

AUES PROJECT NO. TCS/00704/14

# CONTRACT NO. MTRC6593-13C – Wan Chai Station Lee Tung Street Subway

# 10<sup>th</sup> Environmental Monitoring and Audit (EM&A) Monthly Report – June 2015

PREPARED FOR KADEN CONSTRUCTION LIMITED

# **Quality Index**

Date	Reference No.	Prepared By	Approved By
10 July 2015	TCS00704/14/600/R0058v2	Anh	Am
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Nicola HonEnvironmental TeamEnvironmental ConsultantLeader

Version	Date	Description
1	8 July 2015	First Submission
2	10 July 2015	Amended according to the IEC's comment on 9 July 2015

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10 July 2015

Our Ref.:

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MTR Corporation Limited Fo Tan Railway House No. 9, Lok King Street, Fo Tan Shatin, N.T., Hong Kong

Attention: Mr Kenneth Chow / Environmental Engineer II

Dear Sir

Consultancy Agreement A130-13 Independent Environmental Checker for CRS and LTS LTS - Verification for 10<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report (June 2015) (Report No.: TCS00704/14/600/R0058v2)

We refer to the 10<sup>th</sup> Monthly EM&A Report (June 2015) received under cover of the email from the Environmental Team, AUES, dated on 8 July 2015.

Further to our comments provided on 9 July 2015 and subsequent revision of the Report by AUES on 10 July 2015, we have no further comment and have verified the captioned report (Report No.: TCS00704/14/600/R0058v2).

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

Dr. Alex Cheung Deputy 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 10<sup>th</sup> monthly EM&A Report presenting the monitoring results and inspection findings for the period from 1 to 30 June 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:-

		Reportin	g Period
Environmental Aspect	Environmental Monitoring Parameters / Inspection	Number of Monitoring Location	Total Occasions
Air Quality	24-hour TSP	1	5
Construction Noise	L <sub>eq(30min)</sub> Daytime	2	8
Site Inspection /	Joint with ET, the Contractor and RE		4
Audit	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	Monitoring	Action	Limit		Event & Action	
Aspect	Monitoring Parameters	0		NOE Issued	Investigation	Corrective Actions
Air Quality	24-hour TSP	0	0	0	0	0
Construction Noise	L <sub>eq(30min)</sub> 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 **4**, **10**, **18 and 25 June 2015** and the IEC was joined the site inspection on **18 June 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 **10<sup>th</sup>** monthly EM&A report presenting the monitoring results and inspection findings in the Reporting Period from **1 to 30 June 2015**.

## **REPORT STRUCTURE**

1.07 This Report is structured into the following sections:-

1	e
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.

# <u>Resident Engineer (RE)</u>

- 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.

EP ConditionSubmissionStatus2.3Management Organization of Main Construction CompaniesSubmitted2.7Landscape PlanSubmitted3.3Baseline Monitoring Report (TCS00704/14/600/R0010v4)Submitted4.2Internet websitelive

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

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

# Table 2-2Status 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	WPN:5213-131-K3099-01
Z	Producers Number	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	GW-RS0290-15 obtained on 18
	Ordinance	March 2015
		Valid from 19:00 of 19 March 2015
		to 07:00 of 11 September 2015
		GW-RS1453-14 obtained on 24
		December 2014
		Valid from 19:00 of 27 December
		2014 to 06:00 of 23 June 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
  - Backfilling
  - Painting
  - Concreting



# **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	<ul> <li>24-hour Total Suspended Particulate (hereinafter '24-hour TSP')</li> <li>1-hour TSP monitoring <sup>(*)</sup></li> </ul>
Construction Noise	• A-weighted equivalent continuous sound pressure level (30min) (hereinafter 'L <sub>eq(30min</sub> )' during the normal working hours

**Remarks:** 

## **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*.

Aspect	Monitoring Location	Location ID	Address	Description
Air Quality	Chiu Hin	A1	balcony at 1/F of Chiu	ASR close to the Project
An Quanty	Air Quality Mansion AI		Hin Mansion	site
	Hennessey	N1	2/F floor of	NSR facing to the Project
Construction	Building	INI	Hennessey Building	site
Noise	Chiu Hin	NO	balcony at 1/F of Chiu	NSR facing to the Project
	Mansion	N2	Hin Mansion	site

Table 3-2Air and Noise Monitoring Locations

#### MONITORING FREQUENCY AND PERIOD

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

#### <u>Air Quality</u>

- 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.

<sup>\*)</sup> In case 24-hour TSP exceed the air quality criteria to be carried out

# 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*.

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	
	TSI Model 8520 DustTrak Aerosol Monitor / Aerocet 531
Portable Dust Meter	Handheld Particle Mass Profiler & Counter / Sibata LD-3A
	Laser Dust Monitor

Table 3-3Air Quality Monitoring Equipment

- 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<sup>-1</sup>. 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 3-4Construction 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.

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# 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
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Monitoring Station	Action Lev	vel (µg /m <sup>3</sup> )	Limit Level (µg/m <sup>3</sup> )		
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP	
A1	290	162	500	260	

#### Table 3-6Action and Limit Levels for Construction Noise

Monitoning Station	0700-1900 hours on normal weekdays				
Monitoring Station	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, **5** 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*.

Date	24-hour TSP (μg/m <sup>3</sup> )	Action Level	Limit Level
4-Jun-15	33		
10-Jun-15	45		
16-Jun-15	37		
22-Jun-15	36	162	260
27-Jun-15	46		
Average	39		
(Range)	(33 - 46)		

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

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 4-2Noise 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 <sub>eq30min</sub>
2-Jun-15	15:50	66.1	65.0	66.2	65.8	65.2	66.2	66
9-Jun-15	10:24	69.5	70.5	69.8	69.5	68.7	69.8	70
18-Jun-15	13:13	75.0	74.5	75.4	74.6	74.8	75.1	75
23-Jun-15	10:59	66.7	69.5	68.7	66.7	67.2	67.0	68
Limit L Construct		75 dB(A)						

Table 4-3	Noise Monitoring Results of N2	(balcony at 1/F of Chiu Hin Mansion), dB(A)
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Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	$L_{eq30min}$
2-Jun-15	16:30	65.1	64.9	66.9	65.8	66.7	65.9	66
9-Jun-15	10:59	75.6	73.0	74.3	75.6	76.9	74.3	75
18-Jun-15	11:12	71.8	70.3	72.6	71.6	71.9	70.2	71
23-Jun-15	11:32	75.7	74.6	73.4	75.2	73.6	75.8	75
Limit L Construct		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.
- 4.06 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 5-1Summary of Quantities of Inert C&D Materials

Type of Waste	Quantity	Disposal Location
Total C&D Materials (Inert) (m <sup>3</sup> )	0.13793	-
Reused in this Contract (Inert) (m <sup>3</sup> )	0	-
Reused in other Projects (Inert) (m <sup>3</sup> )	0	-
Disposal as Public Fill (Inert) (m <sup>3</sup> )	0.13793	TKO 137

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

Type of Waste	Quantity	Disposal Location
Recycled Metal (m <sup>3</sup> )	0	-
Recycled Paper / Cardboard Packing (m <sup>3</sup> )	0	-
Recycled Plastic (m <sup>3</sup> )	0	-
Chemical Wastes (m <sup>3</sup> /L)	0	-
General Refuses (m <sup>3</sup> )	0.01913	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 4, 10, 18 and 25 June 2015 and the IEC was joined the site inspection on 18 June 2015.
- 6.03 No non-compliance was noted. However, four (4) observations and one (1) reminder were recorded by the ET. The findings / deficiencies observed during the weekly site inspections are listed in *Table 6-1*.

Date	Findings / Deficiencies	Follow-Up Status
4 June 2015	• The Contractor should extend the shelter for the area of batching plant and storage of cement bags to minimize fugitive dust.	Enlarged shelter has been provided and cement bag were removed.
	• The Contractor should provide proper dust mitigation measure such as water spraying for the disposed cement bags in the waste skip to reduce the possible dust impact.	The disposed cement bags in the waste skip were removed.
	• The Contractor was reminded to provide full screen site hoarding for the construction site area.	Only reminder.
10 June 2015	No specific findings were observed.	NA
18 June 2015	• The pH reading shown in the panel screen of the WetSep was less than 6 which inconsistent with the in situ pH paper testing (~7), the Contractor should check the condition of WetSep and repair if required.	• To be followed.
25 June 2015	• Excavated soil mix up with the construction waste and disposed in a labelled construction waste skip was observed, the Contractor should provide proper area or container for the excavated soil.	The excavated soil has been cleared.

Table 6-1Site Observations

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

	Environmental Complaint Statistics						
<b>Reporting Period</b>	Encouran	Comulation	<b>Complaint Nature</b>				
	Frequency C	Cumulative	Air	Noise	Water	Others	
28 Aug 2014 –	0	0	NA	NA	NA	NA	
31 May 2015	Ű	0	1111	1111	1111	1111	
1- 30 Jun 2015	0	0	NA	NA	NA	NA	

## Table 7-2 Statistical Summary of Environmental Summons

	Environmental Summons Statistics						
<b>Reporting Period</b>	E	Cumulativa		Complaint Nature			
	Frequency Cum	Cumulative	Air	Noise	Water	Others	
28 Aug 2014 – 31 May 2015	0	0	NA	NA	NA	NA	
1– 30 Jun 2015	0	0	NA	NA	NA	NA	

## Table 7-3 Statistical Summary of Environmental Prosecution

		Environme	ntal Prosec	ution Stati	stics	
<b>Reporting Period</b>	Enggueneu	Cumulativa		Complai	nt Nature	
	Frequency	Cumulative	Air	Noise	Water	Others
28 Aug 2014 – 31 May 2015	0	0	NA	NA	NA	NA
1– 30 Jun 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 Env	ironmental Mitigation	Measures
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IssuesEnvironmental Mitigation MeasuresAir 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 site hoarding or other mass materials as noise barrier to screen the working site; • Use of shouds/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, Handl		
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area in visually unobtrusive colors.		• Preserving all affected trees by transplanting where practical. Tree transplanting application and tree removal application shall be submitted for
General • The site was generally kept tidy and clean.		
	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 Structural Works
- Sheet Piling of Stage 2 ELS on Johnston Road North Footpath
- Grout Curtain of Stage 2 ELS
- Temporary Traffic Deck of Stage 2 ELS
- Closure of Northern Basketball Court & Site Formation

# 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 10<sup>th</sup> monthly EM&A report presenting the monitoring results and inspection findings in the Reporting Period from 1 to 30 June 2015.
- 9.02 In the Reporting Period, **5** 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.
- 9.01 In the Reporting Period, a total of **8** occasions of noise measurement were conducted at N1 and N2 and no exceedance were recorded.
- 9.02 No environmental complaint, notification of summons or successful prosecution was received in the Reporting Period.
- 9.03 Four (4) occasions of weekly site inspections to evaluate site environmental performance was carried out by the RE, ET and the Contractor on 4, 10, 18 and 25 June 2015 and the IEC was joined the site inspection 18 June 2015. No non-compliance was noted but four (4) observations and one (1) reminder were recorded by the ET.
- 9.04 In the Reporting Period, no site inspection was undertaken by external parties i.e. EPD.

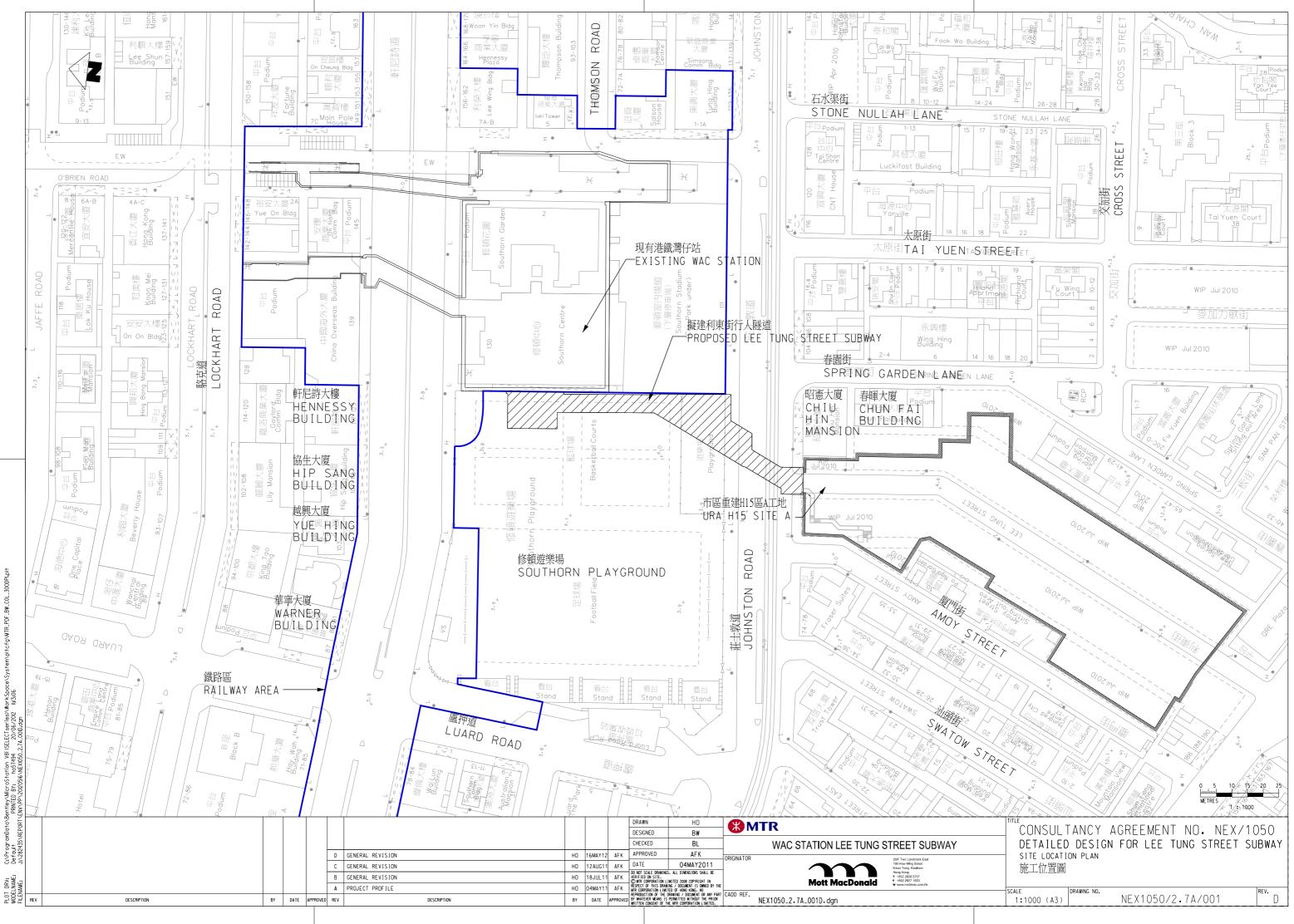
#### RECOMMENDATIONS

- 9.05 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.
- 9.06 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.
- 9.07 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.
- 9.08 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** 



ation VBI (SELECTseries)/WorkSpace/Syst ho57494 20/06/2012 ||13:06 SNNEX1050 274 NMN 444 Bentley/MicroSt PRINTED BY: \FNV\PP\20120516 C:\Progr Default 1.\282435 DRV: NAME:

