	10-Jun-14	24-May-14	10-Jun-14	
P.SP.H_0150	Specified Plans (QP, SAP, PMS, H&SP, EP) - Preparation for Re-submission (If Require)	14.0d	11-Jun-14	26-Jun-14	11-Jun-14	26-Jun-14	
P.SP.H_0160	Specified Plans (QP, SAP, PMS, H&SP, EP) - Review and Approval (If Require)	30.0d	27-Jun-14	01-Aug-14	24-Jun-14	01-Aug-14	
P.SP.H_0170	Environmental management plan - Preparation & submission	30.0d	14-Apr-14	23-May-14	14-Apr-14	14-May-14	
P.SP.H_0180	Environmental management plan - Review & Approval	30.0d	24-May-14	28-Jun-14	15-May-14	12-Jun-14	
P.SP.H_0190	Environmental management plan - Preparation for Re-submission (If Require)	14.0d	30-Jun-14	16-Jul-14	13-Jun-14	26-Jun-14	
P.SP.H_0200	Environmental management plan - Review and Approval (If Require)	14.0d	17-Jul-14	01-Aug-14	27-Jun-14	11-Jul-14	
P.SP.H_0210	Appoint Environmental team- submit for engineer approval	30.0d	14-Apr-14	23-May-14	14-Apr-14	23-May-14	
P.SP.H_0220	Appoint Environmental team - Review & Approval	30.0d	24-May-14	28-Jun-14	27-Jun-14	11-Jul-14	
P.SP.H_0230	Appoint Environmental team - Preparation for Re-submission (If Require)	14.0d	30-Jun-14	16-Jul-14	14-Apr-14	14-May-14	
P.SP.H_0240	Appoint Environmental team - Review and Approval (If Require)	14.0d	17-Jul-14	01-Aug-14	27-Jun-14	11-Jul-14	
P.SP.H_0250	Quality Plan - Preparation & submission	30.0d	14-Apr-14	23-May-14	14-Apr-14	14-May-14	
P.SP.H_0260	Quality Plan - Review & Approval	30.0d	24-May-14	28-Jun-14	15-May-14	12-Jun-14	
P.SP.H_0270	Quality Plan - Preparation for Re-submission (If Require)	14.0d	30-Jun-14	16-Jul-14	13-Jun-14	26-Jun-14	
P.SP.H_0280	Quality Plan - Review and Approval (If Require)	14.0d	17-Jul-14	01-Aug-14	17-Jun-14	11-Jul-14	
P.SP.H_0290	Health and Safety Plan - Preparation & submission	30.0d	14-Apr-14	23-May-14	14-Apr-14	14-May-14	
P.SP.H_0300	Health and Safety Plan - Review & Approval	30.0d	24-May-14	28-Jun-14	15-May-14	12-Jun-14	
P.SP.H_0310	Health and Safety Plan - Preparation for Re-submission (If Require)	14.0d	30-Jun-14	16-Jul-14	13-Jun-14	26-Jun-14	
P.SP.H_0320	Health and Safety Plan - Review and Approval (If Require)	14.0d	17-Jul-14	01-Aug-14	27-Jun-14	11-Jul-14	
P.SP.H_0330	System Assurance Plan - Preparation & submission	30.0d	14-Apr-14	23-May-14	14-Apr-14	14-May-14	
P.SP.H_0340	System Assurance Plan - Review & Approval	30.0d	24-May-14	28-Jun-14	15-May-14	12-Jun-14	
P.SP.H_0350	System Assurance Plan - Preparation for Re-submission (If Require)	14.0d	30-Jun-14	16-Jul-14	13-Jun-14	26-Jun-14	
P.SP.H_0360	System Assurance Plan - Review and Approval (If Require)	14.0d	17-Jul-14	01-Aug-14	27-Jun-14	11-Jul-14	
P.SP.H_0370	A2 Hoarding phase - Preparation & submission	100.0d	14-Apr-14	15-Aug-14	14-Apr-14	30-Apr-14	
P.SP.H_0380	A2 Hoarding phase - Review & Approval	24.0d	16-Aug-14	13-Sep-14	02-May-14	30-May-14	
P.SP.H_0390	A2 Hoarding phase - Preparation for Re-submission (If Require)	12.0d	15-Sep-14	27-Sep-14	31-May-14	14-Jun-14	
P.SP.H_0400	A2 Hoarding phase - Review and Approval (If Require)	24.0d	29-Sep-14	28-Oct-14	16-Jun-14	28-Jun-14	
Implemantation of Specified Plans							
SP.A02_0010	A2 Satisfactory Implementation of Quality Plan	0.0d		01-Nov-14		01-Nov-14	
SP.A03_0010	A3 Satisfactory Implementation of System Assurance Plan	0.0d		01-Nov-14		01-Nov-14	
SP.A03_0020	A3 Satisfactory Implementation of Health and Safety Plan	0.0d		01-Nov-14		01-Nov-14	
SP.A03_0030	A3 Satisfactory Implementation of Environmental Management Plan	0.0d		01-Nov-14		01-Nov-14	
SP.A03_0040	A3 Satisfactory Implementation of Quality Plan	0.0d		24-Jan-15		24-Jan-15	
SP.A03_0050	A3 Satisfactory Implementation of System Assurance Plan	0.0d		24-Jan-15		24-Jan-15	
SP.A03_0060	A3 Satisfactory Implementation of Health and Safety Plan	0.0d		24-Jan-15		24-Jan-15	



Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone
Milestone

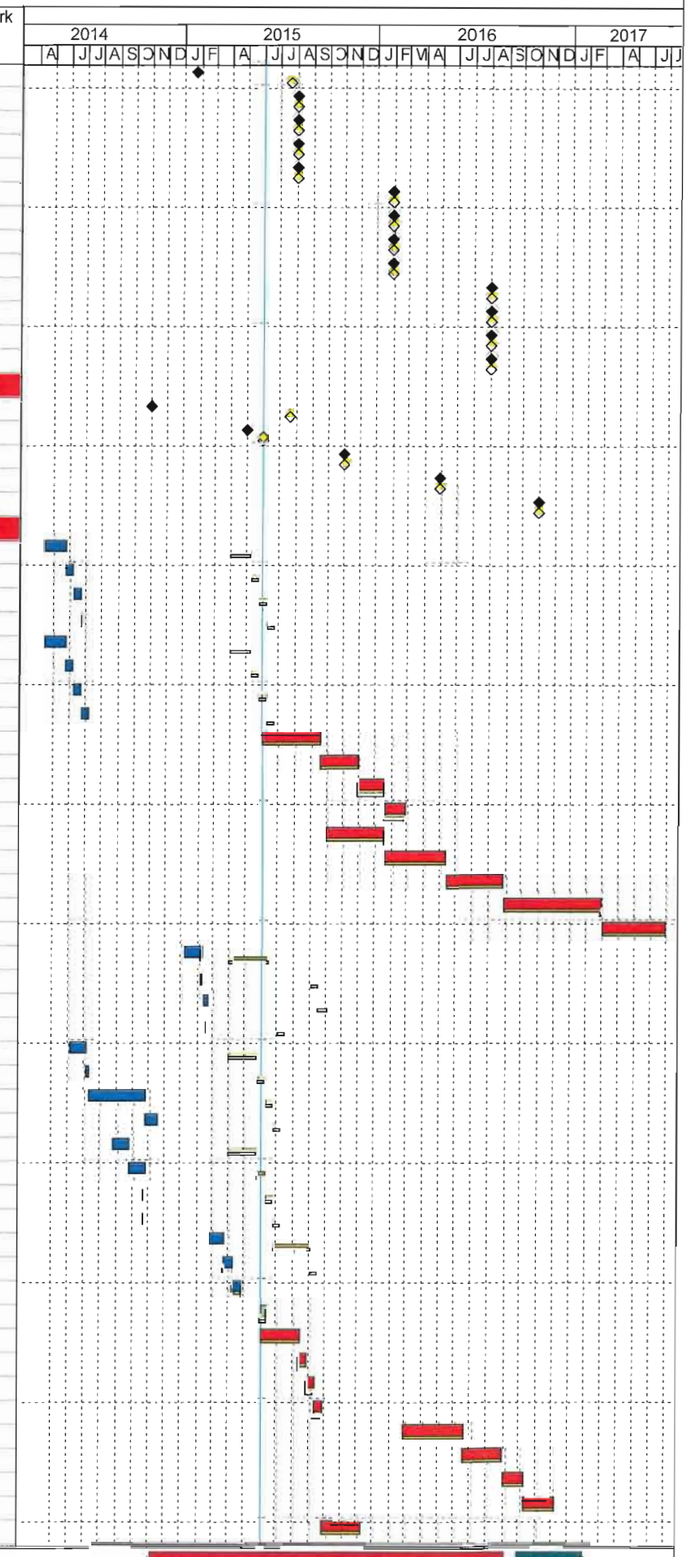
Contract C6593-13C Wan Chai Station Lee Tung Street Subway

Preliminary Master Program (Rev.C)

Progress vs Program

Kaden 基利

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
SP.A03_0070	A3 Satisfactory Implementation of Environmental Management Plan	0.0d		24-Jan-15		24-Jan-15	
SP.A05_0010	A5 Satisfactory Implementation of Quality Plan	0.0d		01-Aug-15			
SP.A05_0020	A5 Satisfactory Implementation of System Assurance Plan	0.0d		01-Aug-15			
SP.A05_0030	A5 Satisfactory Implementation of Health and Safety Plan	0.0d		01-Aug-15			
SP.A05_0040	A5 Satisfactory Implementation of Environmental Management Plan	0.0d		01-Aug-15			
SP.A07_0010	A7 Satisfactory Implementation of Quality Plan	0.0d		30-Jan-16			
SP.A07_0020	A7 Satisfactory Implementation of System Assurance Plan	0.0d		30-Jan-16			
SP.A07_0030	A7 Satisfactory Implementation of Health and Safety Plan	0.0d		30-Jan-16			
SP.A07_0040	A7 Satisfactory Implementation of Environmental Management Plan	0.0d		30-Jan-16			
SP.A09_0010	A9 Satisfactory Implementation of Quality Plan	0.0d		30-Jul-16			
SP.A09_0020	A9 Satisfactory Implementation of System Assurance Plan	0.0d		30-Jul-16			
SP.A09_0030	A9 Satisfactory Implementation of Health and Safety Plan	0.0d		30-Jul-16			
SP.A09_0040	A9 Satisfactory Implementation of Environmental Management Plan	0.0d		30-Jul-16			
Implementation of Programming Management System							
PMS.A02_0010	A2 Satisfactory Implementation of Programming Management System	0.0d		01-Nov-14		01-Nov-14	
PMS.A04_0010	A4 Satisfactory Implementation of Programming Management System	0.0d		02-May-15		02-May-15	
PMS.A06_0010	A6 Satisfactory Implementation of Programming Management System	0.0d		31-Oct-15			
PMS.A08_0010	A8 Satisfactory Implementation of Programming Management System	0.0d		30-Apr-16			
PMS.A10_0010	A10 Satisfactory Implementation of Programming Management System	0.0d		29-Oct-16			
Other Submissions and O&M Manual							
OS.OM_0010	Hoarding Installation Method Statement - Preparation & Submission	30.0d	14-Apr-14	23-May-14	14-Apr-14	23-May-14	
OS.OM_0020	Hoarding Installation Method Statement - Review & Approval	12.0d	24-May-14	07-Jun-14	24-May-14	07-Jun-14	
OS.OM_0030	Hoarding Installation Method Statement - Preparation for Re-submission (if required)	12.0d	09-Jun-14	21-Jun-14	09-Jun-14	21-Jun-14	
OS.OM_0040	Hoarding Installation Method Statement - Re-submission (if required) & Approval	12.0d	23-Jun-14	07-Jul-14	23-Jun-14	23-Jun-14	
OS.OM_0050	Site Investigation Works Method Statement - Preparation & Submission	30.0d	14-Apr-14	23-May-14	14-Apr-14	23-May-14	
OS.OM_0060	Site Investigation Works Method Statement - Review & Approval	12.0d	24-May-14	07-Jun-14	24-May-14	07-Jun-14	
OS.OM_0070	Site Investigation Works Method Statement - Preparation for Re-submission (if required)	12.0d	09-Jun-14	21-Jun-14	09-Jun-14	21-Jun-14	
OS.OM_0080	Site Investigation Works Method Statement - Re-submission (if required) & Approval	12.0d	23-Jun-14	07-Jul-14	23-Jun-14	07-Jul-14	
OS.OM_0090	WAC & H15 D-wall demolition Design- ICE, Preparation for design submission	90.0d	03-Nov-14	18-Feb-15			
OS.OM_0100	WAC & H15 D-wall demolition- Review & Approval	60.0d	23-Feb-15	08-May-15			
OS.OM_0110	WAC & H15 D-wall demolition- Preparation for re-submission (If require)	40.0d	09-May-15	26-Jun-15			
OS.OM_0120	WAC & H15 D-wall demolition- Review & Approval (If require)	30.0d	27-Jun-15	01-Aug-15			
OS.OM_0130	A8 AIP procedures for T&C of BS and ABWF works (1st Batch)	90.0d	01-Jun-15	15-Sep-15			
OS.OM_0140	A8 AIP procedures for T&C of BS and ABWF works (2nd Batch)	90.0d	16-Sep-15	05-Jan-16			
OS.OM_0150	A8 AIP procedures for T&C of BS and ABWF works (Remaining)	90.0d	06-Jan-16	27-Apr-16			
OS.OM_0160	A10 AIP of Draft O&M manual and Draft As-built Drawings	150.0d	28-Apr-16	27-Oct-16			
OS.OM_0170	A11 Approval of O&M manual and As-built drawings for the Works	95.0d	28-Oct-16	22-Feb-17			
OS.OM_0180	RC Works- Preparation of Method Statement- Preparation	60.0d	08-Jul-14	16-Sep-14	06-Jan-15	06-Feb-15	
OS.OM_0190	RC Works - Preparation of Method Statement- Submission & Approval	12.0d	17-Sep-14	30-Sep-14	06-Feb-15	10-Feb-15	
OS.OM_0200	RC Works - Preparation for Re-submission (if required)	12.0d	03-Oct-14	16-Oct-14	10-Feb-15	16-Feb-15	
OS.OM_0210	RC Works - Re-submission (if required) & Approval	12.0d	17-Oct-14	30-Oct-14	16-Feb-15	16-Feb-15	
OS.OM_0220	Sheet pile installation- Preparation of Method Statement- Preparation	42.0d	14-Apr-14	07-Jun-14	03-Jun-14	03-Jul-14	
OS.OM_0230	Sheet pile installation- Preparation of Method Statement- Submission & Approval	12.0d	09-Jun-14	21-Jun-14	03-Jul-14	08-Jul-14	
OS.OM_0240	Sheet pile installation - Preparation for Re-submission (if required)	12.0d	23-Jun-14	07-Jul-14	08-Jul-14	23-Oct-14	
OS.OM_0250	Sheet pile installation - Re-submission (if required) & Approval	12.0d	08-Jul-14	21-Jul-14	23-Oct-14	14-Nov-14	
OS.OM_0260	Excavation works- Preparation of Method Statement- Preparation	42.0d	14-Apr-14	07-Jun-14	22-Aug-14	22-Sep-14	
OS.OM_0270	Excavation works- Preparation of Method Statement- Submission & Approval	12.0d	09-Jun-14	21-Jun-14	22-Sep-14	21-Oct-14	
OS.OM_0280	Excavation works- Preparation for Re-submission (if required)	12.0d	23-Jun-14	07-Jul-14	21-Oct-14	21-Oct-14	
OS.OM_0290	Excavation works- Re-submission (if required) & Approval	12.0d	08-Jul-14	21-Jul-14	21-Oct-14	21-Oct-14	
OS.OM_0300	Work below tram track Method Statement - Preparation	60.0d	08-Jul-14	16-Sep-14	23-Feb-15	23-Mar-15	
OS.OM_0310	Work below tram track Method Statement - Submission & Approval	12.0d	17-Sep-14	30-Sep-14	23-Mar-15	09-Apr-15	
OS.OM_0320	Work below tram track Method Statement - Preparation for Re-submission (if required)	12.0d	03-Oct-14	16-Oct-14	09-Apr-15	27-Apr-15	
OS.OM_0330	Work below tram track Method Statement - Re-submission (if required) & Approval	12.0d	17-Oct-14	30-Oct-14			
OS.OM_0340	H15 & WAC Break Through Method Statement - Preparation	60.0d	08-Jul-14	16-Sep-14			
OS.OM_0350	H15 & WAC Break Through Method Statement - Submission & Approval	12.0d	17-Sep-14	30-Sep-14			
OS.OM_0360	H15 & WAC Break Through Method Statement - Preparation for Re-submission (if required)	12.0d	03-Oct-14	16-Oct-14			
OS.OM_0370	H15 & WAC Break Through Method Statement - Re-submission (if required) & Approval	12.0d	17-Oct-14	30-Oct-14			
OS.OM_0380	BD for consent of H15 break throughs works - Preparation	90.0d	03-Aug-15	18-Nov-15			
OS.OM_0390	BD for consent of H15 break throughs works - Submission & Approval	60.0d	19-Nov-15	30-Jan-16			
OS.OM_0400	BD for consent of H15 break throughs works - Preparation for Re-submission (if required)	30.0d	01-Feb-16	09-Mar-16			
OS.OM_0410	BD for consent of H15 break throughs works - Re-submission (if required) & Approval	50.0d	10-Mar-16	12-May-16			
OS.OM_0420	Submit and obtain AIP for Method Statement, EDOC Draft, Permanent Materials	60.0d	31-Oct-14	12-Jan-15			



Actual Level of Effort
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Baseline Milestone
Milestone