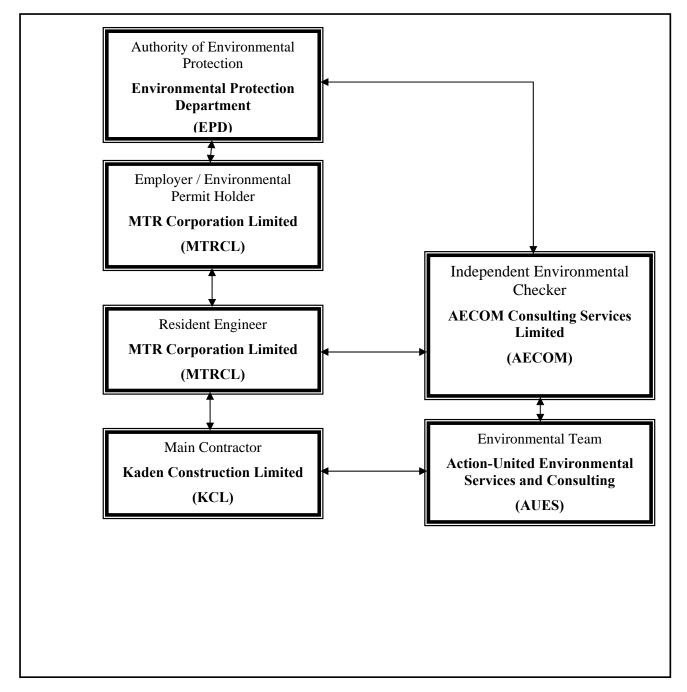
PDF



# **Appendix B**

Organization of the Project and Master Construction Programme







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

# **Contact Details of Key Personnel for the Project**

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

y ID	Rev.C_BL_Report (May'15)           Activity Name	Original BL Project	BL Project	Actual	Actual Rem	ark		07 0		15_14:5					
		Duration Start	Finish	Start	Finish	2014		DJF		2015 JJJAS	IDNC	FUA I	016 JJJAS	OND.	2 JF
6593-13C LT	IS PMP Rev.C _BL_Report (May'15)														
(ey Dates															
	and Completion		_	44.4											
KD.COMM KD.COMP	Commencement of the Works (14-Apr'14) Completion of the Whole of the Works, No.Cal.Wk. 150 (26-Feb'17)	0.0d 14-Apr-14	25-Feb-17	14-Apr-14		8									
Specified Parts of		0.001	20-160-17												
KD.2A	2A - SBC Complete backfill, resurfacing, fencing, utilities, lighting and return to LCSD (28-Jun'15)	0.0d	27-Jun-15							8					
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												8
	/ Interface Key Dates	0.0107.0.15	_												
INF.AFC INF.H15	Interface Access for AFC, C&C DC in new AFC Audit Room inside WAC, Concourse Level (27-Apr' 15) Interface Access for Contract H15, All Levels, No.Cal. Wk. 120 (31-Jul'16)	0.0d 27-Apr-15 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												*	0
	sion and Return Dates													Ý	
Site Area Possess															
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 WAP.W3	Works Area 6593.W2, Within 9 months from commencement of works (14-Jan'15) Works Area 6593.W3, No later than 1 month after completion of resinstatement works at Works Area 6539.W1	0.0d 07-Jul-15 0.0d 10-Jan-17								\$					
Site Area Return D		0.00 10-001-17													
WAR.W1	Works Area 6593.W1, Within 36 months from commencement of works (14-Apr'17)	0.0d	16-Dec-16												1
WAR.W2	Works Area 6593.W2, Within 36 months from commencement of works (14-Apr'17)	0.0d	21-Oct-16											8	
WAR.W3	Works Area 6593.W3, Within 2 months after possession date of Works Area 6593.W3	0.0d	26-Feb-17												
Milestone Sched															
MS.A01	A1 Approval of Preliminary Master Program, ICE, TTA, ELS & Temporay decking (3-Aug'14)	0.0d	02-Aug-14		21-Oct-14	\$	٠								
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			•	0						
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					0					
MS.A05 MS.A06	A5 Approval of WAC D-wall demolition; Satisfactory Implementation of Specified Plans (2-Aug'15) A6 Satisfactory Implementation of PMS (1-Nov'15)	0.0d	01-Aug-15 31-Oct-15								•	<b>Š</b>			
MS.A07	A7 Satisfactory Implementation of Specified Plans (31-Jan'16)	0.0d	30-Jan-16								Ŷ				
MS.A08	A8 AIP for T&C of BS and ABWF works; Satisfactory Implementation of PMS (1-May'16)	0.0d	30-Apr-16										8		
MS.A09	A9 Satisfactory Implementation of Specified Plans (31-Jul'16)	0.0d	30-Jul-16										8		
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												8
MS.A11 Milestones B	A11 Approval of O&M manual and As-built drawings for the Works (26-Feb'17)	0.0d	22-Feb-17												
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		Ť	٠	♦						
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							8					
<ul> <li>MS.B05</li> <li>MS.B06</li> </ul>	B5 NBC cofferdam complete, CPA RC & vent shaft 1.2m above ground complete, Tram Tracks Excavation to +0.0 mPD (1-Nov'15) B6 NBC Excavation to formation complete, JnR All Carriageways & Footpaths & Tram Tracks Excavation complete (31-Jan'16)	0.0d	31-Oct-15 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								Per P	Q	*		
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										Ť	111	8
MS.B09	B9 ABWF Degree 3 achieved, All road reinstatement in Johnston Road & Hennessy Road complete (30-Oct'16)	0.0d	27-Oct-16											8	
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		<b>\$</b>	•							
MS.C03	C3 Order all BS equiptment and materials (3-May'15)	0.0d	02-May-15		02-May-15				<b>*</b>						
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									8	Ŷ		
MS.C06 MS.C07	C6 Complete all installation, T&C for New Subway (4-Dec'16) C7 Complete and pass all statutory inspections, Operations Team (26-Feb'17)	0.0d	14-Nov-16 25-Feb-17												
Milestones D	or complete and pass an statutory inspections, Operations reality	0.00	20-1 60-17		Constant States										
MS.D01	D1 New AFC Audit Room construction completed, including (3-May'15)	0.0d	25-Apr-15									8			
MS.D02	D2 Old AFC Audit Room and Maxim's/ Circle K kiosks demolished (31-Jan'16)	0.0d	28-Jan-16											8	
MS.D03	D3 Breakthrought into WAC (31-Jul'16)	0.0d	30-Jul-16										8		
MS.D04 Milestones E	D4 All works in Cost Centre D satisfactorily completed (28-Aug'16)	0.0d	27-Aug-16		and the second se									ø	
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-Od'16)	0.0d	17-Oct-16									1		8	
				1											1
<ul> <li>Actual Level of Eff</li> <li>Drimon (Deceling)</li> </ul>		0		bubway								en		Hr.	
<ul> <li>Primary Baseline</li> <li>Actual Work</li> </ul>	Milestone     Preliminary Master H	Program (Rev.)	C)						1			- a-			
									1000						1





ID	Activity Name	Original BL Project Duration Start	BL Project Finish	Actual Actual Remains	irk			2015		2016		- 
						ISDND			NDJFV		SOND	
MS.E03	E3- All works in milestone E completed (26-Feb'17)	0.0d	09-Feb-17									
	ies and General Items											
	Milestone Schedules 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	8							
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 cofferdarns & temporary decking (3-Aug'14)	0.0d	01-Aug-14	03-Mar-15			•					÷
	ign of Mined Tunnel ESS; Hoarding phase/plan; QP, SAP, PMP, H&SP, EMP (2-Nov'14)	2.01	Od New 14	10 km 15								
A02_0010	Approval for the design of excavation support systems of the mined tunnel section (2-Nov'14)	0.0d	01-Nov-14 28-Oct-14	16-Jan-15 28-Oct-14	-	<b>Å</b> <sup>™</sup>						
A02_0020 A02_0030	Approval of all phasing plans & hoarding arrangements (2-Nov'14) Approval of all method statements for Part B works (2-Nov'14)	0.0d	30-Oct-14	30-Oct-14		Ŷ						
A02_0030 A02_0040	Engineer's confirmation of satisfactory implementation of Quality Plan (2-Nov'14)	0.0d	01-Nov-14	01-Nov-14		X						
A02_0040	Engineer's confirmation of satisfactory implementation of System Assurance Plan (2-Nov'14)	0.0d	01-Nov-14	01-Nov-14		8						[]]
A02_0060	Engineer's confirmation of satisfactory implementation of Programming Management System (2-Nov'14)	0.0d	01-Nov-14	01-Nov-14		ð						
A02_0070	Engineer's confirmation of satisfactory implementation of Health & Safety Plan (2-Nov'14)	0.0d	01-Nov-14	01-Nov-14		8						
A02_0080	Engineer's confirmation of satisfactory implementation of Environmental Management Plan (2-Nov'14)	0.0d	01-Nov-14	01-Nov-14		\$						
	mplementation 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)	b0.0	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	24-Jan-15 24-Jan-15								
A03_0040	Engineer's confirmation of satisfactory implementation of Environmental Management Plan (25-Jan'15) xcavation method under Tram Track; Satisfactory Implementation of PMS (3-May'15)	0.00	Z4-Jan-15	24-Jail-13			}					
A4 Approval of e A04_0010	Approval for method under Tram Track; Satisfactory Implementation of PMS (3-May'15) 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_0010	Engineer's confirmation of satisfactory implementation of Programming Management System (3-May 15)	0.00	02-May-15	02-May-15			•	, ři i i i				
and the second state of th	AC 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			ļ. ļ. ļ. ļ. ļ. ļ.		\$				<u>.</u>
	nplementation of PMS (1-Nov'15)		1-11-11									
A06_0010	Engineer's confirmation of satisfactory implementation of Programming Management System (1-Nov15)	0.0d	31-Oct-15					7				
	nplementation of Specified Plans (31-Jan'16)		20 10- 10									
A07_0010	Engineer's confirmation of satisfactory implementation of Specified Plans (31-Jan'16)	0.0d	:30-Jan-16						\$			
A08 0010	f BS and ABWF works; Satisfactory Implementation of PMS (1-May'16) Engineer's confirmation of satisfactory implementation of Programming Management System (1-May'16)	0.0d	30-Apr-16							8		ŗ-ŀ-
A08_0020	Approval in principle of all procedures for Testing & Commissioning of all Building Services (1-May 16)	0.00	27-Apr-16							1		
A08_0030	Approval in principle of all acceptance procedures of all of the ABWF works (1-May'16)	0.0d	27-Apr-16									
	mplementation 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							<u> </u>		
A09_0030	Engineer's confirmation of satisfactory implementation of Quality Plan (31-Jul'16)	b0.0	:30-Jul-16							<u> </u>		
A09_0040	Engineer's confirmation of satisfactory implementation of Environmental Management Plan (31-Jul'16)	0.0d	30-Jul-16									
the second s	M manual & Draft As-built Drawings; Satisfactory Implementation of PMS (30-Oct'16)	0.0d	29-Oct-16								•	
A10_0010 A10_0020	Engineer's confirmation of satisfactory implementation of Programming Management System (30-Oct'16) Approval in principle of draft Operating & Maintenance Manuals for the Whole Works (30-Oct'16)	0.0d	29-0d-16					etterid				17
A10_0020	Approval in principle of draft As-built Drawings for the Whole Works (30-Oct 16)	0.0d	27-Oct-16									1
	D&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									
ost Centre A: I	Preliminaries and General Items											
	mission and Approval											
the second s	LG Submission and Approval	and a share of a second second second										
D.I.T_0010	TTMS - Submission to Members of TMLG for Approval, ref. ITT 6.2	the second se	the second se	14-Apr-14 17-Apr-14								
D.I.T_0020	TTMS - TMLG Meetings and Approval, Resubmission if required, RMO Applicataions	55.00 22-Apr-14	27-Jun-14	22-Apr-14 27-Jun-14								t-t-
Design, ICE, BD D.I.T_0030	Submission and Approval           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_0030	A1 - ELS & Temporary Decking - Besign, ICE, Submission to BD for Approval A1 - ELS & Temporary Decking - Review the submission		The second se	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		17-Sep-14 23-Sep-14		1				8		
D.1.T_0060	A1 - IELS & Temporary Decking - BD Review, Resubmission if required, and Approval (If Require)	14.0d 17-Jul-14		24-Sep-14 03-Mar-15	-					0 <b>0</b>		
D.I.T_0070	A1 - ELS - Verification (based on 4 additinal SI. AD-01 to AD-04), ICE	17.0a 29-Jul-14	27. 10 million and Aut	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 1.8-Aug-14	· • •••-	18-Aug-14 15-Sep-14								<u>: :</u>
												_
Actual Level of E	Effort   Baseline Milestone Contract C6593-13C Wan C000 Wan C	Chai Station Lee Tung	Street S	Subway		- alter	12.20	States of the		- AL	-1-1-	
Primary Baseline		Master Program (Rev.		-		-	TT	5		n	人	