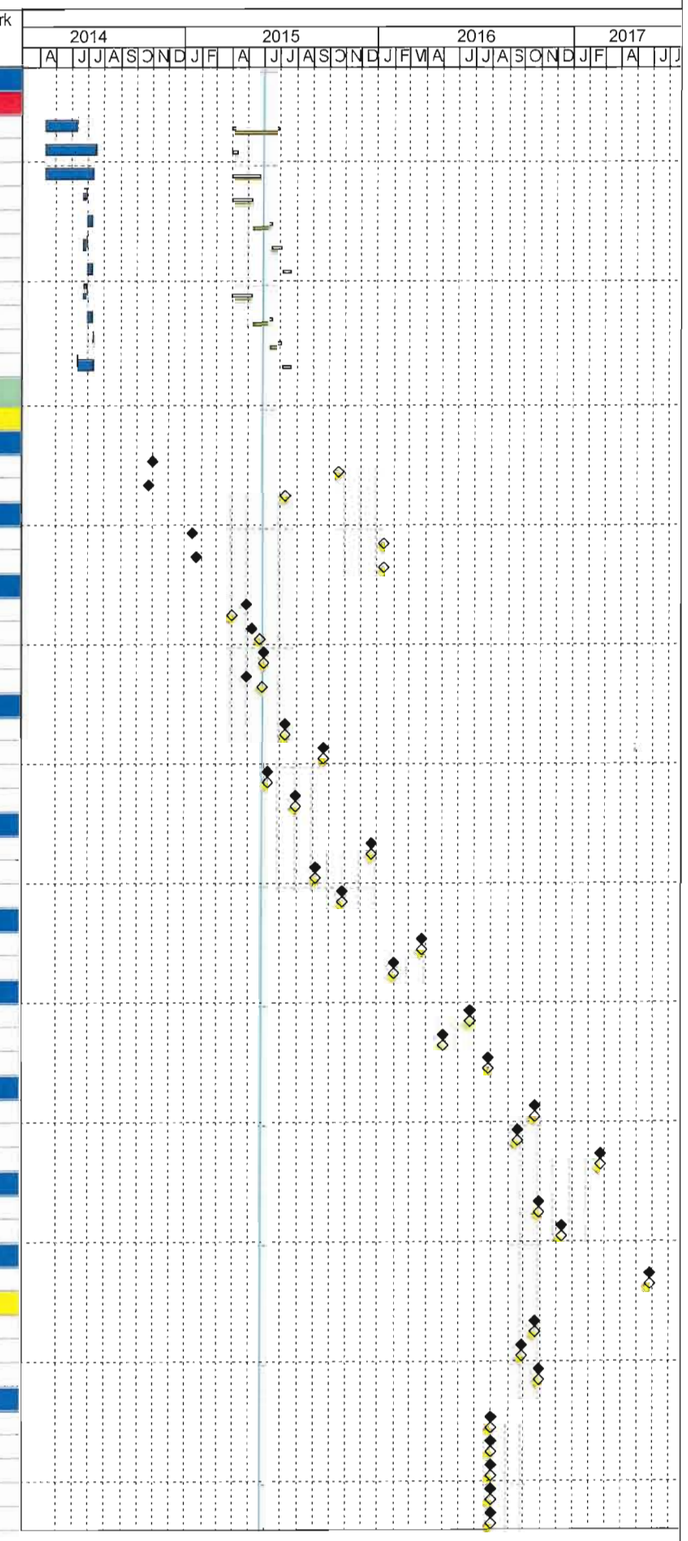
Contract C6593-13C Wan Chai Station Lee Tung Street Subway

Preliminary Master Program (Rev.C)

Progress vs Program

Kaden 基利

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
Mobilization and Other Preliminaries							
Permit Applications							
PA_0010	XP Excavtion Permit Application and Permit	70.0d	14-Apr-14	11-Jul-14	14-Apr-14	10-Jun-14	
PA_0020	TRA Tree Removal Application and Permit	6.0d	14-Apr-14	23-Apr-14	14-Apr-14	15-Jul-14	
PA_0030	Liason with all utility service providers on diversions	42.0d	14-Apr-14	07-Jun-14	14-Apr-14	11-Jul-14	
PA_0040	Baseline noise monitoring report - Preparation & submission to Engineer and EPD	30.0d	14-Apr-14	23-May-14	23-Jun-14	28-Jun-14	
PA_0050	Baseline noise monitoring report - Review & Approval	30.0d	24-May-14	28-Jun-14	30-Jun-14	09-Jul-14	
PA_0060	Baseline noise monitoring report - Preparation for Re-submission (If Require)	14.0d	30-Jun-14	16-Jul-14	23-Jun-14	28-Jun-14	
PA_0070	Baseline noise monitoring report - Review and Approval (If Require)	14.0d	17-Jul-14	01-Aug-14	30-Jun-14	09-Jul-14	
PA_0080	Baseline air monitoring report - Preparation & submission to Engineer and EPD	30.0d	14-Apr-14	23-May-14	23-Jun-14	28-Jun-14	
PA_0090	Baseline air monitoring report - Review & Approval	30.0d	24-May-14	28-Jun-14	30-Jun-14	09-Jul-14	
PA_0100	Baseline air monitoring report - Preparation for Re-submission (If Require)	14.0d	30-Jun-14	16-Jul-14	10-Jul-14	10-Jul-14	
PA_0110	Baseline air monitoring report - Review and Approval (If Require)	14.0d	17-Jul-14	01-Aug-14	10-Jun-14	11-Jul-14	
B : Civil, Structural and ABWF Works for the New Subway (Part A Works)							
Cost Centre B- Milestone Schedules							
B1 Excavate to +2.5 of SBC & Children's Play Area Cofferdam completed (2-Nov'14)							
MSB01_01	Southern Basket Ball Court: excavate to +2.5mPD (2-Nov'14)	0.0d		01-Nov-14		01-Nov-14	
MSB01_02	Children's Play Area - Cofferdam construction is completed (2-Nov'14)	0.0d		25-Oct-14		25-Oct-14	
B2 SBC Excavation complete & Children's Play Area Excavation to -1.3mPD (25-Jan'15)							
MSB02_01	Southern Basket Ball Court: Excavation is satisfactorily completed (25-Jan'15)	0.0d		24-Jan-15		16-Jan-15	
MSB02_02	Children's Play Area: Excavation has reached -1.3mPD (25-Jan'15)	0.0d		24-Jan-15		24-Jan-15	
B3 SBC RC Roof, JnR NFP & EBC 67% cofferdam, JnR WBC UU div complete (3-May'15)							
MSB03_01	Southern Basket Ball Court: Roof slab construction has been satisfactorily completed (3-May'15)	0.0d		02-May-15		28-Apr-15	
MSB03_02	Johnston Road North Footpath and East-bound Carriageway: 67% of cofferdam installation complete (3-May'15)	0.0d		27-Apr-15		09-May-15	
MSB03_03	Johnston Road West-bound Carriageway - All utility diversions, where required, satisfactorily completed (3-May'15)	0.0d		21-Mar-15			
MSB03_04	10% completed of tram track support (3-May'15)	0.0d		02-May-15		29-Apr-15	
B4 SBC return, NBC Site entry, CPA base, JnR NFP & EBC Cofferdam & decks complete (2-Aug'15)							
MSB04_01	Southern Basket Ball Court: Playing surface has been returned to LCSD for use (2-Aug'15)	0.0d		27-Jun-15			
MSB04_02	Northern Basket Ball Court: Site entry onto Hennessy Road has been formed (2-Aug'15)	0.0d		31-Jul-15			
MSB04_03	Children's Play Area: RC construction of the base slab, except at mucking out point, complete (2-Aug'15)	0.0d		31-Jul-15			
MSB04_04	JnR N-Footpath & E-Bound Carriageway: Cofferdam construction complete & all temp traffic decks installed (2-Aug'15)	0.0d		29-Jul-15			
B5 NBC cofferdam, CPA RC & vent shaft 1.2m above GL, Tram Tracks Excavation to +0.0mPD (1-Nov'15)							
MSB05_01	Northern Basket Ball Court: Satisfactorily complete construction of the cofferdam (1-Nov'15)	0.0d		30-Oct-15			
MSB05_02	Children's Play Area: RC construction complete include above ground vent shaft structures 1.2m above ground (1-Nov'15)	0.0d		31-Oct-15			
MSB05_03	Tram Tracks - Excavation to +0.0 mPD is satisfactorily completed (1-Nov'15)	0.0d		24-Oct-15			
B6 NBC Excavation to formation, JnR Excavation complete (31-Jan'16)							
MSB06_01	Northern basket Ball Court - Excavation to final formation has been satisfactorily completed (31-Jan'16)	0.0d		29-Jan-16			
MSB06_02	Johnston Road All Carriageways, Footpaths & Tram Tracks: Excavation is completed (31-Jan'16)	0.0d		30-Jan-16			
B7 NBC RC roof, JnR CW & FP & TT RC construction exp temp opening, CPA RC complete (1-May'16)							
MSB07_01	Northern Basket Ball Court: RC construction of the roof slab has been completed (1-May'16)	0.0d		30-Apr-16			
MSB07_02	JnR Carriageways, Footpaths & Tram Tracks: RC construction, except at temporary opening completed (1-May'16)	0.0d		30-Apr-16			
MSB07_03	Children's Play Area: RC Construction of above ground ventilation shaft structures is completed (1-May'16)	0.0d		28-Apr-16			
B8 ABWF Degree1 achieved, NBC All reinstatement, Opening through H15 D-wall complete (31-Jul'16)							
MSB08_01	ABWF to Degree 1 has been achieved for works in this cost centre (31-Jul'16)	0.0d		28-Jul-16			
MSB08_02	Northern Basket Ball Court - All re-surfacing works & playing surface reinstatement completed (31-Jul'16)	0.0d		28-Jul-16			
MSB08_03	H15 Interface: The opening through H15 diaphragm wall has been formed (31-Jul'16)	0.0d		30-Jul-16			
B9 ABWF Degree3 achieved, All road reinstatement in JnR & Hennessy Rd complete (30-Oct'16)							
MSB09_01	ABWF to Degree 3 has been achieved for works in this cost centre (30-Oct'16)	0.0d		27-Oct-16			
MSB09_02	All road reinstatement works in Johnston Road and Hennessy Road have been satisfactorily completed (30-Oct'16)	0.0d		21-Oct-16			
B10 All works in Cost Centre B satisfactorily completed (26-Feb'17)							
MSB10_01	All works in this cost centre have been satisfactorily completed (26-Feb'17)	0.0d		25-Feb-17			
Degrees of completion for ABWF Works							
ABWF.D1	ABWF Works - Degree 1	0.0d		28-Jul-16			
ABWF.D2	ABWF Works - Degree 2	0.0d		23-Sep-16			
ABWF.D3	ABWF Works - Degree 3	0.0d		27-Oct-16			
ABWF Works - Degree 1							
ABWF.D1_1.010	1.1- Structure and building complete, clean, dry and weather proof	0.0d		28-Jul-16			
ABWF.D1_1.020	1.2- Blockwalls and partition walls complete, except on plant access route	0.0d		28-Jul-16			
ABWF.D1_1.030	1.3- Plastering, undercoat painting, floor screeding including plinths & upstands complete	0.0d		28-Jul-16			
ABWF.D1_1.040	1.4- Equipment delivery routes & access openings available for Designated Contractors or Interface Contractors	0.0d		28-Jul-16			
ABWF.D1_1.050	1.5- Cast-in items & subframe installed; niches, recesses and box outs formed; cable troughs, ducts & risers complete	0.0d		28-Jul-16			



Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone
Milestone

Contract C6593-13C Wan Chai Station Lee Tung Street Subway

Preliminary Master Program (Rev.C)

Progress vs Program

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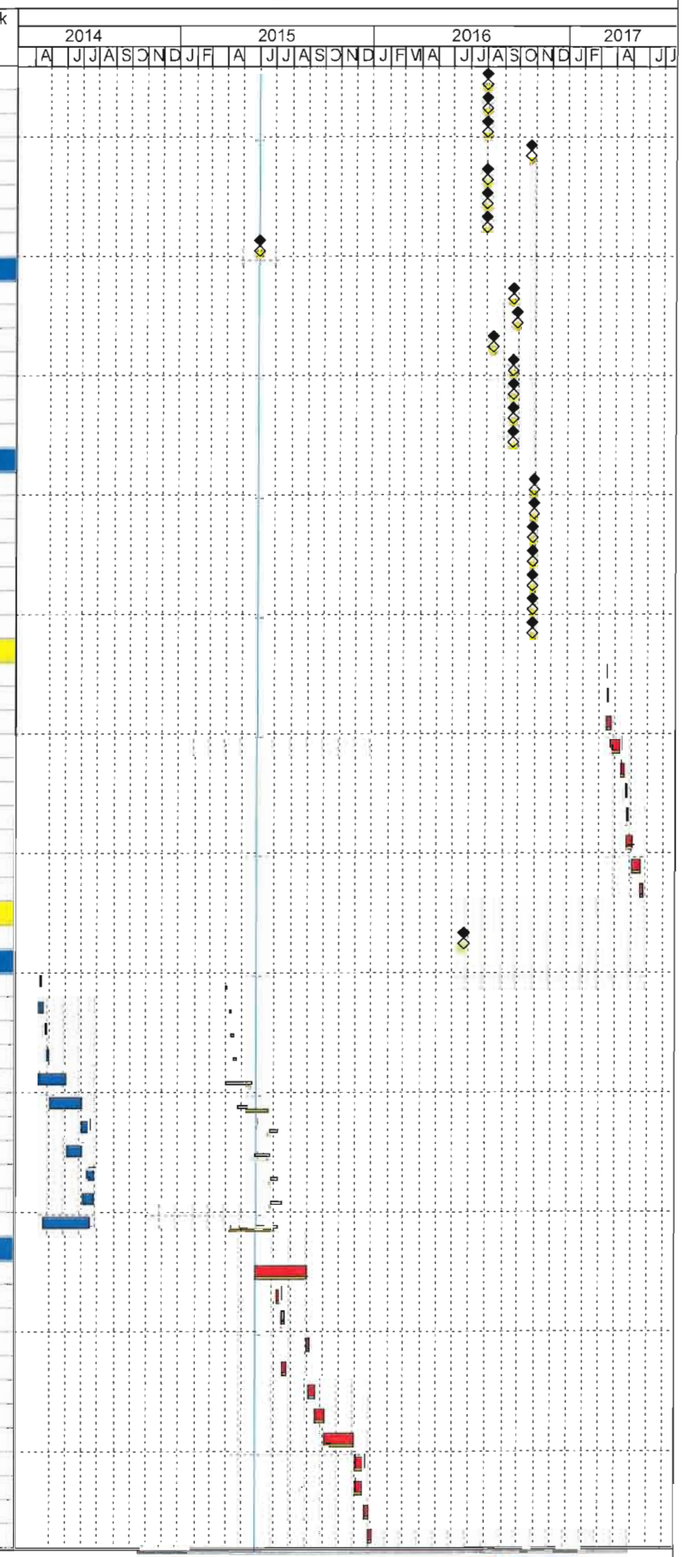
Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
ABWF.D1_1.060	1.6- Structure as-built survey accepted	0.0d		28-Jul-16			
ABWF.D1_1.070	1.7- Structural & blockwork E&M openings formed & survey complete	0.0d		28-Jul-16			
ABWF.D1_1.080	1.8- Movement joints & stitch strips complete	0.0d		28-Jul-16			
ABWF.D1_1.090	1.9- Drainage system & discharge connections complete with temporary pumps operational	0.0d		27-Jul-16			
ABWF.D1_1.100	1.10- Escalator zones & pits complete; survey reference lines accepted	0.0d		28-Jul-16			
ABWF.D1_1.110	1.11- Earthing mat, earthing rods & earthing pits complete & test results accepted	0.0d		28-Jul-16			
ABWF.D1_1.120	1.12- Underground pipework complete including manholes, ductworks & drawpits	0.0d		28-Jul-16			
ABWF.D1_1.130	1.13- Civil & building provisions for designated & interfacing contractors complete	0.0d		14-Apr-14			
ABWF Works - Degree 2							
ABWF.D2_2.010	2.1- Permanent door frames installed with temporary doors and locks	0.0d		15-Sep-16			
ABWF.D2_2.020	2.2- Floor finishes & wall tilling in plant rooms for Designated Contractors complete	0.0d		23-Sep-16			
ABWF.D2_2.030	2.3- Glazing & Balustrade support installed	0.0d		11-Aug-16			
ABWF.D2_2.040	2.4- Metal staircases, cat-ladders & catwalks complete	0.0d		15-Sep-16			
ABWF.D2_2.050	2.5- External louvers installed	0.0d		15-Sep-16			
ABWF.D2_2.060	2.6- Framework for final finishes installed	0.0d		15-Sep-16			
ABWF.D2_2.070	2.7- Water tightness testing to water tanks passed	0.0d		15-Sep-16			
ABWF Works - Degree 3							
ABWF.D3_3.010	3.1- All finishes complete including permanent doors, ironmongery	0.0d		27-Oct-16			
ABWF.D3_3.020	3.2- Balustrade installed	0.0d		27-Oct-16			
ABWF.D3_3.030	3.3- Signage hangers & supports installed	0.0d		24-Oct-16			
ABWF.D3_3.040	3.4- Roller shutters, fire shutters & smoke barriers installed	0.0d		24-Oct-16			
ABWF.D3_3.050	3.5- Acoustic treatment applied	0.0d		24-Oct-16			
ABWF.D3_3.060	3.6- Louvres & grilles installed	0.0d		24-Oct-16			
ABWF.D3_3.070	3.7- All openings & Penetrations sealed	0.0d		24-Oct-16			
Southorn Playground Reprovision works							
RW_0010	LCSD handover Northern Basket Ball Court 1	1.0d	17-Dec-16	17-Dec-16			
RW_0020	Fence off the site	2.0d	19-Dec-16	20-Dec-16			
RW_0030	Expose the surface	6.0d	21-Dec-16	29-Dec-16			
RW_0040	Resurfacing works	14.0d	30-Dec-16	16-Jan-17			
RW_0050	Hand over to LCSD, additional remedial if require	5.0d	17-Jan-17	21-Jan-17			
RW_0060	LCSD handover Southern Basket Ball Court 2	1.0d	23-Jan-17	23-Jan-17			
RW_0070	Fence off the site	2.0d	24-Jan-17	25-Jan-17			
RW_0080	Expose the surface	6.0d	26-Jan-17	04-Feb-17			
RW_0090	Resurfacing works	13.0d	06-Feb-17	20-Feb-17			
RW_0100	Hand over to LCSD, additional remedial if require	5.0d	21-Feb-17	25-Feb-17			
Cost Centre B: Part A Works, Civil and Structural Works for the New Subway							
B.RC_Comp	RC Structure completed for the new subway	0.0d		30-Apr-16			
Site Preliminary Works							
SPW_0010	LCSD handover SBC & Play's Area	3.0d	14-Apr-14	16-Apr-14	14-Apr-14	16-Apr-14	
SPW_0020	Fence off the Site area for SBC & Play's Area	3.0d	17-Apr-14	23-Apr-14	17-Apr-14	23-Apr-14	
SPW_0030	Employ security guard & security booth delivery	3.0d	24-Apr-14	26-Apr-14	24-Apr-14	26-Apr-14	
SPW_0040	Removal of existing furniture for SBC & Play's Area as require	6.0d	28-Apr-14	05-May-14	28-Apr-14	05-May-14	
SPW_0050	Trial trenches and expose existing UU service in SBC & Play's area	40.0d	14-Apr-14	05-Jun-14	14-Apr-14	05-Jun-14	
SPW_0060	Setting up site office & misc.	50.0d	07-May-14	05-Jul-14	07-May-14	05-Jul-14	
SPW_0070	Form site access for vehicle	12.0d	07-Jul-14	19-Jul-14	07-Jul-14	19-Jul-14	
SPW_0080	Diversion of existing utilities & misc. works if require for SBC & Play's Area	24.0d	09-Jun-14	07-Jul-14	09-Jun-14	07-Jul-14	
SPW_0090	Erect hoarding for SBC	12.0d	08-Jul-14	21-Jul-14	16-Jul-14	29-Jul-14	
SPW_0100	Ground/ Site Investigation in SBC & Play's Area	18.0d	08-Jul-14	28-Jul-14	08-Jul-14	28-Jul-14	
SPW_0110	Transplant and tree removal	72.0d	24-Apr-14	21-Jul-14	24-Apr-14	21-Jul-14	
Northern Basket Ball Court							
NBC_0010	Liaison with relevance parties for TTM	80.0d	02-Apr-15	13-Jul-15			
NBC_0020	LCSD handover Northern Basket Ball Court for LTS construction works	6.0d	29-Jun-15	06-Jul-15			
NBC_0030	Preparation works for NBC site access	4.0d	07-Jul-15	10-Jul-15			
NBC_0040	Implementation of TTM	3.0d	14-Jul-15	16-Jul-15			
NBC_0050	Relocation of metal fence access door for public	6.0d	11-Jul-15	17-Jul-15			
NBC_0060	Hoarding installation, installation of site entry on Hennessy Road	12.0d	18-Jul-15	31-Jul-15			
NBC_0070	Expose UU & trial trench for sheet piles works	12.0d	01-Aug-15	14-Aug-15			
NBC_0080	Phase 3 ELS- Sheet Piles Installation [104 no. x 24m]	48.0d	15-Aug-15	12-Oct-15			
NBC_0090	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	15.0d	13-Oct-15	30-Oct-15			
NBC_0100	Phase 3 ELS- Pumping Test preparation works	12.0d	13-Oct-15	27-Oct-15			
NBC_0110	Phase 3 ELS- Pumping Test	6.0d	31-Oct-15	06-Nov-15			
NBC_0120	Phase 3 ELS- Pumping Test Report Preparation and submission to BD	6.0d	07-Nov-15	13-Nov-15			



Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
◇ Baseline Milestone
◆ Milestone

Contract C6593-13C Wan Chai Station Lee Tung Street Subway
Preliminary Master Program (Rev.C)

Progress vs Program

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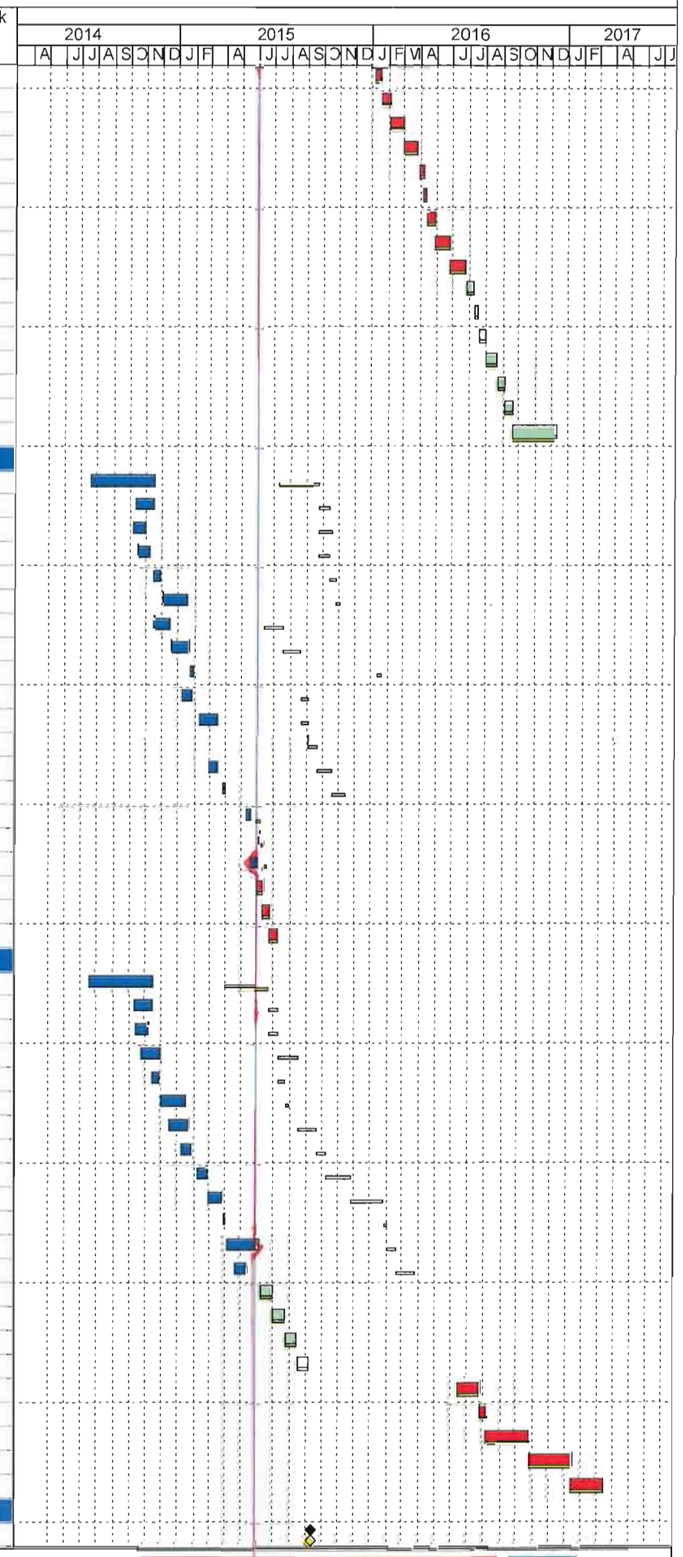
Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
NBC_0130	Bulk Excavation (Removal of hard paving on ground surface) & excavation for layer 1 to +2.5mPD [500m^3]	9.0d	14-Nov-15	24-Nov-15			
NBC_0140	Bulk excavation & layer 2 strut & preloading [500m^3]	15.0d	25-Nov-15	11-Dec-15			
NBC_0150	Bulk excavation & layer 3 strut & preloading [500m^3]	18.0d	12-Dec-15	05-Jan-16			
NBC_0160	Bulk excavation & layer 4 strut & preloading [500m^3]	21.0d	06-Jan-16	29-Jan-16			
NBC_0170	Plate load test	6.0d	30-Jan-16	05-Feb-16			
NBC_0180	Plate load test- Preparation of report & submission to BD	6.0d	06-Feb-16	16-Feb-16			
NBC_0190	Base Slab- Waterproofing & RC construction [Concrete 490m^3] & [Re-Bar 29.5 T]	15.0d	17-Feb-16	04-Mar-16			
NBC_0200	Wall- Waterproofing & RC construction [Concrete 300m^3] & [Re-Bar 54 T]	21.0d	05-Mar-16	01-Apr-16			
NBC_0210	Top Slab- Waterproofing & RC construction [Concrete 180m^3] & [Re-Bar 42.7 T]	24.0d	02-Apr-16	30-Apr-16			
NBC_0220	Construction of flood light footing [2 nos.]	12.0d	03-May-16	17-May-16			
NBC_0230	Reinstatement and installation of flood light [2nos.]	6.0d	18-May-16	24-May-16			
NBC_0240	Backfilling for Northern Basketball Court	12.0d	25-May-16	07-Jun-16			
NBC_0250	Reinstate hard paving of Northern Basketball Court	18.0d	08-Jun-16	29-Jun-16			
NBC_0260	Reinstate surface coating of Northern Basketball Court	12.0d	30-Jun-16	14-Jul-16			
NBC_0270	Hand over to LCSD, additional remedial if require	12.0d	15-Jul-16	28-Jul-16			
NBC_0280	Reinstate road surface on Hennessy Road	70.0d	29-Jul-16	21-Oct-16			
Southern Basket Ball Court							
SBC_0010	Phase 1 ELS- Sheet Piles Installation [184n. x 24m]	65.0d	22-Jul-14	08-Oct-14	22-Jul-14	15-Nov-14	
SBC_0020	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	15.0d	09-Oct-14	25-Oct-14	15-Oct-14	15-Nov-14	
SBC_0030	Bulk Excavation (Removal of hard paving on ground surface) & excavation for layer 1 to +2.5mPD [800m^3]	21.0d	09-Oct-14	01-Nov-14	09-Oct-14	01-Nov-14	
SBC_0040	Phase 1 ELS- Pumping Test preparation works	15.0d	09-Oct-14	25-Oct-14	16-Oct-14	08-Nov-14	
SBC_0050	Phase 1 ELS- Pumping Test	11.0d	27-Oct-14	07-Nov-14	17-Nov-14	28-Nov-14	
SBC_0060	Phase 1 ELS- Pumping Test Report Preparation and submission to BD	6.0d	08-Nov-14	14-Nov-14	04-Dec-14	19-Jan-15	
SBC_0070	Bulk excavation & layer 2 strut & preloading [800m^3]	28.0d	15-Nov-14	17-Dec-14	15-Nov-14	17-Dec-14	
SBC_0080	Bulk excavation & layer 3 strut & preloading [800m^3]	30.0d	18-Dec-14	24-Jan-15	18-Dec-14	24-Jan-15	
SBC_0090	Plate load test	6.0d	26-Jan-15	31-Jan-15	26-Jan-15	31-Jan-15	
SBC_0100	Temporary Traffic Deck construction	12.0d	26-Jan-15	07-Feb-15	10-Jan-15	28-Jan-15	
SBC_0110	Plate load test- Preparation of report & submission to BD	12.0d	02-Feb-15	14-Feb-15	12-Feb-15	16-Mar-15	
SBC_0120	Base Slab- Waterproofing & RC construction [Concrete 420m^3] & [Re-Bar 25.3 T]	15.0d	16-Feb-15	07-Mar-15	04-Sep-15	04-Sep-15	
SBC_0130	Wall- Waterproofing & RC construction [Concrete 280m^3] & [Re-Bar 50.4 T]	21.0d	09-Mar-15	01-Apr-15	02-Mar-15	17-Mar-15	
SBC_0140	Top Slab- Waterproofing & RC construction [Concrete 210m^3] & [Re-Bar 50 T]	22.0d	02-Apr-15	02-May-15	28-Mar-15	02-Apr-15	
SBC_0150	Construction of flood light footing (2 nos.)	7.0d	04-May-15	11-May-15	14-May-15	21-May-15	
SBC_0160	Reinstatement and installation of flood light (2nos.)	3.0d	12-May-15	14-May-15	05-Jun-15	05-Jun-15	
SBC_0170	Backfilling for Southern Basketball Court	6.0d	15-May-15	21-May-15	21-May-15		
SBC_0180	Reinstate hard paving of Southern Basketball Court	9.0d	22-May-15	02-Jun-15			
SBC_0190	Reinstate surface coating of Southern Basketball Court	9.0d	03-Jun-15	12-Jun-15			
SBC_0200	Hand over to LCSD, additional remedial if require	12.0d	13-Jun-15	27-Jun-15			
Children's Play Area							
CPA_0010	Phase 1 ELS- Sheet Piles Installation [123 No. x 24m]	65.0d	22-Jul-14	08-Oct-14	22-Jul-14	15-Nov-14	
CPA_0020	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	15.0d	09-Oct-14	25-Oct-14	15-Oct-14	15-Nov-14	
CPA_0030	Phase 1 ELS- Pumping Test preparation works	15.0d	09-Oct-14	25-Oct-14	16-Oct-14	08-Nov-14	
CPA_0040	Bulk Excavation (Removal of hard paving on ground surface) & excavation for layer 1 to +2.5mPD [680m^3]	32.0d	27-Oct-14	02-Dec-14	27-Oct-14	02-Dec-14	
CPA_0050	Phase 1 ELS- Pumping Test	11.0d	27-Oct-14	07-Nov-14	17-Nov-14	28-Nov-14	
CPA_0060	Phase 1 ELS- Pumping Test Report Preparation and submission to BD	6.0d	08-Nov-14	14-Nov-14	04-Dec-14	19-Jan-15	
CPA_0070	Bulk excavation & layer 2 strut & preloading to -1.3 mPD [680m^3]	30.0d	18-Dec-14	24-Jan-15	18-Dec-14	24-Jan-15	
CPA_0080	Play's Area Temporary Traffic Deck construction	12.0d	26-Jan-15	07-Feb-15	10-Jan-15	28-Jan-15	
CPA_0090	Bulk excavation & layer 3 strut & preloading [680m^3]	40.0d	09-Feb-15	30-Mar-15	09-Feb-15	28-Feb-15	
CPA_0100	Bulk excavation & layer 4 strut & preloading [680m^3]	50.0d	31-Mar-15	03-Jun-15	01-Mar-15	27-Mar-15	
CPA_0110	Plate load test	6.0d	04-Jun-15	10-Jun-15	30-Mar-15	02-Apr-15	
CPA_0120	Plate load test- Preparation of report & submission to BD	12.0d	11-Jun-15	25-Jun-15	08-Apr-15		
CPA_0130	Base Slab- Waterproofing & RC construction [Concrete 395m^3] & [Re-Bar 23.8 T]	30.0d	26-Jun-15	31-Jul-15	23-Apr-15	13-May-15	
CPA_0140	Wall- Waterproofing & RC construction [Concrete 210m^3] & [Re-Bar 37.8 T]	18.0d	01-Aug-15	21-Aug-15			
CPA_0150	Top Slab- Waterproofing & RC construction [Concrete 185m^3] & [Re-Bar 43.8 T]	20.0d	22-Aug-15	14-Sep-15			
CPA_0160	Ventilation Shaft Below Ground- Waterproofing & RC construction [Concrete 35m^3] & [Re-Bar 6.3 T]	20.0d	15-Sep-15	09-Oct-15			
CPA_0170	Ventilation Shaft 1.2m Above Ground- Waterproofing & RC construction [Concrete 25m^3] & [Re-Bar 4.5 T]	18.0d	10-Oct-15	31-Oct-15			
CPA_0180	Ventilation Shaft - Waterproofing & RC construction reach +7.40 & +9.50mPD [Concrete 50m^3] & [Re-Bar 9 T]	30.0d	21-Mar-16	28-Apr-16			
CPA_0190	Site cleaning for Play Area reinstatement & Landscape works	12.0d	29-Apr-16	13-May-16			
CPA_0200	Reinstatement works for Plays Area	66.0d	16-May-16	02-Aug-16			
CPA_0210	Landscape works	66.0d	03-Aug-16	21-Oct-16			
CPA_0220	Hand over to LCSD, additional remedial if require	48.0d	22-Oct-16	16-Dec-16			
Johnston Road							
JnR_0010	All Sheet Piles on JnR & 1st layer mini piles below Tram track completed	0.0d		09-Sep-15			