y ID	Activity Name	Original BL Project	BL Project Finish	Actual Start	Actual Rer Finish	nark	4		2015	1	2016	I	-
		Duration Start	Finish	Start	Finish					NDJFM	AJJA	ONDJ	
D.I.T_0090	Independent Checking Engineer - Preparation & Submission for Approval	30.0d 14-Apr-14	and the second se										
D.I.T_0100	Independent Checking Engineer - Review the submission	30.0d 24-May-14											
D.I.T_0110	Independent Checking Engineer - Preparation of re-submission (If Require)	14.0d 30-Jun-14											
D.I.T_0120	Independent Checking Engineer - Resubmission if required, & Approval (If Require)	14.0d 17-Jul-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	the second se		and the second se		1111						
D.I.T_0140	A2 - Excavation support system for the mined tunnel section design - Review submission	24.0d 21-Aug-14		a because they been and a set of the set of	and the second s		1111					1 1 I I	1
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	and the second sec		and the second sec		<b>P</b>						
D.I.T_0160	A2 - Excavation support system for the mined tunnel section design - Review & Approval (if required)	24.0d 06-Oct-14		and the second se	the second se								.
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			( Constanting		<b>=</b>			
Contractor Submis													
	ecified Plans and Hoarding Plan												
P.SP.H_0010	Submission schedule - Preparation & submission	30.0d 14-Apr-14	and the second sec		the second								
P.SP.H_0020	Submission schedule - Review & Approval	30.0d 24-May-14	and the second s					-	-				
P.SP.H_0030	Submission schedule - Preparation for Re-submission (If Require)	14.0d 30-Jun-14							-				
P.SP.H_0040	Submission schedule - Review and Approval (If Require)	14.0d 17-Jul-14	01-Aug-14										4.).
P.SP.H_0050	Initial Three Month Rolling Program - Preparation & submission	14.0d 14-Apr-14			and the second s	-		-					
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		A				-				
P.SP.H_0110	Preliminary Master Program - Preparation for Re-submission (If Require)	14.0d 02-Jul-14	17-Jul-14	16-Sep-14					-				
P.SP.H_0120	Preliminary Master Program - Review and Approval (If Require)	14.0d 18-Jul-14	and the second se	30-Sep-14	the second se				-				
P.SP.H 0130	Specified Plans (QP, SAP, PMS, H&SP, EP) - Preparation & submission	30.0d 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			and the second sec								
P.SP.H 0150	Specified Plans (QP, SAP, PMS, H&SP, EP) - Preparation for Re-submission (If Require)	14.0d 11-Jun-14		and the second s	2 2 m ci al manufactura de la companya de la company			(			11111		<u> </u>
P.SP.H 0160	Specified Plans (QP, SAP, PMS, H&SP, EP) - Review and Approval (If Require)	30.0d 27-Jun-14		the second secon									
P.SP.H_0170	Environmental management plan - Preparation & submission	30.0d 14-Apr-14	and the second s	a los and a	a the same of the Party of the same sector with the								
P.SP.H_0180	Environmental management plan - Review & Approval	30.0d 24-May-14			and the second s								
P.SP.H_0190	Environmental management plan - Preparation for Re-submission (If Require)	14.0d 30-Jun-14		13-Jun-14									
P.SP.H_0200	Environmental management plan - Review and Approval (If Require)	14.0d 17-Jul-14	01-Aug-14										1
P.SP.H 0210	Appoint Environmental team- submit for engineer approval	30.0d 14-Apr-14											
P.SP.H 0220		30.0d 14-Apr-14 30.0d 24-May-14											
	Appoint Environmental team - Review & Approval		and the second data and the se		C I LA MARINE & BARRAN								
P.SP.H_0230	Appoint Environmental team - Preparation for Re-submission (If Require)	14.0d 30-Jun-14	16-Jul-14		14-May-14	- 14							
P.SP.H_0240	Appoint Environmental team - Review and Approval (If Require)	14.0d 17-Jul-14	01-Aug-14										
P.SP.H_0250	Quality Plan - Preparation & submission	30.0d 14-Apr-14	23-May-14										
P.SP.H_0260	Quality Plan - Review & Approval	30.0d 24-May-14	the second se	15-May-14					T				
P.SP.H_0270	Quality Plan - Preparation for Re-submission (If Require)	14.0d 30-Jun-14	16-Jul-14	13-Jun-14					-				
P.SP.H_0280	Quality Plan - Review and Approval (If Require)	14.0d 17-Jul-14		17-Jun-14	1				-				
P.SP.H_0290	Health and Safety Plan - Preparation & submission	30.0d 14-Apr-14	23-May-14		14-May-14								
P.SP.H_0300	Health and Safety Plan - Review & Approval	30.0d 24-May-14		15-May-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	and the second s				-				
P.SP.H_0320	Health and Safety Plan - Review and Approval (If Require)	14.0d; 17-Jul-14	01-Aug-14						-				
P.SP.H_0330	System Assurance Plan - Preparation & submission	30.0d 14-Apr-14	23-May-14	the second se	the second			-					
P.SP.H_0340	System Assurance Plan - Review & Approval	30.0d 24-May-14		15-May-14	and the second se								į. j.
P.SP.H_0350	System Assurance Plan - Preparation for Re-submission (If Require)	14.0d 30-Jun-14	16-Jul-14	13-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			1					
P.SP.H_0380	A2 Hoarding phase - Review & Approval	24.0d 16-Aug-14							9				
P.SP.H_0390	A2 Hoarding phase - Preparation for Re-submission (If Require)	12.0d 15-Sep-14											
P.SP.H_0400	A2 Hoarding phase - Review and Approval (If Require)	24.0d 29-Sep-14		and the second s									
Implemantation of		The Party of the Alle	ALC: NOT										
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		•		0				: :
SP.A03_0020	A3 Satisfactory Implementation of Health and Safety Plan	0.0d	01-Nov-14		01-Nov-14		•		ò				
SP.A03_0030	A3 Satisfactory Implementation of Environmental Management Plan	0.0d	01-Nov-14		01-Nov-14		• • • •		6				
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			•	♦				
		maintain ranks and .			- PARTING TRANSPORT							-	Ē
<ul> <li>Actual Level of Effective</li> </ul>		tation Lee Tung	g Street S	Subway	r		100			4	n		
Primary Baseline	Milestone     Preliminary Master	r Program (Rev	C					TT					E
Actual Work		- 1081 with (1109)	~/				1.1		00	0	1		ŀ
Remaining Work	Progress vs	Drogram										A.Y.	1
	Progress vs	S I TOBIAILI					1000				10 No.		4

09-Jun-1	5 14:52





ID	Activity Name	Original BL Project		Actual		Remark	201	<u></u>		2015			016	
		Duration Start	Finish	Start	Finish		2014 A J J		NDJIF	2015 A J J		JEMAT	2016 JJASON	
SP.A03_0070	A3 Satisfactory Implementation of Environmental Management Plan	0.0d	24-Jan-15	1	24-Jan-15				•	0				
SP.A05_0010	A5 Satisfactory Implementation of Quality Plan	0.0d	01-Aug-15							8				
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							8	\$			
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				ЩШ.					8		
SP.A07_0020	A7 Satisfactory Implementation of System Assurance Plan	0.0d	30-Jan-16									8		
SP.A07_0030	A7 Satisfactory Implementation of Health and Safety Plan	0.0d	30-Jan-16									8		
SP.A07_0040	A7 Satisfactory Implementation of Environmental Management Plan	0.0d	30-Jan-16									8		
SP.A09_0010	A9 Satisfactory Implementation of Quality Plan	0.0d	30-Jul-16										8	
SP.A09_0020	A9 Satisfactory Implementation of System Assurance Plan	0.0d	30-Jul-16					1.1.1.1					8	1.1.1
SP.A09_0030	A9 Satisfactory Implementation of Health and Safety Plan	0.0d	30-Jul-16										8	
SP.A09_0040	A9 Satisfactory Implementation of Environmental Management Plan	0.0d	30-Jul-16	-									8	
	Programming Management System			States of the local division of the local di										
PMS.A02_0010	A2 Satisfactory Implementation of Programming Management System	0.0d	01-Nov-14		01-Nov-14			•	<b>'</b>	\$				
PMS.A04_0010	A4 Satisfactory Implementation of Programming Management System	0.0d	02-May-15		02-May-15					<b>•</b>				
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		14							8		
PMS.A10_0010	A10 Satisfactory Implementation of Programming Management System	0.0d	29-Oct-16										*	
Other Submissions			S											
OS.OM_0010	Hoarding Installation Method Statement - Preparation & Submission	30.0d 14-Apr-14								_				
OS.OM_0020	Hoarding Installation Method Statement - Review & Approval	12.0d 24-May-14	07-Jun-14	24-May-14	07-Jun-14					<b>=</b>				
CS.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					4				
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		(   I			ь				
OS.OM_0050	Site Investigation Works Method Statement - Preparation & Submission	30.0d 14-Apr-14			the start the second									
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		23-Jun-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										111		
OS.OM_0110	WAC & H15 D-wall demolition- Preparation for re-submission (If require)	40.0d 09-May-15										NH III		
OS.OM_0120	WAC & H15 D-wall demolition - Review & Approval (If require)	30.0d 27-Jun-15				-		<u></u>		· • • • • • • • • • • • • • • • • • • •	म हिंदि	📕 🕂		
OS.OM_0130	A8 AIP procedures for T&C of BS and ABWF works (1st Batch)	90.0d 01-Jun-15										n III		
OS.OM_0140	A8 AIP procedures for T&C of BS and ABWF works (2nd Batch)	90.0d 16-Sep-15												
OS.OM_0140	A8 AIP procedures for T&C of BS and ABWF works (2nd Batch)	90.00 16-Sep-15 90.00 06-Jan-16					5 8					1111		1.1
OS.OM_0160	A10 AIP of Draft 0&M manual and Draft As-built Drawings	90.00 06-Jan-15 150.00 28-Apr-16											11	1 1 1
OS.OM_0180	A10 AIP of Dran Owin manual and Dran As-built Drawings A11 Approval of O&M manual and As-built drawings for the Works		the second					····		·			1-1-1-1-	1-1-1-
OS.OM_0170	RC Works- Preparation of Method Statement- Preparation	95.0d 28-Oct-16	A CONTRACT OF A DESCRIPTION OF A DESCRIP	06 1- 15	OF Eat de									i i i
OS.OM_0180	RC Works- Preparation of Method Statement- Preparation RC Works - Preparation of Method Statement- Submission & Approval	60.0d 08-Jul-14		06-Jan-15										
		12.0d 17-Sep-14									<b>P</b>			
OS.OM_0200	RC Works - Preparation for Re-submission (if required)	12.0d 03-Oct-14		10-Feb-15							-			
OS.OM_0210	RC Works - Re-submission (if required) & Approval	12.0d 17-Oct-14		16-Feb-15					444					
OS.OM_0220	Sheet pile installation- Preparation of Method Statement- Preparation	42.0d 14-Apr-14					5							
CS.OM_0230	Sheet pile installation- Preparation of Method Statement- Submission & Approval	12.0d 09-Jun-14								7				
OS.OM_0240	Sheet pile installation - Preparation for Re-submission (if required)	12.0d 23-Jun-14		08-Jul-14				1114		5				
OS.OM_0250	Sheet pile installation - Re-submission (if required) & Approval			23-Oct-14						-				
OS.OM_0260	Excavation works- Preparation of Method Statement- Preparation.	42.0d 14-Apr-14							4.1.1.1	=				
OS.OM_0270	Excavation works- Preparation of Method Statement- Submission & Approval	12.0d 09-Jun-14	1							1				
S.OM_0280	Excavation works- Preparation for Re-submission (if required)	12.0d 23-Jun-14		21-Oct-14						5				
OS.OM_0290	Excavation works- Re-submission (if required) & Approval	12.0d 98-Jul-14		21-Oct-14										
S.OM_0300	Work below tram track Method Statement - Preparation	60.0d : 08-Jul-14		23-Feb-15					1 I I I		500			
S.OM_0310	Work below tram track Method Statement - Submission & Approval	12.0d 17-Sep-14	30-Sep-14	23-Mar-15	09-Apr-15									
S.OM_0320	Work below tram track Method Statement - Preparation for Re-submission (if required)	12.0d 03-Oct-14	16-Oct-14											
OS.OM_0330	Work below tram track Method Statement - Re-submission (if required) & Approval	12.0d 17-Oct-14								5				
S.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	the second se											
OS.OM_0360	H15 & WAC Break Through Method Statement - Preparation for Re-submission (if required)	12.0d 03-Oct-14	A second s								U.			
OS.OM_0370	H15 & WAC Break Through Method Statement - Re-submission (jf required) & Approval	12.0d 17-Oct-14				-								
OS.OM_0380	BD for consent of H15 break throughs works - Preparation	90.0d/03-Aug-15											00	
OS.OM_0390	BD for consent of H15 break throughs works - Submission & Approval	60.0d 19-Nov-15												
OS.OM_0400	BD for consent of H15 break throughs works - Preparation for Re-submission (if required)	30.0d 01-Feb-16												
OS.OM_0410	BD for consent of H15 break throughs works - Re-submission (if required) & Approval	50.0d 10-Mar-16	the state of the s											
OS.OM_0410	Submit and obtain AIP for Method Statement, EDOC Draft, Permanent Materials	60.0d 31-Oct-14										11111	11111	
				Y			<u> </u>			1.01.01		1111		
Actual Level of Effor		an Unai Station Lee Tung	Street S	Subway	7						d			1
Primary Baseline			-	J					1	1				\$
		UN WHINTER FRANKLING THE AND	C.I											-
Actual Work	Prelimina	ry Master Program (Rev.	()							0		0.5		