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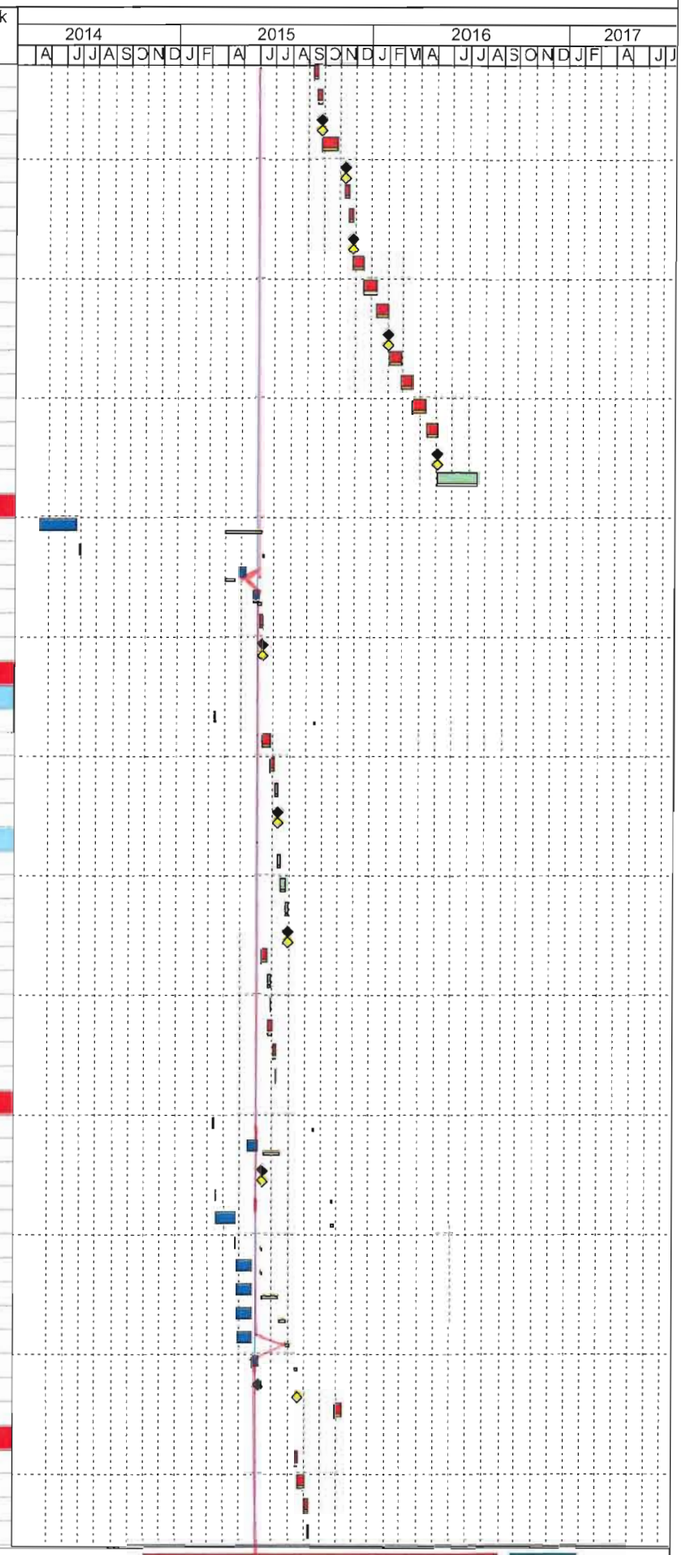
Contract C6593-13C Wan Chai Station Lee Tung Street Subway

Preliminary Master Program (Rev.C)

Progress vs Program

Kaden 基利

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
JnR_0020	Phase 2 ELS- Pumping Test 1 for 1st layer	6.0d	10-Sep-15	16-Sep-15			
JnR_0030	Phase 2 ELS- Pumping Test Report for 1st layer Preparation and submission	6.0d	17-Sep-15	23-Sep-15			
JnR_0040	Phase 2 ELS- 1st layer Pumping Test completed & satisfied	0.0d		23-Sep-15			
JnR_0050	Bulk excavation & layer 1 strut & preloading [570m^3]	24.0d	24-Sep-15	24-Oct-15			
JnR_0060	All grouting and sheet piles achieved to tot level in Johnston Road	0.0d		07-Nov-15			
JnR_0070	Phase 2 ELS- Pumping Test 2 for whole ELS	6.0d	09-Nov-15	14-Nov-15			
JnR_0080	Phase 2 ELS- Pumping Test Report for whole ELS Preparation and submission	6.0d	16-Nov-15	21-Nov-15			
JnR_0090	Phase 2 ELS- Pumping test completed & satisfied	0.0d		21-Nov-15			
JnR_0100	Bulk excavation & layer 2 strut & preloading [570m^3]	18.0d	23-Nov-15	12-Dec-15			
JnR_0110	Bulk excavation & layer 3 strut & preloading [570m^3]	18.0d	14-Dec-15	06-Jan-16			
JnR_0120	Bulk excavation & layer 4 strut & preloading [570m^3]	21.0d	07-Jan-16	30-Jan-16			
JnR_0130	Bulk excavation to formation level on JnR	0.0d		30-Jan-16			
JnR_0140	Sump pit- Waterproofing & RC construction [Concrete 250m^3] & [Re-Bar 15 T]	18.0d	01-Feb-16	24-Feb-16			
JnR_0150	Base Slab- Waterproofing & RC construction [Concrete 265m^3] & [Re-Bar 16 T]	17.0d	25-Feb-16	15-Mar-16			
JnR_0160	Wall- Waterproofing & RC construction [Concrete 70m^3] & [Re-Bar 12.6 T]	18.0d	16-Mar-16	09-Apr-16			
JnR_0170	Top Slab- Waterproofing & RC construction [Concrete 125m^3] & [Re-Bar 29.6 T]	18.0d	11-Apr-16	30-Apr-16			
JnR_0180	RC structure completed on JnR	0.0d		30-Apr-16			
JnR_0190	Removal of temporary traffic decking ,backfill & road reinstatement on JNR	60.0d	03-May-16	14-Jul-16			
Johnston Road North Footpath (TTM Stage 1, 2, 2A & 2B)							
JnR.NFP_0010	Liaison, review & acceptance for TTM Stage 1	54.0d	14-Apr-14	21-Jun-14	14-Apr-14	21-Jun-14	
JnR.NFP_0020	Implementation of TTM Stage 1	3.0d	28-Jun-14	02-Jul-14	28-Jun-14	02-Jul-14	
JnR.NFP_0030	Phase 2 ELS- Sheet Piles Installation [30no. x 24m]	12.0d	26-Jan-15	07-Feb-15	28-Apr-15	09-May-15	
JnR.NFP_0040	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	6.0d	09-Feb-15	14-Feb-15	23-May-15		
JnR.NFP_0050	Installation of temporary traffic decking	6.0d	16-Feb-15	25-Feb-15			
JnR.NFP_0060	Sheet piles & Traffic decking completed on North Footpath for TTM Stage 3	0.0d		25-Feb-15			
Johnston Road Eastbound carriageway							
Johnston Road Eastbound carriageway North Side (TTM Stage 3)							
JnR.EBC.NS_0010	Implementation of TTM 3	3.0d	30-Mar-15	01-Apr-15	13-Mar-15	14-Mar-15	
JnR.EBC.NS_0020	Phase 2 ELS- Sheet Piles Installation [25no. x 24m]	12.0d	02-Apr-15	20-Apr-15			
JnR.EBC.NS_0030	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	6.0d	21-Apr-15	27-Apr-15			
JnR.EBC.NS_0040	Installation of temporary traffic decking	6.0d	28-Apr-15	05-May-15			
JnR.EBC.NS_0050	Sheet Piles & Traffic decking completed on Eastbound Carriageway North Side for TTM Stage 4	0.0d		05-May-15			
Johnston Road Eastbound carriageway South Side (TTM Stage 4 & 5)							
JnR.EBC.SS_0010	Implementation of TTM 4	3.0d	09-Jul-15	11-Jul-15			
JnR.EBC.SS_0020	Phase 2 ELS- Sheet Piles Installation [33no. x 24m]	9.0d	13-Jul-15	22-Jul-15			
JnR.EBC.SS_0030	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	6.0d	23-Jul-15	29-Jul-15			
JnR.EBC.SS_0040	Sheet pile completed on Eastbound Carriageway South Side	0.0d		29-Jul-15			
JnR.EBC.SS_0050	Coring for minipile No. 1 to reach -56mPD [60m]	8.0d	02-Apr-15	15-Apr-15			
JnR.EBC.SS_0060	Installation of Re-Bar for minipile No.1 [4x 60m T50, 3.7Ton]	5.0d	16-Apr-15	21-Apr-15			
JnR.EBC.SS_0070	Groutiong for minipile No.1	1.0d	22-Apr-15	22-Apr-15			
JnR.EBC.SS_0080	Coring for minipile No. 2 to reach -56mPD [60m]	8.0d	16-Apr-15	24-Apr-15			
JnR.EBC.SS_0090	Installation of Re-Bar for minipile No.2 [4x 60m T50, 3.7Ton]	5.0d	25-Apr-15	30-Apr-15			
JnR.EBC.SS_0100	Groutiong for minipile No.2	1.0d	02-May-15	02-May-15			
Johnston Road Tram Tracks (TTM Stage 3)							
JnR.TT_0010	Implementation of TTM 3	3.0d	30-Mar-15	01-Apr-15	13-Mar-15	14-Mar-15	
JnR.TT_0030	1st layer grouting below tram track (NTH) to -6mPD 28no. 800mm C/C [NTH]	24.0d	02-Apr-15	05-May-15	15-May-15	04-Jun-15	
JnR.TT_0040	1st layer of mini piles below tram tracks completed	0.0d		05-May-15			
JnR.TT_0050	Expose concrete surface by Tramsway Sub-Con	3.0d	06-May-15	08-May-15	16-Mar-15	18-Mar-15	
JnR.TT_0060	Installation of Steel Beam	4.0d	06-May-15	09-May-15	18-Mar-15	24-Apr-15	
JnR.TT_0070	Leveling of steel Beam by Tramsway Sub-Con (NTH)	4.0d	06-May-15	09-May-15	24-Apr-15	24-Apr-15	
JnR.TT_0080	Installation of temporary steel decking on tram track	4.0d	06-May-15	09-May-15	25-Apr-15	23-May-15	
JnR.TT_0090	Expose concrete/ fill below tram track [60m^3]	24.0d	11-May-15	08-Jun-15	25-Apr-15	23-May-15	
JnR.TT_0100	Installation of Re-bars [Re-Bars 7.6T]	12.0d	09-Jun-15	23-Jun-15	27-Apr-15	23-May-15	
JnR.TT_0110	Concreting for concrete decking below tram track [Concrete 60m^3]	6.0d	24-Jun-15	30-Jun-15	28-Apr-15	23-May-15	
JnR.TT_0120	Reinstate the tram track surface	6.0d	02-Jul-15	08-Jul-15	25-May-15	06-Jun-15	
JnR.TT_0130	Tram track concrete decking & reinstatement works completed ready for Implementation of TTM Stage 4	0.0d		08-Jul-15		06-Jun-15	
JnR.TT_0140	2nd layer grouting and pipe piles below tram track to -17mPD (16m) 50no. x 324mm dia. 450mm C/C (2 machine)	12.0d	26-Oct-15	07-Nov-15			
Johnston Road Westbound carriageway (TTM Stage 5)							
JnR.WBC_0010	Implementation of TTM Stage 5	3.0d	13-Aug-15	15-Aug-15			
JnR.WBC_0020	Trial Trench	12.0d	17-Aug-15	29-Aug-15			
JnR.WBC_0030	Phase 2 ELS- Sheet Piles Installation [20no. x 24m]	6.0d	31-Aug-15	05-Sep-15			
JnR.WBC_0040	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	3.0d	07-Sep-15	09-Sep-15			



Actual Level of Effort
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Baseline Milestone
Milestone

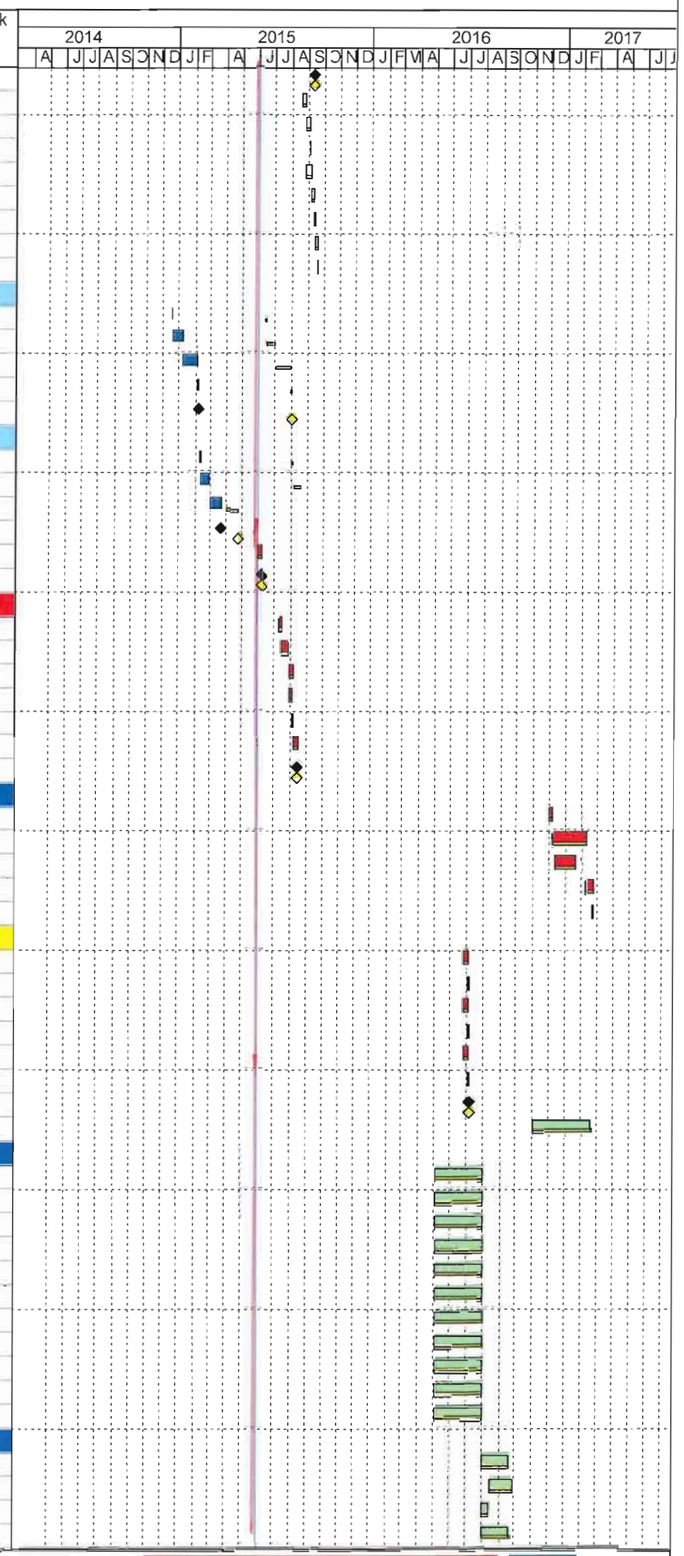
Contract C6593-13C Wan Chai Station Lee Tung Street Subway

Preliminary Master Program (Rev.C)

Progress vs Program

Kaden 基利

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
JnR.WBC_0050	Sheet piles completed on Westbound carriageway	0.0d		09-Sep-15			
JnR.WBC_0060	Coring for minipile No. 3 to reach -56mPD [60m]	8.0d	17-Aug-15	25-Aug-15			
JnR.WBC_0070	Installation of Re-Bar for minipile No.3 [4x 60m T50, 3.7Ton]	5.0d	26-Aug-15	31-Aug-15			
JnR.WBC_0080	Groutiong for minipile No.3	1.0d	01-Sep-15	01-Sep-15			
JnR.WBC_0090	Coring for minipile No. 4 to reach -56mPD [60m]	8.0d	26-Aug-15	03-Sep-15			
JnR.WBC_0100	Installation of Re-Bar for minipile No.4 [4x 60m T50, 3.7Ton]	5.0d	04-Sep-15	09-Sep-15			
JnR.WBC_0110	Grouting for minipile No.4	1.0d	10-Sep-15	10-Sep-15			
JnR.WBC_0120	Re-Bar Installation for minipile location	4.0d	11-Sep-15	15-Sep-15			
JnR.WBC_0130	Cast Concrete minipile location	2.0d	16-Sep-15	17-Sep-15			
Johnston Road Westbound carriageway East Side (TTM Stage 2A)							
JnR.WBC.ES_0010	Implementation of TTM Stage 2A	3.0d	18-Dec-14	20-Dec-14	18-Dec-14	20-Dec-14	
JnR.WBC.ES_0020	Expose UU	12.0d	22-Dec-14	07-Jan-15	22-Dec-14	07-Jan-15	
JnR.WBC.ES_0030	UU diversion on JnR Westbound Carriageway East Side	24.0d	08-Jan-15	04-Feb-15	08-Jan-15	04-Feb-15	
JnR.WBC.ES_0040	Installation of temporary traffic decking	3.0d	05-Feb-15	07-Feb-15	05-Feb-15	07-Feb-15	
JnR.WBC.ES_0050	Traffic decking completed on Westbound Carriageway East Side for TTM Stage 2B	0.0d		07-Feb-15		07-Feb-15	
Johnston Road Westbound carriageway West Side (TTM Stage 2B)							
JnR.WBC.WS_0010	Implementation of TTM Stage 2B	3.0d	09-Feb-15	11-Feb-15	09-Feb-15	11-Feb-15	
JnR.WBC.WS_0020	Expose UU	12.0d	12-Feb-15	28-Feb-15	12-Feb-15	28-Feb-15	
JnR.WBC.WS_0030	UU diversion on JnR Westbound Carriageway West Side	18.0d	02-Mar-15	21-Mar-15	02-Mar-15	21-Mar-15	
JnR.WBC.WS_0040	UU diversion on JnR Westbound Carriageway Completed	0.0d		21-Mar-15		21-Mar-15	
JnR.WBC.WS_0050	Installation of temporary traffic decking	6.0d	23-Mar-15	28-Mar-15			
JnR.WBC.WS_0060	Traffic decking completed on Westbound Carriageway West Side for TTM Stage 3	0.0d		28-Mar-15			
Johnston Road South Footpath (TTM 4)							
JnR.SFP_0010	Implementation of TTM 4	3.0d	09-Jul-15	11-Jul-15			
JnR.SFP_0020	Expose UU	12.0d	13-Jul-15	25-Jul-15			
JnR.SFP_0030	UU diversion	9.0d	27-Jul-15	05-Aug-15			
JnR.SFP_0040	Phase 2 ELS- Sheet Piles Installation [15no. x 24m]	6.0d	27-Jul-15	01-Aug-15			
JnR.SFP_0050	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	3.0d	03-Aug-15	05-Aug-15			
JnR.SFP_0060	Installation of Temporary Traffic decking	6.0d	06-Aug-15	12-Aug-15			
JnR.SFP_0070	Sheet Piles & Traffic decking completed on South Footpath for TTM Stage 5	0.0d		12-Aug-15			
H15 Break Through Works							
H15_0010	Installation protection measurement for break through	3.0d	13-May-16	17-May-16			
H15_0020	Breaking out to H15 - Form opening, core holes & wire cut, 60 no. x 0.9m x 0.9m x 1m blocks	48.0d	18-May-16	14-Jul-16			
H15_0030	Breaking out to H15 - Installation of temporary steel proping	30.0d	24-May-16	28-Jun-16			
H15_0040	Breaking out to H15 - Construct the portal frame	12.0d	15-Jul-16	28-Jul-16			
H15_0050	Demolish the propping steel members	2.0d	29-Jul-16	30-Jul-16			
Cost Centre B: Part A Works, ABWF Works for the New Subway							
ABWF_0010	Preparation works for Fire Shutter on GL-L	6.0d	03-May-16	09-May-16			
ABWF_0020	Installation of Fire Shutter on GL-L	3.0d	10-May-16	12-May-16			
ABWF_0030	Preparation works for Security Shutter on GL-L	6.0d	03-May-16	09-May-16			
ABWF_0040	Installation of Security Shutter on GL-L	3.0d	10-May-16	12-May-16			
ABWF_0050	Preparation works for Flood Gate on GL-L	6.0d	03-May-16	09-May-16			
ABWF_0060	Installation for Flood Gate on GL-L	3.0d	10-May-16	12-May-16			
ABWF_0070	Completion of Flood Gate, Fire Shutter & Security Shutter on GL-L	0.0d		12-May-16			
ABWF_0080	Remaining ABWF, finishing & Site cleaning works	90.0d	28-Oct-16	16-Feb-17			
ABWF Works - Degree 1							
ABWF.D1_0010	Site Cleaning & dry the internal of Structure & building	72.0d	03-May-16	28-Jul-16			
ABWF.D1_0020	Installation of blockwalls & partition wall except on plant access route	72.0d	03-May-16	28-Jul-16			
ABWF.D1_0030	Apply Plastering, undercoat, painting, floor screeding including plinths and upstands	72.0d	03-May-16	28-Jul-16			
ABWF.D1_0040	Forming equipment delivery routes and access openings for DC or Interface Contractors	72.0d	03-May-16	28-Jul-16			
ABWF.D1_0050	Install Cast-in items, subframe; Form niches, recesses & box outs; Install cable troughs, ducts & risers	72.0d	03-May-16	28-Jul-16			
ABWF.D1_0060	Preparation, submission and approval of Structure as-built survey	72.0d	03-May-16	28-Jul-16			
ABWF.D1_0070	Form Structural & blockwork E&M openings & preparation of survey	72.0d	03-May-16	28-Jul-16			
ABWF.D1_0080	Installation of movement joints & stitch strips	72.0d	03-May-16	28-Jul-16			
ABWF.D1_0090	Form escalator zones & pits complete; survey reference lines for acceptance	72.0d	03-May-16	28-Jul-16			
ABWF.D1_0100	Installation of Earthing mat, earthing rods & earthing pits, test & acceptance	72.0d	03-May-16	28-Jul-16			
ABWF.D1_0110	Installation of underground pipe work including manholes, ductworks & drawpits	72.0d	03-May-16	28-Jul-16			
ABWF Works - Degree 2							
ABWF.D2_0010	Permanent door frames installed with temporary doors & locks	42.0d	29-Jul-16	15-Sep-16			
ABWF.D2_0020	Installation of Floor finishes & wall tilling in plant rooms for Designated Contractors	36.0d	12-Aug-16	23-Sep-16			
ABWF.D2_0030	Install Glazing & Balustrade support	12.0d	29-Jul-16	11-Aug-16			
ABWF.D2_0040	Install Metal staircases, cat-ladders & catwalks	42.0d	29-Jul-16	15-Sep-16			



Actual Level of Effort
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Milestone

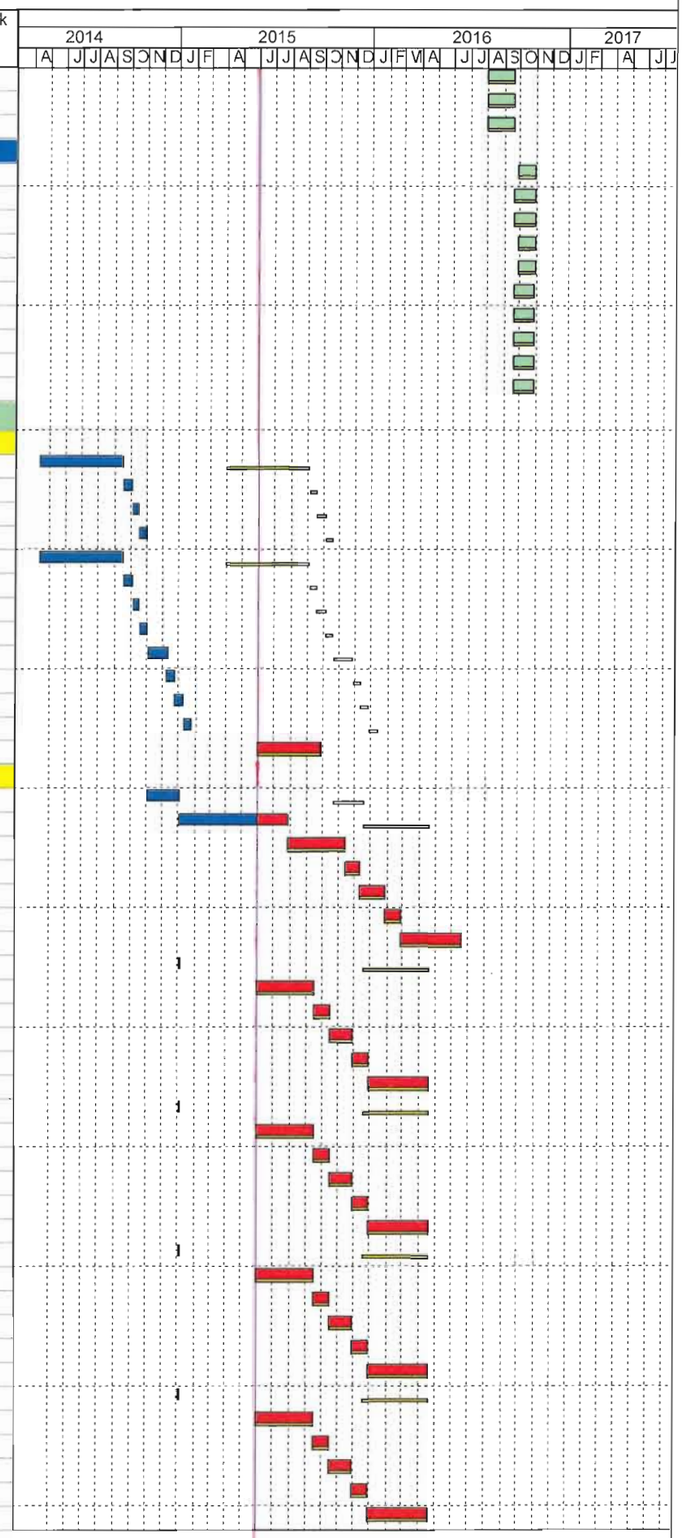
Contract C6593-13C Wan Chai Station Lee Tung Street Subway

Preliminary Master Program (Rev.C)

Progress vs Program

Kaden 基利

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
ABWF.D2_0050	Install External louvers	42.0d	29-Jul-16	15-Sep-16			
ABWF.D2_0060	Install Framework for final finishes	42.0d	29-Jul-16	15-Sep-16			
ABWF.D2_0070	Water tightness testing to water tanks & acceptance	42.0d	29-Jul-16	15-Sep-16			
ABWF Works - Degree 3							
ABWF.D3_0010	Inatall & apply all remaining finishes including permanent doors, ironmongery	27.0d	24-Sep-16	27-Oct-16			
ABWF.D3_0011	Installation of VE Panel [591m^2]	33.0d	17-Sep-16	27-Oct-16			
ABWF.D3_0012	Installation of Ceiling Panel [565 m^2]	33.0d	17-Sep-16	27-Oct-16			
ABWF.D3_0013	Installation of floor finishing [565 m^2]	27.0d	24-Sep-16	27-Oct-16			
ABWF.D3_0020	Install Balustrade	27.0d	24-Sep-16	27-Oct-16			
ABWF.D3_0030	Install Signage hangers & supports	30.0d	17-Sep-16	24-Oct-16			
ABWF.D3_0040	Install smoke barriers	30.0d	17-Sep-16	24-Oct-16			
ABWF.D3_0050	Apply Acoustic treatment	30.0d	17-Sep-16	24-Oct-16			
ABWF.D3_0060	Install Louvres & grilles	30.0d	17-Sep-16	24-Oct-16			
ABWF.D3_0070	Seal All openings & Penetrations	30.0d	17-Sep-16	24-Oct-16			
C: Building Services							
Design, Shop Drawings, Materials & Equipments Submission and Approval							
BS.DS_0010	BS Works- Preparation and submission for detailed design of BS works	128.0d	14-Apr-14	18-Sep-14	14-Apr-14	18-Sep-14	
BS.DS_0020	BS Works- Review and approval for detailed design of BS works	12.0d	19-Sep-14	04-Oct-14	19-Sep-14	04-Oct-14	
BS.DS_0030	BS Works- Preparation and re-submission for detailed design of BS works (If require)	12.0d	06-Oct-14	18-Oct-14	06-Oct-14	18-Oct-14	
BS.DS_0040	BS Works- Review and approval for detailed design of BS works (If require)	12.0d	20-Oct-14	01-Nov-14	20-Oct-14	01-Nov-14	
BS.DS_0050	BS Works- Contractor prepare & submit the propose suppliers & model types of major BS equipment & materials	128.0d	14-Apr-14	18-Sep-14	14-Apr-14	18-Sep-14	
BS.DS_0060	BS Works- Review & approval the propose suppliers & model types of major BS equipment & materials	12.0d	19-Sep-14	04-Oct-14	19-Sep-14	04-Oct-14	
BS.DS_0070	BS Works- Contractor prepare & re-submit propose suppliers & model types of major BS equipment & materials (If requie)	12.0d	06-Oct-14	18-Oct-14	06-Oct-14	18-Oct-14	
BS.DS_0080	BS Works- Review the propose suppliers & model types of major BS equipment & materials (If requie)	12.0d	20-Oct-14	01-Nov-14	20-Oct-14	01-Nov-14	
BS.DS_0090	BS Works- Preparation and submission of BS shop drawings	32.0d	03-Nov-14	09-Dec-14	03-Nov-14	09-Dec-14	
BS.DS_0100	BS Works- Review and approval of BS shop drawings	12.0d	10-Dec-14	23-Dec-14	10-Dec-14	23-Dec-14	
BS.DS_0110	BS Works- Preparation and re-submission of BS shop drawings (If require)	12.0d	24-Dec-14	09-Jan-15	24-Dec-14	09-Jan-15	
BS.DS_0120	BS Works- Review and approval of BS shop drawings (If require)	12.0d	10-Jan-15	23-Jan-15	10-Jan-15	23-Jan-15	
BS.DS_0130	Exchange of Design Information with Designated and Interfacing Contractors	100.0d	24-Jan-15	30-May-15			
Procurement and Delivery of Materials and Equipments							
BS.PD_0010	All Major building service equipments & materials - Manufacture & fabrication - Procurement	50.0d	03-Nov-14	02-Jan-15	03-Nov-14	02-Jan-15	
BS.PD_0020	Others Major building service equipments & materials - Place order	95.0d	03-Jan-15	02-May-15	03-Jan-15		
BS.PD_0030	Others Major building service equipments & materials - Manufacture & fabrication	90.0d	04-May-15	19-Aug-15			
BS.PD_0040	Others Major building service equipments & materials - Factory acceptance testing	24.0d	20-Aug-15	16-Sep-15			
BS.PD_0050	Others Major building service equipments & materials - Remedial works (If require)	36.0d	17-Sep-15	31-Oct-15			
BS.PD_0060	Others Major building service equipments & materials - Factory acceptance (If require)	24.0d	02-Nov-15	28-Nov-15			
BS.PD_0070	Others Major building service equipments & materials - Delivery to site/ ECS Room	90.0d	30-Nov-15	19-Mar-16			
BS.PD_0080	Air Handling Unit - Place Order	95.0d	03-Jan-15	02-May-15	03-Jan-15	05-Jan-15	
BS.PD_0090	Air Handling Unit - Manufacture & fabrication	90.0d	04-May-15	19-Aug-15			
BS.PD_0100	Air Handling Unit - Factory acceptance testing	24.0d	20-Aug-15	16-Sep-15			
BS.PD_0110	Air Handling Unit - Remedial works (If require)	36.0d	17-Sep-15	31-Oct-15			
BS.PD_0120	Air Handling Unit - Factory acceptance testing (If require)	24.0d	02-Nov-15	28-Nov-15			
BS.PD_0130	Air Handling Unit - Delivery to site/ ECS Room	90.0d	30-Nov-15	19-Mar-16			
BS.PD_0140	In-line Centrifugal Fan - Place Order	95.0d	03-Jan-15	02-May-15	03-Jan-15	05-Jan-15	
BS.PD_0150	In-line Centrifugal Fan - Manufacture & fabrication	90.0d	04-May-15	19-Aug-15			
BS.PD_0160	In-line Centrifugal Fan - Factory acceptance testing	24.0d	20-Aug-15	16-Sep-15			
BS.PD_0170	In-line Centrifugal Fan - Remedial works (If require)	36.0d	17-Sep-15	31-Oct-15			
BS.PD_0180	In-line Centrifugal Fan - Factory acceptance testing (If require)	24.0d	02-Nov-15	28-Nov-15			
BS.PD_0190	In-line Centrifugal Fan - Delivery to Site/ ECS Room	90.0d	30-Nov-15	19-Mar-16			
BS.PD_0200	Smoke Extraction Fan - Place Order	95.0d	03-Jan-15	02-May-15	03-Jan-15	05-Jan-15	
BS.PD_0210	Smoke Extraction Fan - Manufacture & fabrication	90.0d	04-May-15	19-Aug-15			
BS.PD_0220	Smoke Extraction Fan - Factory acceptance testing	24.0d	20-Aug-15	16-Sep-15			
BS.PD_0230	Smoke Extraction Fan - Remedial works (If require)	36.0d	17-Sep-15	31-Oct-15			
BS.PD_0240	Smoke Extraction Fan - Factory acceptance testing (If require)	24.0d	02-Nov-15	28-Nov-15			
BS.PD_0250	Smoke Extraction Fan - Delivery to site/ ECS Room	90.0d	30-Nov-15	19-Mar-16			
BS.PD_0260	Fan Coil Unit - Place order	95.0d	03-Jan-15	02-May-15	03-Jan-15	05-Jan-15	
BS.PD_0270	Fan Coil Unit - Manufacture & fabrication	90.0d	04-May-15	19-Aug-15			
BS.PD_0280	Fan Coil Unit - Factory acceptance testing	24.0d	20-Aug-15	16-Sep-15			
BS.PD_0290	Fan Coil Unit - Remedial works (If require)	36.0d	17-Sep-15	31-Oct-15			
BS.PD_0300	Fan Coil Unit - Factory acceptance testing (If require)	24.0d	02-Nov-15	28-Nov-15			
BS.PD_0310	Fan Coil Unit - Delivery to site/ ECS Room	90.0d	30-Nov-15	19-Mar-16			



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Contract C6593-13C Wan Chai Station Lee Tung Street Subway

Preliminary Master Program (Rev.C)