/ ID	Activity Name	Original BL Project Duration Start	BL Project Finish	Actual Start	Actual F Finish	emark	2014				2015			2	2016		
Mobilization and	d Other Preliminaries	Bulation				Α	JJJ,	ACSON	JDJF		JJAS	sри	DJF	MA	JJA	SOND	JF
Permit Applica					TO DESCRIPTION												
PA_0010	XP Excavtion Permit Application and Permit	70.0d, 14-Apr-14	a second assession and a state print of the	the second	10-Jun-14						_						
PA_0020	TRA Tree Removal Application and Permit	6.0d 14-Apr-14	and the second se		and the second sec		- Australia			P							
PA_0030	Liason with all utility service providers on diversions	42.0d 14-Apr-14	and the second s							-							
PA_0040	Baseline noise monitoring report - Preparation & submission to Engineer and EPD	30.0d 14-Apr-14															í
PA_0050	Baseline noise monitoring report - Review & Approval	30.0d 24-May-14								=	2						
PA_0060	Baseline noise monitoring report - Preparation for Re-submission (If Require)	14.0d 30-Jun-14					R				-						
PA_0070	Baseline noise monitoring report - Review and Approval (If Require)	14.0d 17-Jul-14	01-Aug-14					111									
PA_0080	Baseline air monitoring report - Preparation & submission to Engineer and EPD	30.0d; 14-Apr-14	and the second se	the second	and the second sec		2			=							
PA_0090	Baseline air monitoring report - Review & Approval	30.0d 24-May-14						111			2	111					
PA_0100	Baseline air monitoring report - Preparation for Re-submission (If Require)	14.0d 30-Jun-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, Stru	Ictural and ABWF Works for the New Subway (Part A Works)																
Cost Centre B-	Milestone Schedules																
	-2.5 of SBC & Children's Play Area Cofferdam completed (2-Nov'14)	0.04	Of Neu 14	-	Of New 14												
MSB01_01	Southern Basket Ball Court: excavate to +2.5mPD (2-Nov'14)	0.0d	01-Nov-14		01-Nov-14							8	3			+	1
MSB01_02	Children's Play Area - Cofferdam construction is completed (2-Nov'14)	0.0d	25-Oct-14		25-Oct-14						8	111					
	ion complete & Children's Play Area Excavation to -1.3mPD (25-Jan'15)		04 1-2 45		16 100 15							44	4			$\left\{ \cdot \cdot \right\} \cdot \left\{ \cdot \right\} \cdot \left\{ \cdot \right\}$	
MSB02_01	Southern Basket Ball Court: Excavation is satisfactorily completed (25-Jan'15)	0.0d	24-Jan-15		16-Jan-15								<b>\$</b>				
MSB02_02	Children's Play Area: Excavation has reached -1.3mPD (25-Jan'15)	0.0d	24-Jan-15		24-Jan-15				•				Ŷ				1
	f, JnR NFP & EBC 67% cofferdam, JnR WBC UU div complete (3-May'15)		00.11		00 4 45												
MSB03_01	Southern Basket Ball Court: Roof slab construction has been satisfactorily completed (3-May'15)	0.0d	02-May-15		28-Apr-15					<b>\</b>							
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					<b>\$</b>	444						
MSB03_03	Johnston Road West-bound Carriageway - All utility diversions, where required, satisfactorily completed (3-May'15)	0.0d	21-Mar-15								5						1
MSB03_04	10% completed of tram track support (3-May 15)	0.0d	02-May-15		29-Apr-15												1
and the second se	NBC Site entry, CPA base, JnR NFP & EBC Cofferdam & decks complete (2-Aug'15)																Ì
MSB04_01	Southern Basket Ball Court: Playing surface has been returned to LCSD for use (2-Aug'15)	0.0d	27-Jun-15								8						
MSB04_02	Northern Basket Ball Court: Site entry onto Hennessy Road has been formed (2-Aug'15)	0.0d	31-Jul-15									5					
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								5 1 1						
MSB04_04	JnR N-Footpath & E-Bound Carriageway: Cofferdam construction complete & all temp traffic decks installed (2-Aug'15)	0.0d	29-Jul-15								8						
B5 NBC cofferda	m, CPA RC & vent shaft 1.2m above GL, Tram Tracks Excavation to +0.0mPD (1-Nov'15)																1
MSB05_01	Northern Basket Ball Court: Satisfactorily complete construction of the cofferdam (1-Nov'15)	0.0d	30-Oct-15										8 🗄				
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								8		111	111			
MSB05 03	Tram Tracks - Excavation to +0.0 mPD is satisfactorily completed (1-Nov 15)	0.0d	24-Oct-15									8					
	ion to formation, JnR Excavation complete (31-Jan'16)	and the second sec			non the set		111										
MSB06_01	Northern basket Ball Court - Excavation to final formation has been satisfactorily completed (31-Jan'16)	0.0d	29-Jan-16										111	<b>8</b> E E			
MSB06 02	Johnston Road All Carriageways, Footpaths & Tram Tracks: Excavation is completed (31-Jan'16)	0.0d	30-Jan-16										8				
	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	1											8		
MSB07_02	JnR Carriageways, Footpaths & Tram Tracks: RC construction, except at temporary opening completed (1-May'16)	0.0d	30-Apr-16	1										8			
MSB07_02	Children's Play Area: RC Construction of above ground ventilation shaft structures is completed (1-May'16)	0.0d	28-Apr-16											Ĩ	8		
	e1 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	9												2	
MSB08_01	Northern Basket Ball Court - All re-surfacing works & playing surface reinstatement completed (31-Jul'16)	0.0d:	28-Jul-16					T T T						111			
MSB08_02	H15 Interface: The opening through H15 diaphragm wall has been formed (31-Jul'16)	0.0d	30-Jul-16												>		۲
	e3 achieved, All road reinstatement in JnR & Hennessy Rd complete (30-Oct'16)	0.00	UU UUI IU													111	×
B9 ABWF Degree MSB09_01	ABWF to Degree 3 has been achieved for works in this cost centre (30-Oct 16)	0.001	27-Oct-16		1											•	
		0.00	21-Oct-16													•	
MSB09_02	All road reinstatement works in Johnston Road and Hennessy Road have been satisfactorily completed (30-Oct'16)	0.001	21-001-10				· † · † · †	·; · ; · ; ·			i i i i i	t t t		+++++	-	<b></b>	-
B10 All works in MSB10_01	Cost Centre B satisfactorily completed (26-Feb'17) All works in this cost centre have been satisfactorily completed (26-Feb'17)	0.0d	25-Feb-17														
and a subscription of the second seco	apletion for ABWF Works	0.000	2010011	di-													
ABWF.D1	ABWF Works - Degree 1	0.0d	28-Jul-16													8	
ABWF.D2	ABWF Works - Degree 2	0.0d	23-Sep-16	1											3		
ABWF.D3	ABWF Works - Degree 3	0.0d	27-Oct-16				111	Tit					TTT.	111		*	
ABWF Works - D		in the second														1	
BWF.D1_1.010		0.0d)	28-Jul-16												8		
BWF.D1_1.020		0.0d	28-Jul-16	1											8		
ABWF.D1_1.020		0.0d	28-Jul-16												*		1
ABWF.D1_1.030		0.0d	28-Jul-16				111							111	<b>X</b>	<u>i ri i i</u>	1
ABWF.D1_1.040	and the second	0.0d	28-Jul-16	0											٢		
Actual Level of		Station Lee Tuns	g Street	Subway	7							-				11-	ſ
<ul> <li>Primary Baselin</li> <li>Actual Work</li> </ul>			-	v					T	7	-	1	~	-		基利	
Remaining Work	k Progress	vs Program									11					11	Í



ity ID	Activity Name			BL Project			emark	2014				2015			2016		
		Duration	Start	Finish	Start	Finish	,	AJJ,		NDJF		JJA	SOND	JFMA	JJA	SOND	
BWF.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	b0.0		28-Jul-16											ş		
ABWF.D1_1.080	1.8- Movement joints & stitch strips complete	0.0d		28-Jul-16					·			<b>.</b>					·
ABWF.D1_1.090	1.9- Drainage system & discharge connections complete with temporary pumps operational	0.0d		27-Jul-16 28-Jul-16	-											\$	
ABWF.D1_1.100	1.10- Escalator zones & pits complete; survey reference lines accepted	0.0d 0.0d		28-Jul-16 28-Jul-16											<b>X</b>		
ABWF.D1_1.110	1.11- Earthing mat, earthing rods & earthing pits complete & test results accepted 1.12- Underground pipework complete including manholes, ductworks & drawpits	0.0d		28-Jul-16 28-Jul-16											Ŷ		
<ul> <li>ABWF.D1_1.120</li> <li>ABWF.D1_1.130</li> </ul>	1.12- Underground pipework complete including manholes, ductworks & drawpits 1.13- Civil & building provisions for designated & interfacing contractors complete	0.0d		14-Apr-14					'       .						Ŷ		
ABWF.D1_1.130		0.00			Contraction of the local division of the loc	The survey of th			·			*				TH	
ABWF.D2_2.010	2.1- Permanent door frames installed with temporary doors and locks	0.0d		15-Sep-16												*	
ABWF.D2_2.010	2.2- Floor finishes & wall tilling in plant rooms for Designated Contractors complete	0.0d		23-Sep-16												8	
ABWF.D2_2.030	2.3- Glazing & Balustrade support installed	0.0d		11-Aug-16		-									8	111	
ABWF.D2_2.040	2.4- Metal staircases, cat-ladders & catwalks complete	0.0d		15-Sep-16												8	
ABWF.D2_2.050	2.5- External louvers installed	0.0d		15-Sep-16												8	
ABWF.D2_2.060	2.6- Framework for final finishes installed	0.0d		15-Sep-16												8	
ABWF.D2_2.070	2.7- Water tightness testing to water tanks passed	0.0d		15-Sep-16												8	
ABWF Works - Degre	ee 3																
BWF.D3_3.010	3.1- All finishes complete including permanent doors, ironmongery	0.0d		27-Oct-16					<u>الجابا</u>	44.4.4				·			
BWF.D3_3.020	3.2- Balustrade installed	0.0d		27-Oct-16	-											8	
ABWF.D3_3.030	3.3- Signage hangers & supports installed	0.0d		24-Oct-16												8	
ABWF.D3_3.040	3.4- Roller shutters, fire shutters & smoke barriers installed	0.0d		24-Oct-16												8	
ABWF.D3_3.050	3.5- Acoustic treatment applied	0.0d		24-Oct-16												3	
BWF.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												2	
	Ind Reprovision works		17.5	47.5													
RW_0010	LCSD handover Northem Basket Ball Court 1		17-Dec-16										• [ ] ] ]				
RW_0020	Fence off the site		19-Dec-16														
RW_0030	Expose the surface		21-Dec-16	the second se	· · · · · · ·						uş dir.	<u>.</u>			+		4-4
= RW_0040	Resurfacing works		30-Dec-16	a second se								111	164(13)				
RW_0050	Hand over to LCSD, additional remedial if require			21-Jan-17													
RW_0060	LCSD handover Southern Basket Ball Court 2		23-Jan-17														
RW_0070	Fence off the site		24-Jan-17														
RW_0080	Expose the surface  Posufacing works		26-Jan-17		<u></u>				·			<b>.</b>					÷÷÷
RW_0090	Resurfacing works		06-Feb-17 21-Feb-17	and and a second s													
RW_0100	Hand over to LCSD, additional remedial if require	5.0d1.	21-1-60-11	20-1 60-17	1	Lange and an										() (i	
Cost Centre B: Par B.RC_Comp	t A Works, Civil and Structural Works for the New Subway RC Structure completed for the new subway	0.0d		30-Apr-16											•		
B.RC_Comp Site Preliminary Wor		0.0d	A REPORT OF	5- Apr-10		and the second second									Y		
Ste Preliminary wor	LCSD handover SBC & Play's Area	3 Dd 1	14-Apr-14	16-Apr-14	14-Apr-14	16-Apr-14		tit the			(	•••••••	un de				
SPW_0010	Fence off the Site area for SBC & Play's Area			23-Apr-14		23-Apr-14											
SPW_0020	Employ security guard & security booth delivery			26-Apr-14		26-Apr-14	-	•									
SPW_0040	Removal of existing furniture for SBC & Play's Area as require					05-May-14	-	1									: :
SPW_0050	Trial trenches and expose existing UU service in SBC & Play's area		the second se	05-Jun-14		05-Jun-14											
SPW_0060	Setting up site office & misc.		07-May-14			1 05-Jul-14											
SPW_0070	Form site access for vehicle		the second s	19-Jul-14	07-Jul-14	19-Jul-14						-					
SPW_0080	Diversion of existing utilities & misc. works if require for SBC & Play's Area		09-Jun-14		09-Jun-14	07-Jul-14						<u> </u>					
SPW_0090	Erect hoarding for SBC			21-Jul-14	16-Jul-14	29-Jul-14	-	i i				-					
SPW_0100	Ground/ Site Investigation in SBC & Play's Area	18.0d 0	08-Jul-14	28-Jul-14	08-Jul-14	28-Jul-14											
SPW_0110	Transplant and tree removal			21-Jul-14						titt.		<b>L</b>					
Northern Basket Ball	Court																
NBC_0010	Liaison with relevance parties for TTM	80.0d 0	02-Apr-15	13-Jul-15									V				
NBC_0020	LCSD handover Northern Basket Ball Court for LTS construction works		29-Jun-15														
NBC_0030	Preparation works for NBC site access	4.0d 0	07-Jul-15	10-Jul-15													
	Implementation of TTM		14-Jul-15	16-Jul-15													
NBC_0050	Relocation of metal fence access door for public			17-Jul-15													
NBC_0060	Hoarding installation, installation of site entry on Hennessy Road			31-Jul-15							: <u>  []</u> .	Q 🚺					
NBC_0070	Expose UU & trial trench for sheet piles works		01-Aug-15										<b>4</b> 334				
NBC_0080	Phase 3 ELS- Sheet Piles Installation [104 no. x 24m]	48.0d 1	15-Aug-15	12-Oct-15													
BC_0090	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	15.0d 1	13-Oct-15	30-Oct-15							171						
BC_0100	Phase 3 ELS- Pumping Test preparation works	12.0d 1	13-Oct-15	27-Oct-15								영상	1				
NBC_0110	Phase 3 ELS- Pumping Test	6.0d 3	31-Oct-15	06-Nov-15								미티					
NBC_0120	Phase 3 ELS- Pumping Test Report Preparation and submission to BD	6.0d (	07-Nov-15	13-Nov-15										6888	8818	1111	11
Actual Level of Effor			AT & South R. Card	and the second second	Subway	1							No.				1
Primary Baseline			0		พa	7				Contraction of the				er		<b>BER</b>	
	Prelimine	ary Master Progran	n (Kev.(	J							6	Sec.				<b>A</b>	
Actual Work		~									16	21	1	-			
Remaining Work		Progress vs Program									V					141	1
Critical Remaining V	Vork	-								- All Real Property lies of the less of th		and the second data	and a state of the			100 C	-