Progress vs Program

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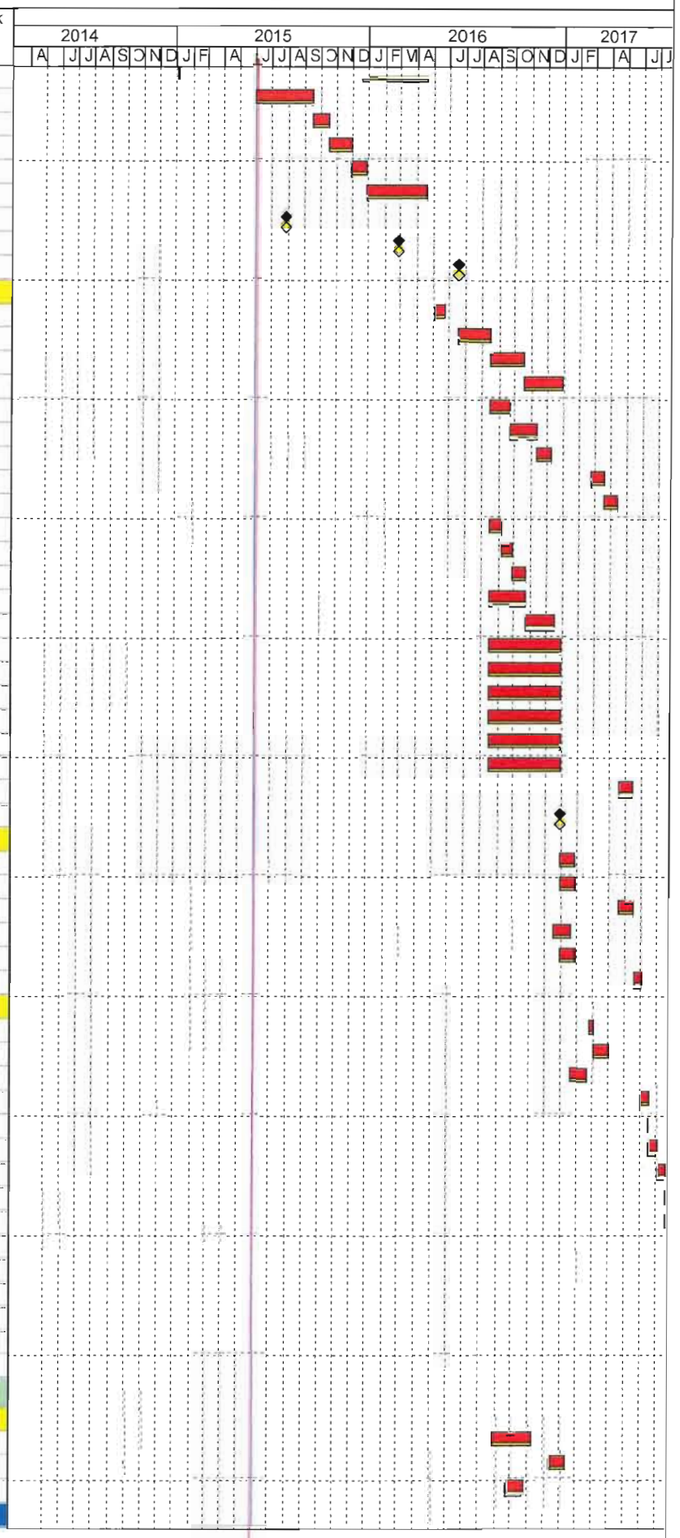
Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
BS.PD_0320	Motorized Smoke & Fire damper - Place order	95.0d	03-Jan-15	02-May-15	03-Jan-15	05-Jan-15	
BS.PD_0330	Motorized Smoke & Fire damper - Manufacture & fabrication	90.0d	04-May-15	19-Aug-15			
BS.PD_0340	Motorized Smoke & Fire damper - Factory acceptance testing	24.0d	20-Aug-15	16-Sep-15			
BS.PD_0350	Motorized Smoke & Fire damper - Remedial works (If require)	36.0d	17-Sep-15	31-Oct-15			
BS.PD_0360	Motorized Smoke & Fire damper - Factory acceptance testing (If require)	24.0d	02-Nov-15	28-Nov-15			
BS.PD_0370	Motorized Smoke & Fire damper - Delivery to site/ ECS Room	90.0d	30-Nov-15	19-Mar-16			
BS.PD_0380	All Major equipment BS equipment & materials - Completed placing orders	0.0d		02-May-15			
BS.PD_0390	All Major equipment BS equipment & materials - Completed all factory acceptance testing	0.0d		28-Nov-15			
BS.PD_0400	All Major equipment BS equipment & materials - Completed delivery to ECS room	0.0d		19-Mar-16			
Installation of Building Services							
BS.I_0009	Installation of trucking, cable for the whole subway linking between H15 and WAC station	17.0d	03-May-16	23-May-16			
BS.I_0010	Electrical - Within Stn, Distribution equip. 16 nr, cable tray & trunk 420m, lighting fitting 81nr, earthing tape 276m	49.0d	21-Mar-16	23-May-16			
BS.I_0020	Electrical - Subway, D.eq.82nr, cable tray&trunk 803m, cable 2200m, light fit 91nr, earth 170m, sign 42nr, connection(1)	50.0d	24-May-16	22-Jul-16			
BS.I_0030	Electrical - Subway, D.eq.82nr, cable tray&trunk 803m, cable 2200m, light fit 91nr, earth 170m, sign 42nr, connection(2)	60.0d	23-Jul-16	03-Oct-16			
BS.I_0040	ECS - Within WAC Stn, Grille 6 nr, air duct 115m2, damper 7 nr.	30.0d	24-May-16	28-Jun-16			
BS.I_0050	ECS - Subway, Pipe/insul.75m, fan 12nr, grille 45nr, airduct 1106m2, paint 60m2, damper 36nr, control 4nr, etc. (1st)	42.0d	29-Jun-16	17-Aug-16			
BS.I_0060	ECS - Subway, Pipe/insul.75m, fan 12nr, grille 45nr, airduct 1106m2, paint 60m2, damper 36nr, control 4nr, etc. (2nd)	24.0d	18-Aug-16	14-Sep-16			
BS.I_0070	FS Works - Within H15, Pipe 59m, dectector 7 nr, hose reel 1 nr	21.0d	01-Aug-16	24-Aug-16			
BS.I_0080	FS Works - Subway, Pipe 155m, valve 2 nr, detectors 38 nr, hose reel 1 nr, fire extinguisher 4 nr, connection, etc.	21.0d	25-Aug-16	19-Sep-16			
BS.I_0090	Drainage System - Waste - Existing WSC Stn, 35 m pipe, 2 valve, 4 pit, 1 switch/ control panel, 1 power supply system	18.0d	24-May-16	14-Jun-16			
BS.I_0100	Drainage System - Waste - Subway, Pipe DI/CI 257+18m, 7 joint, 6 OTC	18.0d	15-Jun-16	06-Jul-16			
BS.I_0110	Drainage System - Rainwater Discharge, CI pipe, 8+18m above/below ground, 2 manholes	18.0d	07-Jul-16	27-Jul-16			
BS.I_0120	Cleansing Water System - Within WAC Station, 137m copper pipe, 3 gate valve, 2 stopcock, 2 water meter	54.0d	24-May-16	27-Jul-16			
BS.I_0130	Cleansing Water System - Subway, 87m copper pipe, 1 gate valve, 1 joint	48.0d	28-Jul-16	22-Sep-16			
BS.I_0140	Installation of Air Handling Unit	110.0d	24-May-16	03-Oct-16			
BS.I_0150	Installation of In-line Centrifugal Fan	110.0d	24-May-16	03-Oct-16			
BS.I_0160	Installation of Smoke Extraction Fan	110.0d	24-May-16	03-Oct-16			
BS.I_0170	Installation of Fan Coil Unit	110.0d	24-May-16	03-Oct-16			
BS.I_0180	Installation of Motorized Smoke & Fire damper	110.0d	24-May-16	03-Oct-16			
BS.I_0190	Installation & integration of control system	110.0d	24-May-16	03-Oct-16			
BS.I_0200	Remaining BS Works	21.0d	04-Oct-16	28-Oct-16			
INF.SAMSp	Interface Access for SAMS, Comms, MCS to All Areas, All Levels and Locations (10-Oct'16)	0.0d		03-Oct-16			
Testing and Commissioning							
BS.TC_0010	T&C ECS - Tests on Ventilation Fans, Air Balancing, Equipment & System, Control, Noise & Sound, etc.	24.0d	04-Oct-16	01-Nov-16			
BS.TC_0020	T&C - SAT of HV Sw Boards/ TX, LV Sw Boards & MCC, Lighting Control, etc.	24.0d	04-Oct-16	01-Nov-16			
BS.TC_0030	T&C Fire Services - Performance Test/ FH & HR System/ Auto Fire Alam System	24.0d	04-Oct-16	01-Nov-16			
BS.TC_0040	T&C Plumbing and Drainage - P&D Pumps, Control System	24.0d	23-Sep-16	22-Oct-16			
BS.TC_0050	T&C ELV System - Contol Systems	24.0d	04-Oct-16	01-Nov-16			
FSI	FSI - Integrated Test	11.0d	02-Nov-16	14-Nov-16			
Statutory Inspection and Approval							
BS.SIA_0010	Submit BA14 for completion of breakthrough	6.0d	01-Aug-16	06-Aug-16			
BS.SIA_0020	BD's acknowledgementletter obtained	24.0d	08-Aug-16	03-Sep-16			
BS.SIA_0030	DSD/ WSD Inspection and Connection	24.0d	24-Oct-16	19-Nov-16			
BS.SIA_0040	Connection for electricity	12.0d	15-Nov-16	28-Nov-16			
BS.SIA_0050	Submit Form 1 and Form 2	1.0d	29-Nov-16	29-Nov-16			
BS.SIA_0060	FS Inpection / Re-inspection	12.0d	30-Nov-16	13-Dec-16			
BS.SIA_0070	FS Defect Rectification and Approval	12.0d	15-Dec-16	30-Dec-16			
BS.SIA_0080	Form 3 Obtained	1.0d	31-Dec-16	31-Dec-16			
BS.SIA_0090	BD Inpection/ Re-inspection	6.0d	03-Jan-17	09-Jan-17			
BS.SIA_0100	EMSD-RB Pre-Inspection by MTRC Ops Team	1.0d	10-Jan-17	10-Jan-17			
BS.SIA_0110	Remedial Works	24.0d	11-Jan-17	10-Feb-17			
BS.SIA_0120	EMSD-RB Formal Inspection	1.0d	11-Feb-17	11-Feb-17			
BS.SIA_0130	Remedial Works & Re-Inspection (If Require)	6.0d	13-Feb-17	18-Feb-17			
BS.SIA_0140	EMSD Letter of "No Objection" Obtained/ Ready to Open	6.0d	20-Feb-17	25-Feb-17			
BS.SIA_Comp	Complete & pass all statutory, joint Inspection & handover to Operation Team for the BS of new Subway- Programmed	0.0d		25-Feb-17			
D: WAC Modification Works (Part B Works)							
WAC Station Modification Works							
WMW_0010	Install New Telephone Booth and associated works (NTH)	60.0d	12-Oct-15	21-Dec-15			
WMW_0020	Relocate 4 Advertising Panels (NTH)	21.0d	29-Jan-16	25-Feb-16			
WMW_0030	Finishing, Remedial works & site cleaning	24.0d	01-Aug-16	27-Aug-16			
AFC Audit Room							



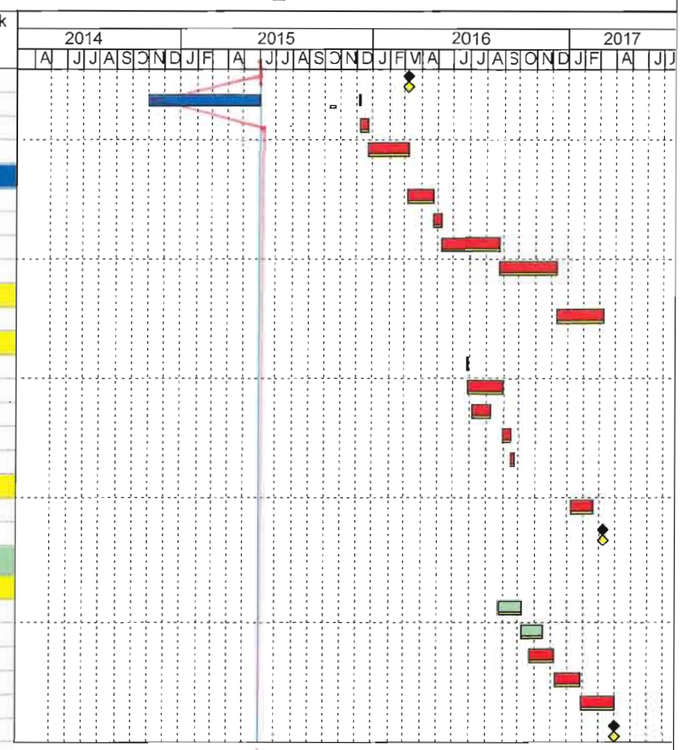
Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone
Milestone

Contract C6593-13C Wan Chai Station Lee Tung Street Subway
Preliminary Master Program (Rev.C)

Progress vs Program

Kaden 基利

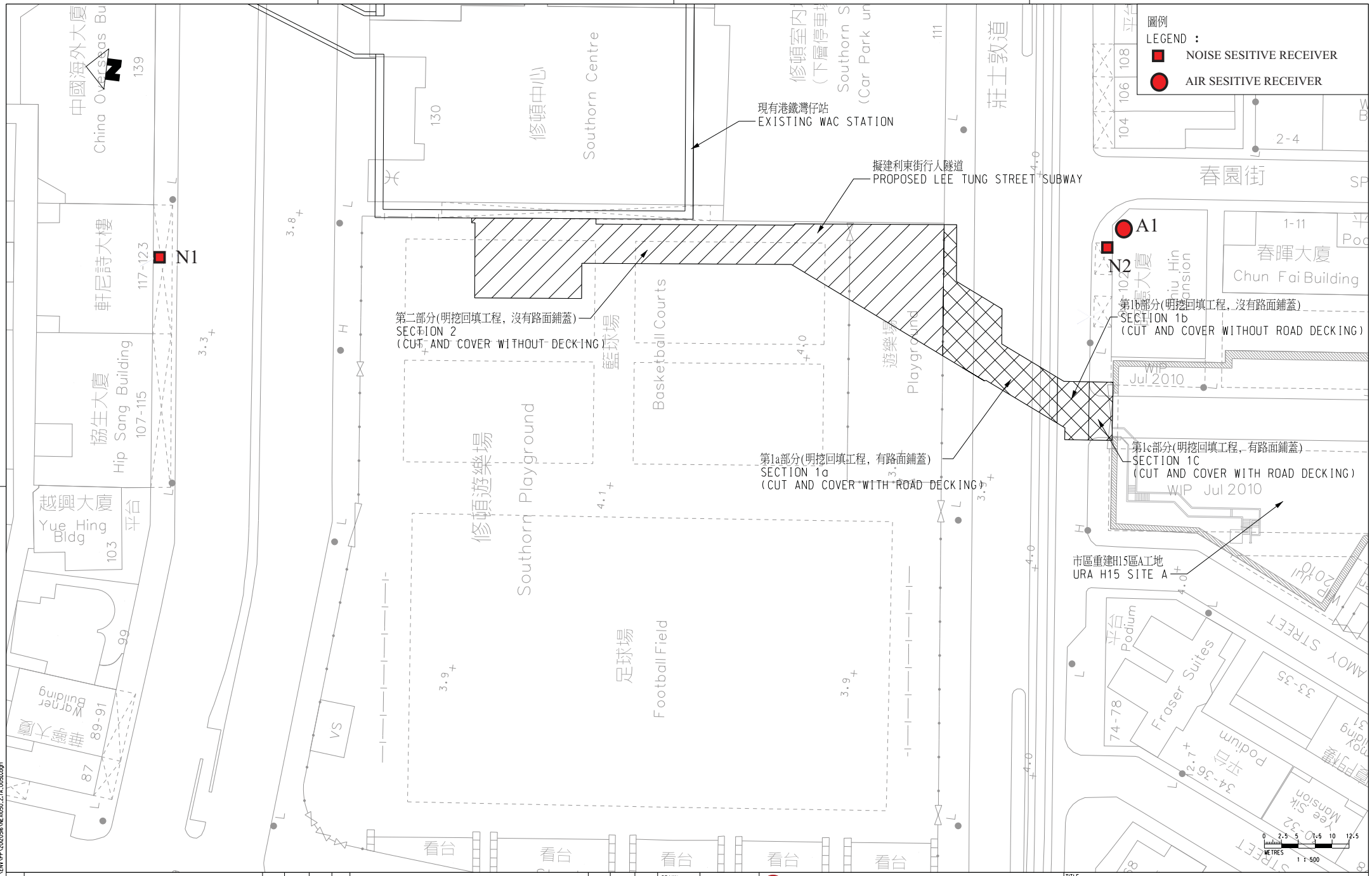
Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Remark
INF.AFCp	Interface Access for AFC, C&C DC in new AFC Audit Room inside WAC, Concourse Level (3-May'15)	0.0d		25-Apr-15			
WMW.AFC_0010	Preparation works for works in WAC station	10.0d	13-Jan-15	23-Jan-15	01-Nov-14		
WMW.AFC_0020	Internal Hoarding in WAC station (NTH)	12.0d	24-Jan-15	06-Feb-15			
WMW.AFC_0030	Construct new AFC/Audit Room next to Entrance B1, B2, ABWF & BS Works (NTH)	60.0d	07-Feb-15	25-Apr-15			
Existing AFC Aduit Room, Maxim's & Circle K Kiosks							
WMW.K_0010	Liaison with MTR/ relevance parties for modification works of existing Kiosks & Audit Room	36.0d	27-Apr-15	09-Jun-15			
WMW.K_0020	Internal Hoarding in WAC station (NTH)	12.0d	10-Jun-15	24-Jun-15			
WMW.K_0030	Modification Works to existing AFC/Audit, Store & Kiosk 3 & 5 (NTH)	90.0d	25-Jun-15	10-Oct-15			
WMW.K_0040	Modification to existing Kiosk 2 (NTH)	90.0d	12-Oct-15	28-Jan-16			
ABWF Works & Misc Works							
WMW.ABWF_0010	ABWF - Plaster & titling 29 m2, baffling ceiling 10 m2, metal cladding 9 m2	70.0d	29-Jan-16	27-Apr-16			
Breaking Out WAC Station							
WMW.BO_0010	Installation protection measurement for break through	2.0d	03-May-16	04-May-16			
WMW.BO_0020	Breaking out WAC Station - Form opening, core holes & wire cut, 60 no. x 0.9m x 0.9m x 1m blocks	54.0d	05-May-16	09-Jul-16			
WMW.BO_0030	Breaking out WAC Station - Installation of temporary steel proping	30.0d	11-May-16	16-Jun-16			
WMW.BO_0040	Breaking out WAC Station - Construct the portal frame	12.0d	11-Jul-16	23-Jul-16			
WMW.BO_0050	Demolish the propping steel members	6.0d	25-Jul-16	30-Jul-16			
Testing and Commissioning							
WMW.C_0010	Testing and Commissioning	30.0d	26-Feb-16	05-Apr-16			
WMW.K_Comp	Specified Part 2B - Complete all works at the 2 new Shop Kiosks and hand over to the Employer - Programmed	0.0d		27-Apr-16			
E. WAC Station Imporvement Works (Part C Works)							
Improvement Works to WAC Station							
WIW_0010	Modify, provide & install new glass barrier to suit new AFC gates (NTH)	34.0d	12-Oct-15	20-Nov-15			
WIW_0020	Provide and install additional AFC gates (NTH)	34.0d	21-Nov-15	02-Jan-16			
WIW_0030	Provide builder works for TIMS relocation (NTH)	40.0d	29-Aug-16	17-Oct-16			
WIW_0040	T&C by Designated Contractor for TIMS (NTH)	40.0d	18-Oct-16	02-Dec-16			
WIW_0050	Make Good builder works for TIMS (NTH)	53.0d	03-Dec-16	09-Feb-17			
WIW_Comp	E3- All works in milestone E completed - Programmed	0.0d		09-Feb-17			



Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
◇ Baseline Milestone
◆ Milestone

Appendix C

Monitoring Locations



REV	DESCRIPTION	BY	DATE	APPROVED
D	GENERAL REVISION			
C	GENERAL REVISION			
B	GENERAL REVISION			
A	PROJECT PROFILE			

DRAWN
DESIGNED
CHECKED
APPROVED
DATE

MTR

WAC STATION LEE TUNG STREET SUBWAY

ORIGINATOR

Mott MacDonald
20/F Two Landmark East
100 How Ming Street
Kwun Tong, Kowloon
Hong Kong
T +852 2828 5757
F +852 2827 1823
w www.mottmac.com.hk

CADD REF.

TITLE
CONSULTANCY AGREEMENT NO. NEX/1050
DETAILED DESIGN FOR LEE TUNG STREET SUBWAY
LOCATION OF NOISE AND AIR SESITIVE RECEIVER

SCALE 1:500 (A3)
DRAWING NO.
REV.

PLOT DRV: C:\Program Data\Bentley\MicroStation V8i (SELECTseries1 WorkSpace\System\plotcfg\WTR_PDF_BW_COL_3000PI.plt
MODELNAME: Default PRINTED BY: ho57494 20/06/2012 12:08:41
FILENAME: J:\282435\REPORT\ENV\PPI\2020596\ME\X050_2.7A_0050.dgn

Appendix D

Calibration Certificate of Monitoring Equipment

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Chiu Hin Mansion
Location ID : A1

Date of Calibration: 9-Jun-15
Next Calibration Date: 9-Aug-15
Technician: Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1007.2	Corrected Pressure (mm Hg)	755.4
Temperature (°C)	29.9	Temperature (K)	303

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.1	6.1	12.2	1.644	50	49.04	Slope = 26.6432
13	4.7	4.7	9.4	1.443	45	44.14	Intercept = 5.4612
10	3.5	3.5	7	1.246	39	38.25	Corr. coeff. = 0.9985
7	2.5	2.5	5	1.053	35	34.33	
5	1.2	1.2	2.4	0.730	25	24.52	

Calculations :

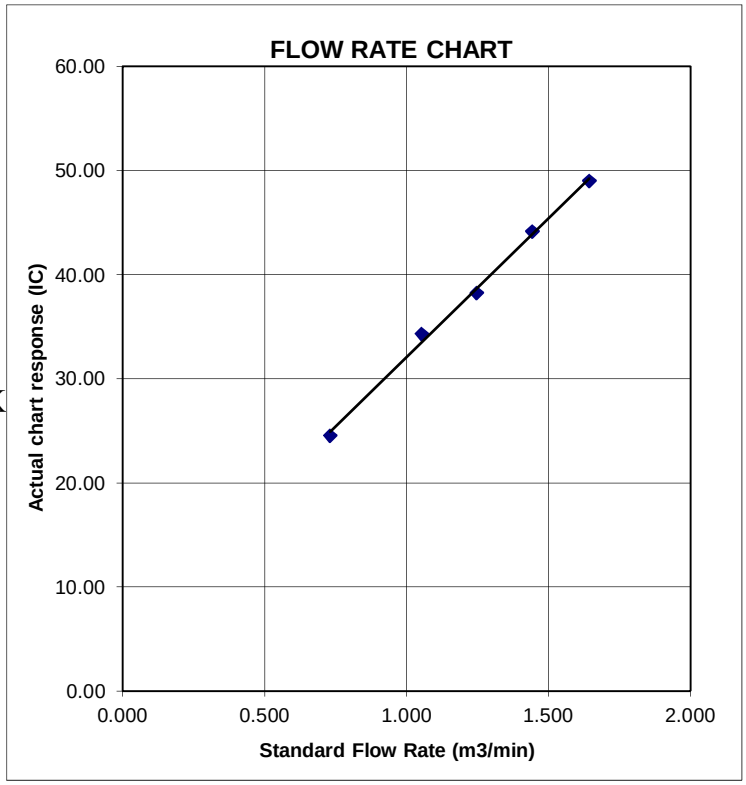
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K
Pstd = actual pressure during calibration (mm Hg

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Chiu Hin Mansion
Location ID : A1

Date of Calibration: 11-Aug-15
Next Calibration Date: 11-Oct-15
Technician: Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1007.3	Corrected Pressure (mm Hg)	755.475
Temperature (°C)	29.2	Temperature (K)	302

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.6	6.6	13.2	1.712	49	48.17	Slope = 34.6550
13	5.1	5.1	10.2	1.505	43	42.28	Intercept = #######
10	3.8	3.8	7.6	1.300	37	36.38	Corr. coeff. = 0.9944
7	2.5	2.5	5	1.054	28	27.53	
5	1.6	1.6	3.2	0.844	18	17.70	

Calculations :

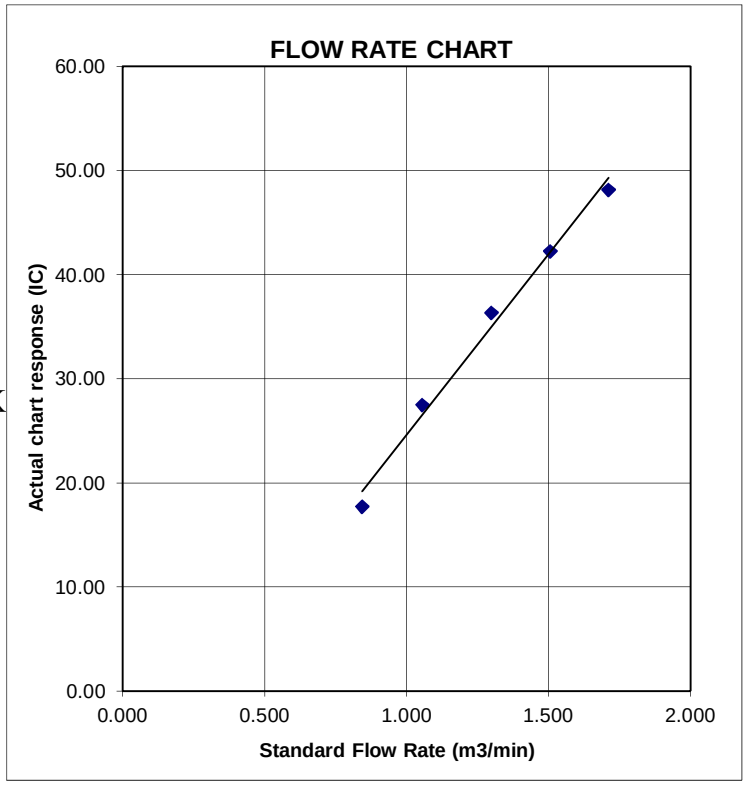
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K
Pstd = actual pressure during calibration (mm Hg

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TISCH Environmental

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 24, 2015 Rootsmeter S/N 0438320 Ta (K) - 292
Operator Tisch Orifice I.D. - 1941 Pa (mm) - 756.92

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4880	3.2	2.00
2	NA	NA	1.00	1.0510	6.4	4.00
3	NA	NA	1.00	0.9360	7.9	5.00
4	NA	NA	1.00	0.8920	8.8	5.50
5	NA	NA	1.00	0.7360	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0121	0.6802	1.4258		0.9958	0.6692	0.8784
1.0078	0.9589	2.0163		0.9916	0.9434	1.2422
1.0057	1.0745	2.2543		0.9895	1.0571	1.3888
1.0046	1.1262	2.3644		0.9884	1.1080	1.4566
0.9993	1.3578	2.8515		0.9832	1.3358	1.7568
Qstd slope (m) =		2.10265		Qa slope (m) =		1.31664
intercept (b) =		-0.00335		intercept (b) =		-0.00206
coefficient (r) =		0.99999		coefficient (r) =		0.99999
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}

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. : C151969
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-0720) Date of Receipt / 收件日期 : 24 March 2015

Description / 儀器名稱	:	Integrating Sound Level Meter (EQ006)
Manufacturer / 製造商	:	Brüel & Kjær
Model No. / 型號	:	2238
Serial No. / 編號	:	2285762
Supplied By / 委託者	:	Action-United Environmental Services and Consulting Unit A, 20/F., Gold King Industrial Building, 35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 11 April 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within 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 : K C Lee, Project Engineer

Certified By 核證 : K M Wu, Engineer

Date of Issue 簽發日期 : 14 April 2015

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 – 校正及檢測實驗所
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. : C151969
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 laboratory acoustic calibrator 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 :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C150014
CL281	Multifunction Acoustic Calibrator	DC130171

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.3

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.1 (Ref.)
				104.00		104.0
				114.00		114.0

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

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 - 校正及檢測實驗所
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. : C151969
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)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	Ref.
	L_{ASP}		S			94.1	± 0.1
	L_{AIP}		I			94.1	± 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)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	104.9	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	101.9	-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)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	55.1	-39.4 ± 1.5
					63 Hz	68.0	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	95.1	+1.0 ± 1.0
					8 kHz	93.0	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

Certificate of Calibration
校正證書

Certificate No. : C151969
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.4	-3.0 ± 1.5
					63 Hz	93.4	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	93.9	-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	88.0	-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)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	90.1	± 0.5
			60 sec.			$1/10^3$		80	79.4	± 1.0
			5 min.			$1/10^4$		70	69.2	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812705

- 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 :
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.

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. : C151967
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-0720) Date of Receipt / 收件日期 : 24 March 2015

Description / 儀器名稱 : Sound Level Calibrator (EQ084)
Manufacturer / 製造商 : Cesva
Model No. / 型號 : CB-5
Serial No. / 編號 : 030023
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration

DATE OF TEST / 測試日期 : 11 April 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within 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 : K C Lee, Project Engineer

Certified By 核證 : K M Wu, Engineer

Date of Issue 簽發日期 : 14 April 2015

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 – 校正及檢測實驗所
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. : C151967
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1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C143868
CL281	Multifunction Acoustic Calibrator	DC130171
TST150A	Measuring Amplifier	C141558

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

5.1.1 Before Adjustment

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	* 94.4	± 0.3	± 0.2
104 dB, 1 kHz	* 104.4		± 0.3

Out of Mfr's Spec.

5.1.2 After Adjustment

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.3	± 0.2
104 dB, 1 kHz	104.0		± 0.3

5.2 Frequency Accuracy

5.2.1 Before Adjustment

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.002	1 kHz ± 1.5 %	± 1

5.2.2 After Adjustment

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.001	1 kHz ± 1.5 %	± 1

Certificate of Calibration
校正證書

Certificate No. : C151967
證書編號

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

Note :
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.

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 – 校正及檢測實驗所
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

Appendix E

HOKLAS-Accreditation Certificate of the Testing Laboratory

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, New Territories, Hong Kong
香港新界葵涌永業街1-3號忠信針織中心11樓

has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a
為香港認可處執行機關根據認可諮詢委員會建議而接受的

HOKLAS Accredited Laboratory
「香港實驗所認可計劃」認可實驗所

This laboratory meets the requirements of ISO / IEC 17025 : 2005 – General requirements for the competence of testing and calibration laboratories and it has been accredited for performing specific tests or calibrations as listed in the HOKLAS Directory of Accredited Laboratories within the test category of
此實驗所符合ISO / IEC 17025 : 2005 –《測試及校正實驗所能力的通用規定》所訂的要求，獲認可進行載於香港實驗所認可計劃《認可實驗所名冊》內下述測試類別中的指定測試或校正工作

Environmental Testing
環境測試

This laboratory is accredited in accordance with the recognised International Standard ISO / IEC 17025 : 2005.
本實驗所乃根據公認的國際標準 ISO / IEC 17025 : 2005 獲得認可。
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (see joint IAF-ILAC-ISO Communiqué).
這項認可資格演示在指定範疇所需的技術能力及實驗所質量管理體系的運作（見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報）。

The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
香港認可處根據認可處執行機關的權限在此蓋上通用印章

CHAN Sing Sing, Terence, Executive Administrator
執行幹事 陳成城
Issue Date : 5 May 2009
簽發日期：二零零九年五月五日

Registration Number : HOKLAS 066
註冊號碼：

Date of First Registration : 15 September 1995
首次註冊日期：一九九五年九月十五日

This certificate is issued subject to the terms and conditions laid down by HKAS
本證書按照香港認可處訂立的條款及條件發出

L 000552

Appendix F

Event and Action Plan

Event and Action Plan for Construction Noise

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Action Level	1. Notify IEC and Contractor. 2. Carry out investigation. 3. Report the results of investigation to the IEC and Contractor. 4. Discuss with the Contractor and formulate remedial measures 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analyzed result submitted by ET. 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analyzed noise problem 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC 2. Implement noise mitigation proposals
Limit Level	1. Notify IEC, ER, EPD and Contractor, and follow other actions 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency 5. Check Contractor's working procedures to determine possible mitigation to be implemented 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD, ER informed of the results 8. If exceedance stops, cease additional monitoring	1. Discuss amongst ER, ET and Contractor on the potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ET accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of exceedances 2. Notify Contractor 3. Require Contractor to propose remedial measures 4. Ensure remedial measures are 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.	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notifications 3. Implement the agreed proposals 4. Revise and resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Event and Action Plan for Air Quality

Event	Action			
	ET	IEC	ER	Contractor
Action Level				
Exceedance for one sample	1. Identify source; 2. If valid, inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate
Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and EPD; 3. Repeat measurements to 1. confirm findings; 4. Increase monitoring frequency to daily; 5. Discuss with IEC and Contractor on remedial action required; 6. If exceedance continues, arrange meeting with IEC and ER; 7. If exceedance stops, cease additional monitoring.	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 ER on the effectiveness of the proposed remedial measures; 5. Supervisor implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial Measure properly implemented.	1. Submit proposals for remedial action to IEC within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
Limit Level				
Exceedance for one sample	1. Identify source; 2. Inform ER 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 ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and the Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify sources; 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 ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops cease additional monitoring.	1. Discuss amongst ER, ET and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ET accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with IEC, agree with the Contractor 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	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix G

Monitoring Schedule

Monitoring Schedule in the Reporting Period – August 2015

DATE		AIR QUALITY	NOISE
		24-HOUR TSP	L_{EQ} 30MIN
Sat	1-Aug-15	✓	
Sun	2-Aug-15		
Mon	3-Aug-15		
Tue	4-Aug-15		✓
Wed	5-Aug-15		
Thu	6-Aug-15		
Fri	7-Aug-15	✓	
Sat	8-Aug-15		
Sun	9-Aug-15		
Mon	10-Aug-15		
Tue	11-Aug-15		✓
Wed	12-Aug-15		
Thu	13-Aug-15	✓	
Fri	14-Aug-15		
Sat	15-Aug-15		
Sun	16-Aug-15		
Mon	17-Aug-15		
Tue	18-Aug-15		✓
Wed	19-Aug-15	✓	
Thu	20-Aug-15		
Fri	21-Aug-15		
Sat	22-Aug-15		
Sun	23-Aug-15		
Mon	24-Aug-15		
Tue	25-Aug-15	✓	✓
Wed	26-Aug-15		
Thu	27-Aug-15		
Fri	28-Aug-15		
Sat	29-Aug-15		
Sun	30-Aug-15		
Mon	31-Aug-15	✓	

✓	Monitoring Day
	Sunday or Public Holiday

Air Quality Monitoring Location

A1 - balcony at 1/F of Chiu Hin Mansion

Construction Noise Monitoring Location:

N1 - 2/F floor of Hennessey Building

N2 - balcony at 1/F of Chiu Hin Mansion

Monitoring Schedule for the Coming Month – September 2015

DATE		AIR QUALITY	NOISE
		24-HOUR TSP	L_{EQ} 30MIN
Tue	1-Sep-15		✓
Wed	2-Sep-15		
Thu	3-Sep-15		
Fri	4-Sep-15		
Sat	5-Sep-15	✓	
Sun	6-Sep-15		
Mon	7-Sep-15		
Tue	8-Sep-15		✓
Wed	9-Sep-15		
Thu	10-Sep-15		
Fri	11-Sep-15	✓	
Sat	12-Sep-15		
Sun	13-Sep-15		
Mon	14-Sep-15		
Tue	15-Sep-15		✓
Wed	16-Sep-15		
Thu	17-Sep-15	✓	
Fri	18-Sep-15		
Sat	19-Sep-15		
Sun	20-Sep-15		
Mon	21-Sep-15		
Tue	22-Sep-15		✓
Wed	23-Sep-15	✓	
Thu	24-Sep-15		
Fri	25-Sep-15		
Sat	26-Sep-15		
Sun	27-Sep-15		
Mon	28-Sep-15		
Tue	29-Sep-15	✓	✓
Wed	30-Sep-15		

✓	Monitoring Day
	Sunday or Public Holiday

Air Quality Monitoring Location

A1 - balcony at 1/F of Chiu Hin Mansion

Construction Noise Monitoring Location:

N1 - 2/F floor of Hennessey Building

N2 - balcony at 1/F of Chiu Hin Mansion

Appendix H

Database of Monitoring Results

Result of 24-hour TSP Monitoring

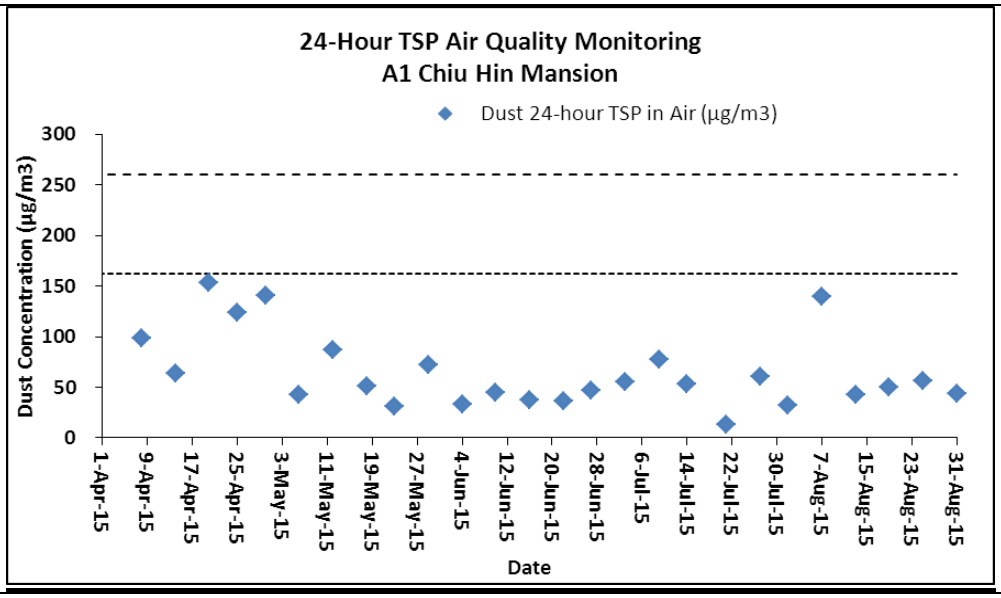
Location: A1 (balcony at 1/F of Chiu Hin Mansion)