ty ID	Activity Name	Original BL Project	BL Project	Start	Actual Rema	агк 2014		20	)15		2016	
		Duration Start		Stan			SONDJ				JJASON	गवर
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							· · · · · · · · · · · · ·			. <b>.</b>
NBC_0140	Bulk excavation & layer 2 strut & preloading [500m^3]	15.0d 25-Nov-15 18.0d 12-Dec-15				_						
NBC_0150	Bulk excavation & layer 3 strut & preloading [500m^3]	21.0d 06-Jan-16	the second se									
NBC_0160	Bulk excavation & layer 4 strut & preloading [500m^3] Plate load test	6.0d 30-Jan-16				-						
NBC_0170 NBC_0180	Plate load test Plate load test- Preparation of report & submission to BD	6.0d 06-Feb-16										
BC_0180	Base Slab- Waterproofing & RC construction [Concrete 490m^3] & [Re-Bar 29.5 T]	15.0d 17-Feb-16			-						****	++
NBC_0200	Wall- Waterproofing & RC construction [Concrete 300m^3] & [Re-Bar 54 T]	21.0d 05-Mar-16										
NBC_0210	Top Slab- Waterproofing & RC construction [Concrete 180m^3] & [Re-Bar 42.7 T]	24.0d 02-Apr-16								$\square$		
BC_0220	Construction of flood light footing [2 nos.]	12.0d 03-May-16										
BC_0230	Reinstatement and installation of flood light [2nos.]	6.0d 18-May-16	24-May-16								9	
BC_0240	Backfilling for Northern Basketball Court	12.0d 25-May-16	07-Jun-16								9	
BC_0250	Reinstate hard paving of Northem Basketball Court	18.0d 08-Jun-16	29-Jun-16									
NBC_0260	Reinstate surface coating of Northern Basketball Court	12.0d 30-Jun-16										
NBC_0270	Hand over to LCSD, additional remedial if require		28-Jul-16		_							11
NBC_0280	Reinstate road surface on Hennessy Road	70.0d 29-Jul-16	21-Oct-16				<u>.</u>					<b>#</b> 44
Southern Basket I		GE ON DO LULAA	08 0+ 14	22 14 44	15 Nov 14	💻       🔔						
SBC_0010	Phase 1 ELS- Sheet Piles Installation [184n. x 24m]	65.0d 22-Jul-14			15-Nov-14 15-Nov-14							
SBC_0020	Curtain Grouting and remedial works for sheet piles not reaching to design toe level Bulk Excavation (Removal of hard paving on ground surface) & excavation for layer 1 to +2.5mPD [800m^3]		the second s		01-Nov-14							
SBC_0030 SBC_0040	Phase 1 ELS- Pumping Test preparation works	and the second se	25-Oct-14		08-Nov-14							
SBC_0040	Phase 1 ELS- Pumping Test Preparation works	11.0d 27-Oct-14	the second se	and the second sec	28-Nov-14							
SBC_0050	Phase 1 ELS- Pumping Test Report Preparation and submission to BD				19-Jan-15							
SBC_0000	Bulk excavation & layer 2 strut & preloading [800m^3]		17-Dec-14		17-Dec-14							
SBC_0080	Bulk excavation & layer 3 strut & preloading [800m^3]				24-Jan-15							
SBC_0090	Plate load test				31-Jan-15		I.			-		
SBC_0100	Temporary Traffic Deck construction	12.0d 26-Jan-15	and the second se		• • • • • • • • • • • • • • • • • • •							
SBC_0110	Plate load test- Preparation of report & submission to BD	12.0d 02-Feb-15	International or Contract stress and Day 1 and the line	A PROPERTY OF A DESCRIPTION OF A DESCRIP	a the state of the		:           <b> </b>					
SBC_0120	Base Slab- Waterproofing & RC construction [Concrete 420m^3] & [Re-Bar 25.3 T]	15.0d 16-Feb-15					19190	L I I I I	5			
SBC_0130	Wall- Waterproofing & RC construction [Concrete 280m^3] & [Re-Bar 50.4 T]	21.0d 09-Mar-15							-			
SBC_0140	Top Slab- Waterproofing & RC construction [Concrete 210m^3] & [Re-Bar 50 T]	22.0d 02-Apr-15					and a star of a start					ļ. ļ. !
SBC_0150	Construction of flood light footing (2 nos.)	7.0d 04-May-15										
SBC_0160	Reinstatement and installation of flood light (2nos.)	3.0d 12-May-15										
BBC_0170	Backfilling for Southern Basketball Court	6.0d 15-May-15	and play and a contract of the second second second	21-May-15	)			٩.				
SBC_0180	Reinstate hard paving of Southern Basketball Court	9.0d 22-May-15	- make warmer resigned and a contract or			=		:::::: <b>!</b> !!				
SBC_0190	Reinstate surface coating of Southern Basketball Court	9.0d 03-Jun-15										
SBC_0200 Children's Play August Au	Hand over to LCSD, additional remedial if require	12.0d 13-Jun-15	27-Jun-15						1			
<ul> <li>Children's Play Al</li> <li>CPA_0010</li> </ul>	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_0010	Curtain Grouting and remedial works for sheet piles not reaching to design toe level		25-Oct-14		15-Nov-14			T				
CPA_0030	Phase 1 ELS- Pumping Test preparation works		25-Oct-14		08-Nov-14				a			
CPA_0040	Bulk Excavation (Removal of hard paving on ground surface) & excavation for layer 1 to +2.5mPD [680m^3]	and a second	02-Dec-14	and the second s	02-Dec-14							
CPA_0050	Phase 1 ELS- Pumping Test	11.0d 27-Oct-14	07-Nov-14		28-Nov-14		1		-			
CPA_0060	Phase 1 ELS- Pumping Test Report Preparation and submission to BD	and the second sec	14-Nov-14	04-Dec-14	19-Jan-15				<b>n</b>			
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				28-Jan-15							
CPA_0090	Bulk excavation & layer 3 strut & preloading [680m^3]				28-Feb-15							
CPA_0100	Bulk excavation & layer 4 strut & preloading [680m^3]			1	27-Mar-15				=	<del>-</del>		
CPA_0110	Plate load test		10-Jun-15		02-Apr-15					4		
CPA_0120	Plate load test- Preparation of report & submission to BD		25-Jun-15	08-Apr-15	have been as a second					2		
CPA_0130	Base Slab-Waterproofing & RC construction [Concrete 395m^3] & [Re-Bar 23.8 T]	and the second s	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				-						
CPA_0150	Top Slab-Waterproofing & RC construction [Concrete 185m^3] & [Re-Bar 43.8 T]	20.0d 22-Aug-15										
CPA_0160	Ventilation Shaft Below Ground- Waterproofing & RC construction [Concrete 35m^3] & [Re-Bar 6.3 T]	20.0d 15-Sep-15				-						
CPA_0170	Ventilation Shaft 1.2m Above Ground- Waterproofing & RC construction [Concrete 25m^3] & [Re-Bar 4.5 T] Ventilation Shaft - Waterproofing & RC construction reach +7.40 & +9.50mPD [Concrete 50m^3] & [Re-Bar 9 T]	18.0d 10-Oct-15 30.0d 21-Mar-16								1		
<ul> <li>CPA_0180</li> <li>CPA_0190</li> </ul>	Site cleaning for Play Area reinstatement & Landscape works	12.0d 29-Apr-16		-					++++	++++++		
CPA_0190	Reinstatement works for Plays Area	66.0d 16-May-16								11111		
CPA_0200	Landscape works	66.0d 03-Aug-16	and the second sec									
CPA_0210	Hand over to LCSD, additional remedial if require	48.0d 22-Oct-16	The rate per									
Johnston Road												
■ JnR_0010	All Sheet Piles on JnR & 1st layer mini piles below Tram track completed	0.0d	09-Sep-15					<b>TTT</b>	8	i i i i i i	1.1.2.1.1.1.1.1 1.1.2.1.1.1.1.1	i id
Actual Level of E			and the second second second	Subway	V		No. of Lot of Lo					
		0		Subway	y			and a start	11 11 24			R
- Drimony Decelian												ALC: NAME OF TAXABLE PARTY.
Primary Baseline Actual Work	e	aster Program (Rev.)	C)					T_				*



ity ID	Activity Name	Original BL Project				mark					
		Duration Start	Finish	Start	Finish	2014  A  J  A  S	JNDJF	2015 A JJAS	ONDJEMA	2016 JJASO	NDJF
JnR_0020	Phase 2 ELS- Pumping Test 1 for 1st layer	6.0d 10-Sep-15									
JnR_0030	Phase 2 ELS- Pumping Test Report for 1st layer Preparation and submission	6.0d 17-Sep-15									
JnR_0040	Phase 2 ELS- 1st layer Pumping Test completed & satisfied	0.0d	23-Sep-15	_				8			
JnR_0050	Bulk excavation & layer 1 strut & preloading [570m^3]	24.0d 24-Sep-15									
JnR_0060	All grouting and sheet piles achieved to tot level in Johnston Road	0.0d	07-Nov-15						<b>V</b>		
JnR_0070 JnR_0080	Phase 2 ELS- Pumping Test 2 for whole ELS Phase 2 ELS- Pumping Test Report for whole ELS Preparation and submission	6.0d 09-Nov-15 6.0d 16-Nov-15									
JnR_0090	Phase 2 ELS- Pumping lest Report for whole ELS Preparation and submission Phase 2 ELS- Pumping test completed & satisfied	0.0di	21-Nov-15	-							
JnR_0100	Bulk excavation & layer 2 strut & preloading [570m^3]	18.0d 23-Nov-15									
JnR_0110	Bulk excavation & layer 3 strut & preloading [570m^3]	18.0d 14-Dec-15			-						
JnR_0120	Bulk excavation & layer 4 strut & preloading [570m^3]	21.0d 07-Jan-16			1						
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	LUBILITY BUSIESS						1		
JnR_0150	Base Slab- Waterproofing & RC construction [Concrete 265m^3] & [Re-Bar 16 T]	17.0d 25-Feb-16	And and a second								
JnR_0160	Wall- Waterproofing & RC construction [Concrete 70m^3] & [Re-Bar 12.6 T]	18.0d 16-Mar-16	and the second se								
JnR_0170	Top Slab- Waterproofing & RC construction [Concrete 125m^3] & [Re-Bar 29.6 T]	18.0d 11-Apr-16	- I S FRIEND FRIEND FRIEND								
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							Ĩ		
	orth Footpath (TTM Stage 1, 2, 2A & 2B)	CONTRACTOR DATE									
JnR.NFP_0010	Liaison, review & acceptance for TTM Stage 1	54.0d 14-Apr-14									
JnR.NFP_0020	Implementation of TTM Stage 1	3.0d 28-Jun-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	5						
JnR.NFP_0050	Installation of temporary traffic decking	6.0d 16-Feb-15									
JnR.NFP_0060	Sheet piles & Traffic decking completed on North Footpath for TTM Stage 3	0.0d	25-Feb-15					8			
	astbound carriageway										
	astbound carriageway North Side (TTM Stage 3)										
	0 Implementation of TTM 3	3.0d 30-Mar-15		13-Mar-15	14-Mar-15						
	20 Phase 2 ELS- Sheet Piles Installation [25no. x 24m]	12.0d 02-Apr-15	a new second of the second second second							0110	
	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	6.0d 21-Apr-15	the second								
	Installation of temporary traffic decking	6.0d 28-Apr-15									
	0 Sheet Piles & Traffic decking completed on Eastbound Carriageway North Side for TTM Stage 4	0.0d	05-May-15					ð			
	astbound carriageway South Side (TTM Stage 4 & 5)	0.01100.1114-	44.14.4-	1	1			n			
	0 Implementation of TTM 4 20 Phase 2 ELS- Sheet Piles Installation [33no. x 24m]	3.0d 09-Jul-15	11-Jul-15								
and the second se		9.0d 13-Jul-15	10 1 I					R			
	Curtain Grouting and remedial works for sheet piles not reaching to design toe level Sheet pile completed on Eastbound Carriageway South Side	6.0d 23-Jul-15 0.0d	29-Jul-15 29-Jul-15								
	Coring for minipile No. 1 to reach -56mPD [60m]	8.0d 02-Apr-15			-						
	0 Installation of Re-Bar for minipile No.1 [4x 60m T50, 3.7Ton]	5.0d 16-Apr-15						ß			
	0 Groutiong for minipile No.1	1.0d 22-Apr-15						111			
	0 Coring for minipile No. 2 to reach -56mPD [60m]	8.0d 16-Apr-15		1							
	0 Installation of Re-Bar for minipile No.2 [4x 60m T50, 3.7Ton]	5.0d 25-Apr-15						1			
	0 Groutiong for minipile No.2	1.0d 02-May-15									
	am Tracks (TTM Stage 3)	1.00 02-May 10			A MARCON MIL						
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			Contract of Contract on Stational						
JnR.TT_0040	1st layer of mini piles below tram tracks completed	0.0d	05-May-15					8			
JnR.TT_0050	Expose concrete surface by Tramsway Sub-Con	3.0d 06-May-15		16-Mar-15	18-Mar-15						
JnR.TT_0060	Installation of Steel Beam	4.0d 06-May-15									
JnR.TT_0070	Leveling of steel Beam by Tramsway Sub-Con (NTH)	4.0d 06-May-15			and the second sec			1,11			**-***
JnR.TT_0080	Installation of temporary steel decking on tram track	4.0d 06-May-15									
JnR.TT_0090	Expose concrete/ fill below tram track [60m^3]	24.0d 11-May-15									
JnR.TT_0100	Installation of Re-bars [Re-Bars 7.6T]	12.0d 09-Jun-15									
JnR.TT_0110	Concreting for concrete decking below tram track [Concrete 60m^3]	6.0d 24-Jun-15	the second se	the second second in the second line	23-May-15						
JnR.TT_0120	Reinstate the tram track surface	6.0d 02-Jul-15	08-Jul-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			۰ 👌			
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								
	estbound carriageway (TTM Stage 5)	and the second second		ALC: NOTICE	Contraction of the second						
JnR.WBC_0010	Implementation of TTM Stage 5	3.0d 13-Aug-15									
JnR.WBC_0020	Trial Trench	12.0d 17-Aug-15									
JnR.WBC_0030	Phase 2 ELS- Sheet Piles Installation [20no. x 24m]	6.0d 31-Aug-15	No.								
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								
<ul> <li>Actual Level of Effort</li> </ul>	ort      Ort      Baseline Milestone     Contract C6593-13C Wan Cha	ai Station Lee Tunc	Street	Subway	7		See and the second	Statute 1	STATISTICS.		
Primary Baseline			*	Jubnay	7		-	-	leı		
Actual Work	Preliminary Ma	ister Program (Rev.	$\mathcal{O}$					and the			
- Holdar WOIK											-
Remaining Work		ss vs Program									



ity ID	Activity Name	Original BL Proje				mark			0045	1	0046	
JnR.WBC_0050         Sh           JnR.WBC_0060         Co           JnR.WBC_0070         Ins           JnR.WBC_0080         Gr           JnR.WBC_0090         Co           JnR.WBC_0100         Ins           JnR.WBC_0110         Gr           JnR.WBC_0120         Re           JnR.WBC_0130         Ca           Johnston Road Westbool         JnR.WBC.ES_0020           JnR.WBC.ES_0030         UL           JnR.WBC.ES_0030         UL           JnR.WBC.ES_0030         UL           JnR.WBC.WS_0040         Ins           JnR.WBC.WS_0050         Tra           JnR.WBC.WS_0030         UL           JnR.WBC.WS_0040         UL           JnR.WBC.WS_0050         Ins           JnR.WBC.WS_0040         UL           JnR.WBC.WS_0050         Ins           JnR.SFP_0010         Im           JnR.SFP_0010         Im           JnR.SFP_0020         Ex           JnR.SFP_0030         UL           JnR.SFP_0040         Ph           JnR.SFP_0050         Cu           JnR.SFP_0040         Ph           JnR.SFP_0050         Cu           JnR.SFP_0070         Sh		Duration Start	Finish	Start	Finish	201- A J J		DJF	2015	SONDJEN	2016 A JJAS	аидля
	Sheet piles completed on Westbound carriageway	0.0d	09-Sep-15							\$		
	Coring for minipile No. 3 to reach -56mPD [60m]	8.0d 17-Aug-										
	Installation of Re-Bar for minipile No.3 [4x 60m T50, 3.7Ton]		15 31-Aug-18									
	Groutiong for minipile No.3		15 01-Sep-18									
	Coring for minipile No. 4 to reach -56mPD [60m]	8.0d 26-Aug-	the balance of the second						L I			
	Installation of Re-Bar for minipile No.4 [4x 60m T50, 3.7Ton]	5.0d 04-Sep-1	and the second s									
	Grouting for minipile No.4	1.0d 10-Sep-										
	Re-Bar Installation for minipile location	4.0d 11-Sep-1										
	Cast Concrete minipile location	2.0d 16-Sep-1	15 17-Sep-18	>								
		2 0d 40 Dec 4	14 100 Dec 44	de Dee de	1 00 Dec 14							
		3.0d 18-Dec-1	the second s	the second s	and the second sec							
	UU diversion on JnR Westbound Carriageway East Side	12.0d 22-Dec-1 24.0d 08-Jan-1		the second se	and the second se			· 🔐 · · · ·				
		and a second sec	and the second sec		and the second se			1				
	Traffic decking completed on Westbound Carriageway East Side for TTM Stage 2B	3.0d 05-Feb-1	07-Feb-15 07-Feb-15		07-Feb-15							
the second se	tbound carriageway West Side (TTM Stage 2B)	0.00	107-Feb-15		07-Feb-15				<b></b>			
		3.0d 09-Feb-1	5 11 Eab 15	00 Ech 16	11-Eab 15							
		12.0d 12-Feb-1										·····
	UU diversion on JnR Westbound Carriageway West Side	12.0d 12-Feb-1 18.0d 02-Mar-1		and the second se	and the second sec							
	UU diversion on JnR Westbound Carriageway Completed	0.0d	21-Mar-15		21-Mar-15							
		6.0d 23-Mar-1			C1-INIAI-12				•			
	Traffic decking completed on Westbound Carriageway West Side for TTM Stage 3	0.0d 23-iviar-1	28-Mar-15						6			
		0.00	20-IVIAr-15						0	· · · · · · · · · · · · · · · · · · ·		
	Implementation of TTM 4	2 04 00 14 10	44 6-145									
		3.0d 09-Jul-15										
	Expose UU	12.0d 13-Jul-15		-								
	UU diversion	9.0d 27-Jul-15										
	Phase 2 ELS- Sheet Piles Installation [15no. x 24m]	6.0d 27-Jul-15		the second se								
	Curtain Grouting and remedial works for sheet piles not reaching to design toe level	3.0d 03-Aug-1	and the second s									
	Installation of Temporary Traffic decking	6.0d 06-Aug-1	10 March 10									
	Sheet Piles & Traffic decking completed on South Footpath for TTM Stage 5	0.0d	12-Aug-15						₹			
			10 47 Mar 10									1 8 N
	Installation protection measurement for break through	3.0d 13-May-1										- John
	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-1										
	Breaking out to H15 - Installation of temporary steel proping	30.0d 24-May-1										
	Breaking out to H15 - Construct the portal frame	12.0d 15-Jul-16										
	Demolish the propping steel members	2.0d 29-Jul-16	30-Jul-16									
	A Works, ABWF Works for the New Subway		6 00 Mar 10									
	Preparation works for Fire Shutter on GL-L	6.0d 03-May-1										
	Installation of Fire Shutter on GL-L	3.0d 10-May-1									1	
	Preparation works for Security Shutter on GL-L	6.0d 03-May-1									5	
	Installation of Security Shutter on GL-L	3.0d 10-May-1										
	Preparation works for Flood Gate on GL-L	6.0d 03-May-1										
	Installation for Flood Gate on GL-L	3.0d 10-May-1										
	Completion of Flood Gate, Fire Shutter & Security Shutter on GL-L	0.0d	12-May-16								ð	
	Remaining ABWF, finishing & Site cleaning works	90.0d 28-Oct-16	6 16-Feb-17									
	Site Cleaning & dry the internal of Structure & building	72.0d 03-May-1			_							
	Installation of blockwalls & partition wall except on plant access route	72.0d 03-May-1										
	Apply Plastering, undercoat, painting, floor screeding including plinths and upstands	72.0d 03-May-1										
	Forming equipment delivery routes and access openings for DC or Interface Contractors	72.0d 03-May-1										
	Install Cast-in items, subframe; Form niches, recesses & box outs; Install cable troughs, ducts & risers	72.0d 03-May-1	terr -		2							
	Preparation, submission and approval of Structure as-built survey	72.0d 03-May-1	has the second s									
	Form Structural & blockwork E&M openings & preparation of survey	72.0d 03-May-1									7 7	
	Installation of movement joints & stitch strips	72.0d 03-May-1	and the second se									
	Form escalator zones & pits complete; survey reference lines for acceptance	72.0d 03-May-1										
	Installation of Earthing mat, earthing rods & earthing pits, test & acceptance	72.0d 03-May-1										
	Installation of underground pipe work including manholes, ductworks & drawpits	72.0d 03-May-1	6 28-Jul-16									
ABWF Works - Degree					Contraction of the							
	Permanent door frames installed with temporary doors & locks	42.0d 29-Jul-16	15-Sep-16									
	Installation of Floor finishes & wall tilling in plant rooms for Designated Contractors	36.0d; 12-Aug-1	6 23-Sep-16									
	Install Glazing & Balustrade support	12.0d 29-Jui-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	O Baseline Milestone     Contract C6593-13C Wan	Chai Station I as Tur	na Straat	Subway	V					La version		1
Primary Baseline			0	Subway	y					de		
	• • Willestone Preliminary	Master Program (Rei	v.C)									
Actual Work		_ ·					1.0		01	1 12		-
Remaining Work	Pro	ogress vs Program										
		0						and the second se				



iy ID	Activity Name	Original BL Project Duration Start	BL Project Finish	Actual Start	Actual Finish	Remark	2014		2015	2016
								SONDIF		DIFMA JIJASOND.
ABWF.D2_0050	Install External louvers	42.0d 29-Jul-16	15-Sep-16							
ABWF.D2_0060 ABWF.D2_0070	Install Framework for final finishes Water tightness testing to water tanks & acceptance	42.0d 29-Jul-16 42.0d 29-Jul-16	15-Sep-16							
ABWF Works - Degi		-12.00 29-JUI-10	10-0ep-10							
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				;			· · · · · · · · · · · · · · · · · · ·	
ABWF.D3_0012	Installation of Ceiling Panel [565 m^2]	33.0d 17-Sep-16								
ABWF.D3_0013	Installation of floor finishing [565 m <sup>2</sup> ]	27.0d 24-Sep-16	and the second							
ABWF.D3_0020	Install Balustrade	27.0d 24-Sep-16	the second se							
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								
ABWF.D3_0060	Install Louvres & grilles	30.0d 17-Sep-16								
ABWF.D3_0070	Seal All openings & Penetrations	30.0d 17-Sep-16	24-Oct-16							
C: Building Ser										
	wings, Materials & Equipments Submission and Approval		1.0.5		10.0					
BS.DS_0010	BS Works- Preparation and submission for detailed design of BS works			14-Apr-14			TE E			
BS.DS_0020	BS Works- Review and approval for detailed design of BS works	12.0d 19-Sep-14			and the second s					
BS.DS_0030	BS Works- Preparation and re-submission for detailed design of BS works (If require)	12.0d 06-Oct-14		and the second se			1 E I			
BS.DS_0040	BS Works- Review and approval for detailed design of BS works (If require)	12.0d 20-Oct-14	and the second s	20-Oct-14	and the second s		J.L.J.L	· · · · · · · · · · ·		
BS.DS_0050	BS Works- Contractor prepare & submit the propose suppliers & model types of major BS equipment & materials	128.0d 14-Apr-14 12.0d 19-Sep-14		14-Apr-14						
BS.DS_0060 BS.DS_0070	BS Works- Review & approval the propose suppliers & model types of major BS equipment & materials BS Works- Contractor prepare & re-submit propose suppliers & model types of major BS equipment & materials (If requie)		a first state of the local state	19-Sep-14 06-Oct-14						
BS.DS_0070	BS Works- Contractor prepare & re-submit propose suppliers & model types of major BS equipment & materials (if requie) BS Works- Review the propose suppliers & model types of major BS equipment & materials (if requie)	the second se		20-Oct-14						
BS.DS_0090	BS Works- Preparation and submission of BS shop drawings	32.0d 03-Nov-14								
BS.DS_0090	BS Works- Review and approval of BS shop drawings	12.0d 10-Dec-14	1	and the second sec						
BS.DS_0110	BS Works- Preparation and re-submission of BS shop drawings (If require)	12.0d 24-Dec-14								
BS.DS_0120	BS Works- Review and approval of BS shop drawings (If require)	12.0d 10-Jan-15	and the second	and the second se	the second se					
BS.DS_0130	Exchange of Design Information with Designated and Interfacing Contractors	100.0d 24-Jan-15			1 1 1 1 1 1 1					
	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								
BS.PD_0030	Others Major building service equipments & materials - Manufacture & fabrication	90.0d 04-May-15								
BS.PD_0040	Others Major building service equipments & materials - Factory acceptance testing	24.0d 20-Aug-15								
BS.PD_0050	Others Major building service equipments & materials - Remedial works (If require)	36.0d ' 17-Sep-15								
BS.PD_0060	Others Major building service equipments & materials - Factory acceptance (If require)	24.0d 02-Nov-15	and the second s							
BS.PD_0070	Others Major building service equipments & materials - Delivery to site/ ECS Room	90.0d 30-Nov-15		00.1	05.1					
BS.PD_0080	Air Handling Unit - Place Order	95.0d 03-Jan-15	a second s	03-Jan-15	05-Jan-15					
BS.PD_0090	Air Handling Unit - Manufacture & fabrication	90.0d 04-May-15								
BS.PD_0100	Air Handling Unit - Factory acceptance testing	24.0d 20-Aug-15								
BS.PD_0110	Air Handling Unit - Remedial works (If require)	36.0d 17-Sep-15								
BS.PD_0120 BS.PD_0130	Air Handling Unit - Factory acceptance testing (If require) Air Handling Unit - Delivery to site/ ECS Room	24.0d 02-Nov-15 90.0d 30-Nov-15								
BS.PD_0130	In-line Centrifugal Fan - Place Order	95.0d 03-Jan-15		03- Jan 15	05- lan 15					
BS.PD_0140	In-line Centrifugal Fan - Manufacture & fabrication	90.0d 04-May-15	and the second se	00-0411-10	00-Jan-10					
BS.PD_0160	In-line Centrifugal Fan - Factory acceptance testing	24.0d 20-Aug-15	the same an annual state of the same	1						******
BS.PD_0170	In-line Centrifugal Fan - Remedial works (If require)	36.0d 17-Sep-15								
BS.PD_0180	In-line Centrifugal Fan - Factory acceptance testing (If require)	24.0d 02-Nov-15								
BS.PD_0190	In-line Centrifugal Fan - Delivery to Site/ ECS Room	90.0d 30-Nov-15			1					
BS.PD_0200	Smoke Extraction Fan - Place Order	95.0d 03-Jan-15		03-Jan-15	05-Jan-15			)		
BS.PD_0210	Smoke Extraction Fan - Manufacture & fabrication	90.0d 04-May-15								
BS.PD_0220	Smoke Extraction Fan - Factory acceptance testing	24.0d 20-Aug-15								
BS.PD_0230	Smoke Extraction Fan - Remedial works (If require)	36.0d 17-Sep-15								
BS.PD_0240	Smoke Extraction Fan - Factory acceptance testing (If require)	24.0d 02-Nov-15								
BS.PD_0250	Smoke Extraction Fan - Delivery to site/ ECS Room	90.0d 30-Nov-15	Contraction of the local distance of the loc							
BS.PD_0260	Fan Coil Unit - Place order	95.0d 03-Jan-15		03-Jan-15	05-Jan-15			1		
BS.PD_0270	Fan Coil Unit - Manufacture & fabrication	90.0d 04-May-15								
BS.PD_0280	Fan Coil Unit - Factory acceptance testing	24.0d 20-Aug-15								
BS.PD_0290	Fan Coil Unit - Remedial works (If require)	36.0d 17-Sep-15								
BS.PD_0300	Fan Coil Unit - Factory acceptance testing (If require)	24.0d 02-Nov-15							· · · · · · · · · · · · · · · · · · ·	
BS.PD_0310	Fan Coil Unit - Delivery to site/ ECS Room	90.0d 30-Nov-15	19-Mar-16							