Date	Sample Number	Elapsed Time			Chart Reading			Ave. Temp. (℃)	Standard			Filter Weight (g)		Weight Dust Collected (g)	Dust 24-hour TSP in Air (μg/m³)
		Initial	Final	Actual (min)	Min	Max	Ave		Ave. Press. (hPa)	Flow Rate (m^3/min)	Air Volume (std m^3)	Initial	Final		
1-Aug-15	28212	16638.39	16662.39	1440.00	40	41	40.5	28.8	1004.7	1.30	1871	2.8324	2.8932	0.0608	32
7-Aug-15	28227	16662.39	16686.43	1442.40	39	40	39.5	31.8	1004.2	1.25	1809	2.7822	3.0354	0.2532	140
13-Aug-15	28242	16686.43	16710.45	1441.20	37	41	39.0	28.4	1005.3	1.40	2025	2.8406	2.9277	0.0871	43
19-Aug-15	28262	16710.45	16734.53	1444.80	39	40	39.5	30.2	1008.0	1.42	2048	2.8210	2.9232	0.1022	50
25-Aug-15	28280	16734.53	16758.55	1441.20	40	42	41.0	28.4	1006.3	1.46	2108	2.8105	2.9287	0.1182	56
31-Aug-15	28288	16758.55	16782.59	1442.40	41	43	42.0	28.8	1005.9	1.49	2149	2.7929	2.8867	0.0938	44

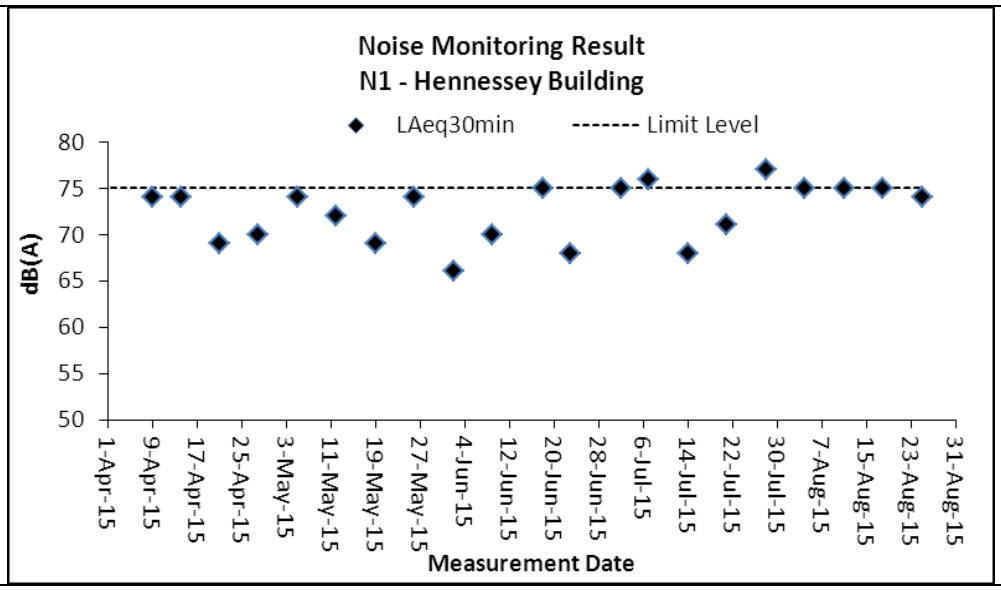
Appendix I

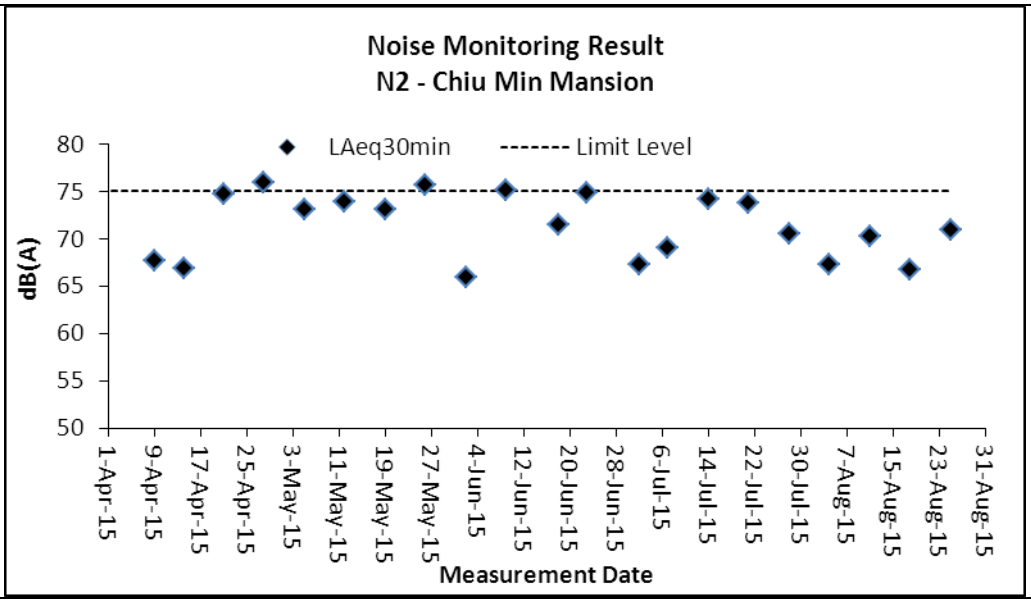
Graphical Plots

Air Quality



Construction Noise





Appendix J

Meteorological Information

Meteorological Data downloaded from HKO in the Reporting Period							
Date		Weather	Total Rainfall (mm)	Kings Park Station			
				Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Aug-15	Sat	Mainly fine and very hot apart from isolated showers. Light winds.	0	28.8	8.2	72.5	E/SE
2-Aug-15	Sun	Mainly fine and very hot apart from isolated showers. Light winds.	0	28.8	7.5	75	E/SE
3-Aug-15	Mon	Mainly fine and very hot apart from isolated showers. Light winds.	0	29.7	4.6	71.5	E/SE
4-Aug-15	Tue	Mainly fine and very hot apart from isolated showers. Light winds.	0	29.1	5.4	74.5	W/NW
5-Aug-15	Wed	Mainly fine and very hot apart from isolated showers. Light winds.	0	29.5	6.5	72.2	W/NW
6-Aug-15	Thu	Mainly fine and very hot apart from isolated showers. Light winds.	0	29.9	5.5	71.7	W/NW
7-Aug-15	Fri	Mainly fine and very hot apart from isolated showers. Light winds.	0	30.5	7.5	68.5	N/NW
8-Aug-15	Sat	Mainly fine and very hot apart from isolated showers. Light winds.	0	32.9	9.7	61.2	W/NW
9-Aug-15	Sun	Cloudy with showers and isolated thunderstorms. Moderate southwesterly winds.	11.6	30.2	12.2	73	W
10-Aug-15	Mon	Cloudy with showers and isolated thunderstorms. Moderate southwesterly winds.	23.5	27.4	9.7	82.5	N/NW
11-Aug-15	Tue	Mainly fine apart from isolated showers. Very hot. Moderate southwesterly winds.	16.8	29	7.2	76.5	W/NW
12-Aug-15	Wed	Mainly fine and very hot. Light to moderate southwesterly winds.	Trace	30.2	9.5	75.5	W/NW
13-Aug-15	Thu	Mainly fine and very hot. Light to moderate southwesterly winds.	27.5	26.9	6.9	84.5	W/NW
14-Aug-15	Fri	Mainly fine and very hot apart from isolated showers. Light winds.	18.9	26.5	11.4	29	/SW
15-Aug-15	Sat	Fine and very hot. Moderate south to southwesterly winds.	24.6	26.2	7	85	W/NW
16-Aug-15	Sun	Fine and very hot. Moderate south to southwesterly winds.	0.1	28.8	6.1	83.5	W/NW
17-Aug-15	Mon	Mainly fine apart from isolated showers. Very hot. Moderate southwesterly winds.	Trace	30	8.3	80	W/NW
18-Aug-15	Tue	Fine and very hot. Moderate south to southwesterly winds.	Trace	29.9	8.7	78	W/NW
19-Aug-15	Wed	Mainly fine and very hot. Light to moderate southwesterly winds.	0	29.9	7.5	78	W/NW
20-Aug-15	Thu	Very hot with isolated showers Light winds.	6.1	28.5	6.5	82	W/NW
21-Aug-15	Fri	Very hot with isolated showers Light winds.	0	30.7	7.5	73	W/NW
22-Aug-15	Sat	Very hot with isolated showers Light winds.	Trace	30.4	6.1	68.7	W/NW
23-Aug-15	Sun	Very hot with isolated showers Light winds.	3.4	30.4	6.5	73	N/NW
24-Aug-15	Mon	Very hot with isolated showers Light winds.	0	30.2	6.5	71	W/NW
25-Aug-15	Tue	Fine and dry apart from some haze. It will be very hot. Light winds.	0	30.8	6	62.2	W/NW
26-Aug-15	Wed	Mainly cloudy with a few showers and isolated thunderstorms. Light winds.	0.2	29.2	6	62.2	SE
27-Aug-15	Thu	Fine and dry apart from some haze. It will be very hot. Light winds.	0	29.2	7	92	E/SE
28-Aug-15	Fri	Fine and dry apart from some haze. It will be very hot. Light winds.	Trace	28.6	7	75.7	W/NW
29-Aug-15	Sat	Mainly cloudy with a few showers and isolated thunderstorms. Light winds.	0.9	28.3	6.9	79.5	W/NW
30-Aug-15	Sun	Cloudy with a few showers and squally thunderstorms. Light to moderate southeasterly winds	9.7	26.6	4.5	88.7	W/NW
31-Aug-15	Mon	Cloudy with a few showers and squally thunderstorms. Light to moderate southeasterly winds	Trace	27.5	6.5	84.2	E/SE

Appendix K

Monthly Summary Waste Flow Table

Wan Chai Station Lee Tung Street Subway- C6593-13C

Monthly Summary Waste Flow Table for 2015

Name of Employer: MTR Corporation Limited											Contract No.: C65931-13C				
Month	Actual Quantities of Inert C&D Materials Generated Monthly										Actual Quantities of Non-Inert C&D Wastes Generated Monthly				
	Total Quantity Generated	Broken Concrete	Building Debris	Mixed Rock & Soil	Bentonite	Rubbish	Slurry	Rock	Soil	Reused in this Project	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m3/ Litre)	(in m^3)
Jan	1.69784	0	0	0	0	0	0	0	1.69784	0	0	0	0	0	0.0009
Feb	1.14858	0	0	0	0	0	0	0	1.14848	0	0	0	0	0	0.0001
Mar	1.65921	0	0	0	0	0	0	0	1.65921	0	0	0	0	0	0.0009
Apr	0.07772	0.06172	0	0	0	0	0	0	0.016	0	0	0	0	0	0.04404
May	0.15078	0.13574	0	0	0	0	0	0	0.01504	0	0	0	0	0	0.01186
Jun	0.13793	0.01113	0	0	0	0	0	0	0.1268	0	0	0	0	0	0.01913
Jul	0.09909	0	0	0	0	0	0	0	0.09909	0	0	0	0	0	0.01298
Aug	0.06101	0.01301	0	0	0.048	0	0	0	0	0	0	0	0	0	0.00731
Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5.03216	0.2216	0	0	0.048	0	0	0	4.76246	0	0	0	0	0	0.09722

Appendix L

Implementation Schedule for Environmental Mitigation Measures (ISEMM)

Project Profile Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
NOISE IMPACT						
S.5.1.1	**Use of quieter plant**	To minimize construction noise emissions	Contractor	Work site	Construction Stage	ProPECC PN2/93 and Noise Control Ordinance
S.5.1.1	**Use of noise enclosure and movable barrier** • movable barrier can achieve a 5 dB(A) reduction for movable PME and 10 dB(A) reduction for stationary PME; • noise enclosure can achieve 15dB(A) reduction for PME; • noise enclosure is proposed to be built after open excavation in order to minimize the noise impact due to further excavation work and construction of subway. The enclosure should either be provided with acoustic door for access purpose which should be kept closed during the construction works or should be designed with no direct line of sight from the open side to the NSRs; • A typical design barrier with a steel frame of vertical / cantilever type would be adopted and located close to the noise generating part of PME; • Barrier material of surface mass in excess of 7kg/m^2 shall be required to achieve the maximum screening effect (and minimum 10kg/m^2 for noise enclosure); • The length of barrier should generally be at least five times greater than its height and the minimum height of a barrier should be such that no part of the noise source will be visible from the noise sensitive receiver being protected.	To minimize construction noise emissions	Contractor	Work site	Construction Stage	ProPECC PN2/93, Noise Control Ordinance and EIAO Guidance Note NO. 9/2010
S.5.1.1	**General Construction Noise Control Measures** • The Code of Practice on Good Management Practice to Prevent Violation of the Noise Control Ordinance (Chapter 400) (for Construction Industry) published by EPD shall be adopted; • The statutory and non-statutory requirements and guidelines shall be complied with; • Approval for the method of working, equipment and noise mitigation measures intended to be used at the site shall be granted from the Project Engineer before commencing any work;	To minimize construction noise emissions	Contractor	Work site	Construction Stage	ProPECC PN2/93 and Noise Control Ordinance

Project Profile Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
	• Working methods to minimize the noise impact on the surrounding NSRs shall be formulated and executed, and the implementation of these methods shall be monitored by experienced personnel with suitable training; • Noisy equipment and noisy activities shall be located as far away from the NSRs as is practical; • Unused equipment shall be turned off; • PME should be kept to a minimum and the parallel use of noisy equipment / machinery should be avoided; • All plant and equipment shall be maintained regularly; and • Material stockpiles and other structures shall be effectively utilized as noise barriers, whenever practicable.					
AIR QUALITY IMPACT						
S.5.1.2	**Construction Dust Control Measures** • Regular watering to reduce dust emissions from all exposed site surface, particularly during dry weather; • Frequent watering for particularly dusty construction areas and areas close to air sensitive receivers; • Covering of stockpile of excavated dusty materials, if any, with impervious sheeting or spraying with water to maintain the entire surface wet; • Provision of vehicle washing facilities at the entry and exit points of site; • Tarpaulin covering of any dusty materials being transported to and from site by vehicle; • Positioning of construction plant at maximum practicable distance from air sensitive receivers; and • Due to the small size of the works sites and lack of space for stockpiling, excavated materials should be hauled off-site almost immediately. However, in the event of any stockpiled excavated materials, they should be covered with tarpaulin and be removed offsite as soon as practicable to avoid any dust nuisance arising	To minimize the dust impacts arising from the construction works	Contractor	Work site	Construction Stage	Air Pollution Control (Construction Dust) Regulation

Project Profile Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
WATER QUALITY IMPACT						
S.5.1.3	**Construction Water Quality Impact Measures** • Collection of wastewater into a sedimentation tank for treatment before discharge into the public drainage system; • Provision of silt trap and oil interceptor to remove the oil, lubricants, grease, silt, grit and debris from the wastewater prior to discharge to the public stormwater system. The silt traps and oil interceptors should be cleaned and maintained regularly; • Installation of wheel washing facilities to minimize muddy runoff; • Regular maintenance and inspection of drainage systems and erosion control and silt removal facilities; • Management and monitoring of sewage treatment facilities (if any); • Any foul effluent should not be discharged into any public sewer and stormwater drain, unless an effluent discharge permit is obtained under the WPCO by the Contractor; • Coverage of stockpiles of C&D materials (if any) during rainstorms; and • Site toilet facilities, if needed, should be chemical toilets or should have the sewage discharge directed to a foul sewer.	To reduce water quality impact induced by the construction work	Contractor	Work site	Construction Stage	ProPECC PN1/94; Water Pollution Control Ordinance
WASTE MANAGEMENT						
S.5.1.4	**Construction Waste Management Measures** • Scrap metals or abandoned equipment should be recycled if possible; • Waste arising should be kept to a minimum and be handled, transported and disposed of in a suitable manner; • The Contractor should adopt a trip ticket system for the disposal of C&D materials to any designated public filling facility and/or landfill. Independent audits of the Contractor and resident site staff will be undertaken to ensure that the correct procedures are being followed; • Chemical waste shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes; and	To adopt waste management measures in the way of avoiding, minimizing, reusing and recycling so as to reduce waste generation	Contractor	Work site	Construction Stage	Waste Disposal Ordinance (Cap. 354); Waste Disposal (Chemical Waste) (General) Regulation; DEVB TCW No. 6/2010; ETWB TCW No. 19/2005.

Project Profile Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
	• All general refuse should be segregated and stored in enclosed bins or compaction units and waste separation facilities for paper, aluminum cans, plastic bottles etc. should be provided to facilitate reuse or recycling of materials and their proper disposal.					
LANDSCAPE AND VISUAL IMPACT						
S.5.1.5	**Landscape and Visual Measures** • Clear demarcation of works area to prevent damages to existing trees in close proximity; • Protection of all trees planned to be retained onsite; • Preserving all affected trees by transplanting where practical. Tree transplanting application and tree removal application shall be submitted for approval in accordance with ETWB TCW 3/2006; and • Screening of construction works by hoardings/noise barriers around Works area in visually unobtrusive colours.	To reduce landscape and visual impact by construction works.	Contractor	Work Site and nearby playground	Construction Stage	EIAO; ETWB TCW No. 3/2006.