Remaining Work Critical Remaining Work Progress vs Program

09-Jun-1	5 14:52





	Original BL Proje			Actual Rema						
	Duration Start	Finish		Finish	2014	SONDJF			2016 A JJASON	╦╡╴
	95.0d 03-Jan-1	1 02-May-16	5 03-Jan-15	05-Jan-15			HA MANAS			л <del>Ц</del> ,
	90.0d 04-May-1			Surt IV						
	24.0d 20-Aug-1	A REAL PROPERTY.	**	1						1
	36.0d 17-Sep-1		10 14				6 6 <b> </b>			
	24.0d 02-Nov-1						i i febb			
	90.0d 30-Nov-1	and the second se								
	0.0d	02-May-15	the second se							
æ testing	0.0d	28-Nov-15					•	•		
n	0.0d	19-Mar-16						<b>Q</b>		
	0.001	To-Widt-R		· · · · · · · · · · · · · · · · · · ·					•	++-
station	17.0d 03-May-1	5 23-May-16	1	T						11
fitting 81nr, earthing tape 276m	49.0d 21-Mar-1									į E
; earth 170m, sign 42nr, connection(1)	50.0d 21-Mar-10				K RADA					11
, earth 170m, sign 42nr, connection(1) , earth 170m, sign 42nr, connection(2)	60.0d 23-Jul-16									<b>1</b>
	30.0d 23-Jui-16					71	***			TT-
damper 36nr, control 4nr, etc. (1st)	42.0d 24-May-1									11
damper 36nr, control 4nr, etc. (1st) damper 36nr, control 4nr, etc. (2nd)	42.0d 29-Jun-16 24.0d 18-Aug-1									1
	24.0d 18-Aug-1 21.0d 01-Aug-1									11
tinguisher 4 nr, connection, etc.	21.0d 01-Aug-1 21.0d 25-Aug-1					10.04				11
tinguisher 4 nr, connection, etc. / control panel, 1 power supply system	21.0d 25-Aug-1 18.0d 24-May-1	and a second sec								14.
Parior, Power auppry system	18.0d 24-May-1 18.0d 15-Jun-16							48		11
nanholes	18.0d 15-Jun-16 18.0d 07-Jul-16		-					10		11
nanholes 2 stopcock, 2 water meter	18.0d 07-Jul-16 54.0d 24-May-1	and the second se		+						11
- 010p0001, 2 Walt 1110(0)								9		
	48.0d 28-Jul-16									
	110.0d 24-May-1	and the second sec								
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	110.0d 24-May-1			· · · · · · · · · · · · · · · · · · ·		WI II				
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	110.0d 24-May-1			t					in production of the second	
	110.0d 24-May-1									-
	21.0d 04-Oct-16			L						11
10-Oct'16)	0.0d	03-Oct-16	1							8
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ol, Noise & Sound, etc.	24.0d 04-Oct-16	and the second se								
	24.0d 04-Oct-16									
	24.0d 04-Oct-16			·						
	24.0d 23-Sep-16									-
	24.0d 04-Oct-16	and the second sec			- 11				III Î I	-
	11.0d 02-Nov-16	5 14-Nov-16								
	6.0d; 01-Aug-16									
	24.0d 08-Aug-16	6 03-Sep-16								
	24.0d 24-Oct-16	5 19-Nov-16								
	12.0d 15-Nov-16	the second se	the second se			1.				
	1.0d 29-Nov-16	a desired of the second s								
	12.0d 30-Nov-16	n=								
	12.0d 15-Dec-16	and the second sec								
	1.0d 31-Dec-16			(						
	6.0d 03-Jan-17									
	1.0d 10-Jan-17									
	24.0d 11-Jan-17	and any second		(						
	1.0d 11-Feb-17	A COLUMN A DOWN AND A DOWNA AND A DOWN		· · · · · · · · · · · · · · · · · · ·						: : :
	6.0d 13-Feb-17	the second se								
	6.0d 20-Feb-17	and the second s								
he BS of new Subway- Programmed	0.0d	25-Feb-17 25-Feb-17								·
in Do a non oasway- nogrammed	0.00	20-1-00-17		the second second						
		04.5	-		-				i i i 🔛 🔛	8 I I
	60.0d 12-Oct-15	Act Television I was			-				§	
	21.0d 29-Jan-16	and the second se							<b>a</b>	<b>.</b>
	24.0d:01-Aug-16	o 27-Aug-16							(日日) (書))	8 f 🗄
			Section 2.	Contraction of the last			221111			
		~						_		
act C6593-13C Wan Chai S	Station Lee Tun	g Street	Subwav			100.000				-
		0	J			500	r			*
•2			act C6593-13C Wan Chai Station Lee Tung Street <i>Preliminary Master Program (Rev.C)</i>	act C6593-13C Wan Chai Station Lee Tung Street Subway Preliminary Master Program (Rev.C)			act C6593-13C Wan Chai Station Lee Tung Street Subway Preliminary Master Program (Rev.C)	Act C6593-13C Wan Chai Station Lee Tung Street Subway Preliminary Master Program (Rev.C)	Act C6593-13C Wan Chai Station Lee Tung Street Subway Preliminary Master Program (Rev.C)	

Progress vs Program

Remaining Work

Critical Remaining Work



593-13C LTS PMP Re				Actual		Demonster	·	09-Jun-15_1-			
vity ID	Activity Name	Original BL Proj Duration Start	ect BL Project Finish	Actual Start	Actual Finish	Remark	2014	2015		2016	2
				Start	1 111311						
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							8	
WMW.AFC_0010	Preparation works for works in WAC station	10.0d 13-Jan-	5 23-Jan-15	01-Nov-14			1		_ 1		
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)		15 25-Apr-15	and a second							
Existing AFC Aduit	Room, Maxim's & Circle K Kiosks						۱				
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)		15 24-Jun-15								
WMW.K_0030	Modification Works to existing AFC/Audit, Store & Kiosk 3 & 5 (NTH)	90.0d 25-Jun-	5 10-Oct-15								
WMW.K_0040	Modification to existing Kiosk 2 (NTH)	90.0d 12-Oct-	5 28-Jan-16			_					
ABWF Works & Mis											
WMW.ABWF_0010	ABWF - Plaster & titling 29 m2, baffling ceiling 10 m2, metal cladding 9 m2	70.0d 29-Jan-	6 27-Apr-16								
Breaking Out WAC											
WMW.BO_0010	Installation protection measurement for break through		16 04-May-16			_				E	
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-									
WMW.BO_0030	Breaking out WAC Station - Installation of temporary steel proping	30.0d 11-May-									
WMW.BO_0040	Breaking out WAC Station - Construct the portal frame	12.0d 11-Jul-1	5 23-Jul-16								
WMW.BO_0050	Demolish the propping steel members	6.0d 25-Jul-1	5 30-Jul-16								
Testing and Commi											
WMW.C_0010	Testing and Commissioning	30.0d 26-Feb-									
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								8
E. WAC Station	Imporvement Works (Part C Works)										
Improvement Work											
WIW_0010	Modify, provide & install new glass barrier to suit new AFC gates (NTH)	34.0d 12-Oct-1	5 20-Nov-15								
WIW_0020	Provide and install additional AFC gates (NTH)	34.0d 21-Nov-	2								
WIW_0030	Provide builder works for TIMS relocation (NTH)	40.0d 29-Aug-									
WIW_0040	T&C by Designated Contractor for TIMS (NTH)	40.0d 18-Oct-1	and the second se								
WIW_0050	Make Good builder works for TIMS (NTH)	53.0d 03-Dec-				-					
WIW_Comp	E3- All works in milestone E completed - Programmed	0.0d	09-Feb-17								

	Actual Level of Effort	٥.	Baseline Milestone
6	Primary Baseline	•	<ul> <li>Milestone</li> </ul>
	Actual Work		
-	Remaining Work		
	Critical Remaining Work		

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

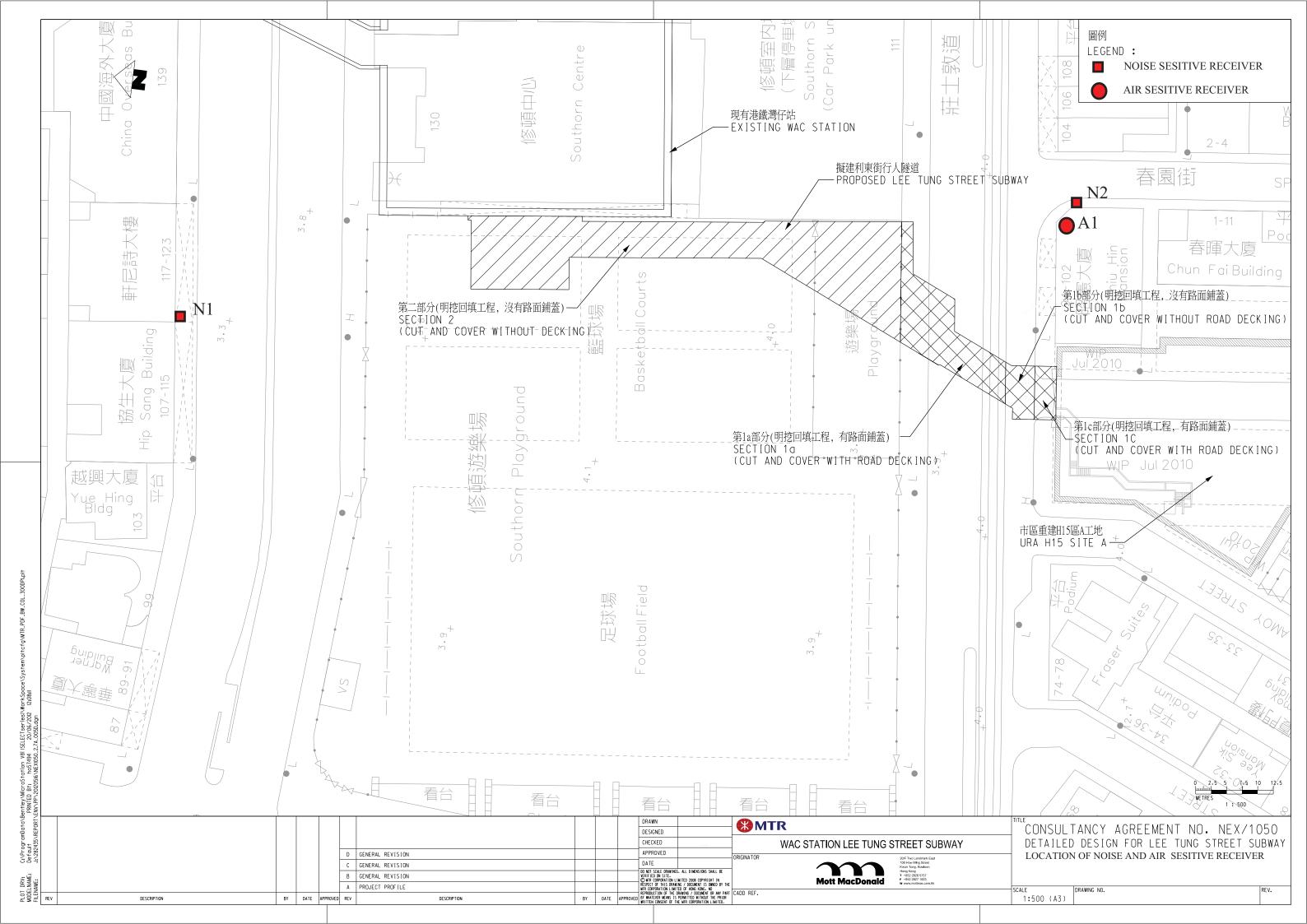
Progress vs Program





# Appendix C

# **Monitoring Locations**





# **Appendix D**

Calibration Certificate of Monitoring Equipment

### TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location	Chiu Hi	in Mansio	on				Date of C	alibrat	ion: 9-A	pr-15			
Location 2	ID :	A1				Ν	Next Calibra						
								echnic	ian: Mr.	Ben Tan	n		
					C	ONDIT	TIONS						
	G	T 1 T		(1D)	1	017.0	1	a	. 1 7		/ 11		0.05
	Se	a Level I		. ,	I	017.8		Co	orrected I		-	g) 76.	3.35
		Temp	erature	(°C)		18.0	]		Tem	perature	(K)		291
				CA	LIBF	RATIO	N ORIFICE						
				Make->	TISC	CH			Qstd S	Slope ->		2.1026	5
				Model->	5025	бA		(	Qstd Inte	rcept ->		-0.003	35
				Serial # ->	1941								
					CA	LIBR	ATION						
Plate	H20 (L)	H2O (R)	H20	Qstd		Ι	IC			LINE	AR		
No. (in) (in) (in) (m3/min) (				(ch	nart)	corrected		F	REGRES	SION	ÍON		
18	6.2	6.2	12.4	1.700	5	51	52.34			Slope =	28.211	7	
13	4.7	4.7	9.4	1.480	4	16	47.21		Inte	ercept =	4.874	9	
10	3.5	3.5	7	1.278	Δ	40	41.05		Corr.	coeff. =	0.9992	2	
7	2.6	2.6	5.2	1.101		35	35.92						
5	1.3	1.3	2.6	0.779	2	26	26.68						
Calculatio	ons :							FI	.OW RAT	E CHAR	? <b>Т</b>		
Qstd = 1/1		20(Pa/Ps	td)(Tstd	/Ta))-b]		60.0	00						ר
IC = I[Squ				(1 <i>u</i> )) 0]									
						50.0	00					▶	
Qstd = sta	ndard flo	ow rate									•		
IC = correction	ected char	rt respon	es										
I = actual	chart res	ponse				<b>වු</b> 40.0	00				,		
m = calibr	rator Qsto	d slope				onse				/			
b = calibr	ator Qstd	intercep	t			30.0	00		/				
Ta = actua	al temper	ature dur	ing calil	oration ( deg	g K	arta							
Pstd = act	ual press	ure durin	g calibra	ation ( mm I	Ig	al ch							
						<b>Actual chart response (IC)</b> 30.00 20.00	00						
	-			npler flow:									
1/m(( I )[S	Sqrt(298/	Tav)(Pav	//60)] <b>-</b> t	))		10.0	00						
	1 1					10.0							
m = samp		ant											
b = samp		ері				0.0		0.500		000	4 500		
I = chart r Tav = dai	-	a tamaar	oturo				0.000	0.500 Star	1. ndard Flow	000 Rate (m3/	1.500 (min)	2.	.000
Pav = dai		-						Sidi		1.010 (1113/	,		
1 av – Ual.	iy avolag	e pressui	C										

### TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location	: Chiu Hi	in Mansio	on				Date of C	Calibra	ation: 9-Ju	n-15			
Location	ID:	A1				l	Next Calibra	ation I	Date: 9-Au	1g-15			
							Т	'echni	cian: Mr.	Ben Tan	ı		
					C	ONDI	TIONS						
				F			1						
	Se	a Level I	Pressure	(hPa)		1007.2		C	Corrected F	ressure	(mm Hg	) 75	5.4
		Temp	erature	(°C)		29.9	]		Temp	berature	(K)		303
				CA	LIB	RATIO	N ORIFICE						
				Make->	TIS	CH	]		Ostd S	lope ->		2.10265	5
				Model->					Qstd Inter			-0.0033	
				Serial # ->			]		2	1			
					С	ALIBR	ATION						
Plate	H20 (I )	$H_{2} \cap (\mathbb{R})$	H20	Qstd		Ι	IC			LINEA	P		
				(c	hart)	corrected		R	EGRES				
18	6.1	6.1	12.2	1.644	`	50	49.04			Slope =		1	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					45	44.14			ercept =				
10	3.5	3.5	7	1.246		39	38.25			coeff. =			
7	2.5	2.5	5	1.053		35	34.33		00111		0.7700		
5	1.2	1.2	2.4	0.730		25	24.52						
					Γ		<u> </u>						
Calculatio			1) (77) 1			60.0	00	F	LOW RAT	E CHAR	Т		1
Qstd = 1/t				/Ta))-b]									
IC = I[Sq]	rt(Pa/Pstc	1)(Tstd/T	a)]										
Oatal ata	and and fla					50.0	00					•	
Qstd = sta IC = corre			20								*		
I = actual		-	5			<u>ට</u> 40.0	00						
m = calibatic		-				se (							
b = calibr	-	-	t			uods				<b>*</b>			
	-	-		oration ( deg	γ K	ຍັ 30.0 ະ	00						
	_		_	ation ( mm I		cha			4				
	1		2	X		Actual chart response (IC) 30.05 50.07 50.07	00						
For subs	equent ca	alculatio	n of san	pler flow:		Ă							
1/m((I)[	Sqrt(298/	Tav)(Pav	r/760)]-t	))									
						10.0	00						
m = samp	ler slope												
b = samp	ler interc	ept				0.0	00						
I = chart i	-					0.0	0.000	0.500	) 1.	000	1.500	2.0	000
Tav = dai	ly averag	e temper	ature					Sta	andard Flow	Rate (m3/	min)		
Pav = dai	ly averag	e pressur	e		L								



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

perator	Tisch	Orifice I.	D	1941	Pa (mm) -	- 756.92
					METER	ORFICE
PLATE	VOLUME	VOLUME	DIFF	DIFF	DIFF	DIFF
OR	START	STOP	VOLUME	TIME	Hg	H2O
Run #	(m3)	(m3)	(m3)	(min)	(mm)	(in.)
1	NA	NA	1.00	1.4880	3.2	2.0
2	NA	NA	1.00	1.0510	6.4	4.0
3	NA	NA	1.00	0.9360	7.9	5.0
4	NA	NA	1.00	0.8920	8.8	5.5
5	NA	NA	1.00	0.7360	12.7	8.0

### DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
1.0121 1.0078 1.0057 1.0046 0.9993	0.6802 0.9589 1.0745 1.1262 1.3578	1.4258 2.0163 2.2543 2.3644 2.8515	0.9958 0.9916 0.9895 0.9884 0.9832	0.6692 0.9434 1.0571 1.1080 1.3358	0.8784 1.2422 1.3888 1.4566 1.7568
Qstd slo intercep coeffici y axis =	ot (b) = lent (r) =	2.10265 -0.00335 0.99999 Pa/760)(298/Ta)]	Qa slop intercep coeffici y axis =	t (b) =	1.31664 -0.00206 0.99999 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 =  $1/m\{ [SQRT H2O(Ta/Pa)] - b \}$ 



Certificate No.: C151969 證書編號

grating Sound Level Meter (EQ006)
el & Kjær
3
5762
on-United Environmental Services and Consulting
A, 20/F., Gold King Industrial Building,
1 Tai Lin Pai Road, Kwai Chung, N.T.
0

### TEST CONDITIONS / 測試條件

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

### 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

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Sun Creation Engineering Limited – Calibration & Testing Laboratory e'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 e'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 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

	UUTS	Setting	Applied	UUT		
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
50 - 130	LAFP	A	F	94.00	1	94.3

### 6.1.1.2 After Self-calibration

	UUT	Setting	Setting		d Value	UUT	IEC 60651	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Type 1 Spec. (dB)	
50 - 130	LAFP	А	F	94.00	1	94.1	$\pm 0.7$	

#### 6.1.2 Linearity

	UU	Г Setting		Applied	UUT	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
50 - 130	LAFP	A	F	94.00	1	94.1 (Ref.)
	0.141			104.00		104.0
				114.00		114.0

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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背山灣機樓四樓 Tel/電話: 2927 2606 Fax/傳算: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

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



Certificate No. : C151969 證書編號

#### 6.2 Time Weighting

#### 6.2.1 Continuous Signal

	UUT Setting			Applied Value		UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Type 1 Spec. (dB)
50 - 130	LAFP	А	F	94.00	1	94.1	Ref.
	L <sub>ASP</sub>		S			94.1	$\pm 0.1$
	LAIP		I			94.1	± 0.1

#### 6.2.2 Tone Burst Signal (2 kHz)

UUT Setting			Applied Value		UUT	IEC 60651	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration	Reading (dB)	Type 1 Spec. (dB)
30 - 110	LAFP	А	F	106.0	Continuous	106.0	Ref.
	L <sub>AFMax</sub>				200 ms	104.9	$-1.0 \pm 1.0$
	L <sub>ASP</sub>		S		Continuous	106.0	Ref.
	L <sub>ASMax</sub>				500 ms	101.9	$-4.1 \pm 1.0$

#### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

UUT Setting				Appli	Applied Value		IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Type 1 Spec. (dB)
50 - 130	LAFP	А	F	94.00	31.5 Hz	55.1	$-39.4 \pm 1.5$
					63 Hz	68.0	$-26.2 \pm 1.5$
					125 Hz	77.9	$-16.1 \pm 1.0$
					250 Hz	85.4	$-8.6 \pm 1.0$
					500 Hz	90.8	$-3.2 \pm 1.0$
					1 kHz	94.1	Ref.
					2 kHz	95.3	$+1.2 \pm 1.0$
					4 kHz	95.1	$+1.0 \pm 1.0$
					8 kHz	93.0	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory. 本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。



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### 6.3.2 C-Weighting

UUT Setting			Appli	Applied Value		IEC 60651	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Type 1 Spec. (dB)
50 - 130	L <sub>CFP</sub>	С	F	94.00	31.5 Hz	91.4	$-3.0 \pm 1.5$
					63 Hz	93.4	$-0.8 \pm 1.5$
				125 Hz	93.9	$-0.2 \pm 1.0$	
				250 Hz 94.1 500 Hz 94.1	250 Hz	94.1	$0.0 \pm 1.0$
					$0.0 \pm 1.0$		
					1 kHz	94.1	Ref.
					2 kHz	93.9	$-0.2 \pm 1.0$
					4 kHz	93.3	$-0.8 \pm 1.0$
					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	IEC 60804		
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
30 - 110	LAcq	А	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
- 11/						1/10 <sup>2</sup>	]	90	90.1	± 0,5
			60 sec.			1/103		80	79.4	± 1.0
			5 min.			1/104		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	
	250 Hz - 500 Hz 1 kHz	$\pm 0.30 \text{ dB}$ $\pm 0.20 \text{ dB}$
	2 kHz - 4 kHz	$\pm 0.25 \text{ dB}$ $\pm 0.35 \text{ dB}$
	8 kHz	= 0.45  dB
	12.5 kHz	$:\pm 0.70 \text{ dB}$
	104 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (Ref. 94 dB)
	114 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (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.

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。



Certificate No. : C151967 證書編號

ITEM TESTED / 送檢环	頁目	(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 a	and Consulting
		Unit A, 20/F., Gold King Industrial Buil	ding,
		35-41 Tai Lin Pai Road, Kwai Chung, N	I.T.

### TEST CONDITIONS / 測試條件

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

### 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 CLee Project Engineer			
Certified By 核證	:	K M Wu Engineer	Date of Issue 簽發日期	:	14 April 2015

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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 No. : C151967 證書編號

- 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 CL130 CL281 TST150A

Description Universal Counter Multifunction Acoustic Calibrator Measuring Amplifier <u>Certificate No.</u> C143868 DC130171 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	Measured Value	Mfr's	Uncertainty of Measured Value
Value (kHz)	(kHz)	Spec.	(Hz)
1	1.002	1 kHz ± 1.5 %	$\pm 1$

#### 5.2.2 After Adjustment

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

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

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Certificate 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.

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。



# 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 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, of testing and calibration laboratories and it has been accredited for performing specific tests or calibrations as 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 listed in the HOKLAS Directory of Accredited Laboratories within the test category of 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 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 quality management system (see joint IAF-ILAC-ISO Communiqué). (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 : HCKLAS 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

# ∟ 000552



# Appendix F

## **Event and Action Plan**



### **Event and Action Plan for Construction Noise**

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



### **Event and Action Plan for Air Quality**

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



# Appendix G

## **Monitoring Schedule**



	DATE	AIR QUALITY	NOISE
		24-HOUR TSP	L <sub>eq</sub> 30min
Mon	1-JUNE-15		
TUE	2-JUNE-15		$\checkmark$
WED	3-JUNE-15		
THU	4-JUNE-15	✓	
Fri	5-JUNE-15		
SAT	6-JUNE-15		
SUN	7-JUNE-15		
Mon	8-JUNE-15		
TUE	9-JUNE-15		$\checkmark$
WED	10-JUNE-15	✓	
THU	11-JUNE-15		
Fri	12-JUNE-15		
SAT	13-JUNE-15		
SUN	14-JUNE-15		
Mon	15-JUNE-15		
TUE	16-JUNE-15	$\checkmark$	
WED	17-JUNE-15		
THU	18-JUNE-15		$\checkmark$
Fri	19-JUNE-15		
SAT	20-JUNE-15		
SUN	21-JUNE-15		
Mon	22-JUNE-15	$\checkmark$	
TUE	23-JUNE-15		$\checkmark$
WED	24-JUNE-15		
THU	25-JUNE-15		
Fri	26-JUNE-15		
SAT	27-JUNE-15	✓	
SUN	28-JUNE-15		
Mon	29-JUNE-15		
TUE	30-JUNE-15		

### **Monitoring Schedule in the Reporting Period – June 2015**

✓	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 – July 2015

	DATE	AIR QUALITY	NOISE
		24-HOUR TSP	L <sub>eo</sub> 30min
WED	1-JULY-15		
THU	2-JULY-15		✓
Fri	3-JULY-15	✓	
SAT	4-JULY-15		
SUN	5-JULY-15		
Mon	6-JULY-15		
TUE	7-JULY-15		$\checkmark$
WED	8-JULY-15		
THU	9-JULY-15	$\checkmark$	
Fri	10-JULY-15		
SAT	11-JULY-15		
SUN	12-JULY-15		
Mon	13-JULY-15		
TUE	14-JULY-15		$\checkmark$
WED	15-JULY-15	$\checkmark$	
THU	16-JULY-15		
Fri	17-JULY-15		
SAT	18-JULY-15		
SUN	19-JULY-15		
Mon	20-JULY-15		
TUE	21-JULY-15	$\checkmark$	$\checkmark$
WED	22-JULY-15		
THU	23-JULY-15		
Fri	24-JULY-15		
SAT	25-JULY-15		
SUN	26-JULY-15		
Mon	27-JULY-15	$\checkmark$	
TUE	28-JULY-15		$\checkmark$
WED	29-JULY-15		
THU	30-JULY-15		
Fri	31-JULY-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: A	Location: A1 (balcony at 1/F of Chiu Hin Mansion)														
	Sample Number	Elapsed Time			Ch	Chart Reading		Ave.			Standard		Weight g)	Weight Dust	Dust 24-hour
Date		Initial	Final	Actual (min)	Min	Max	Ave	Тетр. (℃)	Ave. Press. (hPa)	Flow Rate (m <sup>3</sup> /min)	Air Volume (std m <sup>3</sup> )	Initial	Final	Collected (g)	TSP in Air (μg/m <sup>3</sup> )
4-Jun-15	28056	16367.33	16391.57	1454.40	40	41	40.5	27.3	1006.9	1.25	1822	2.8181	2.8791	0.0610	33
10-Jun-15	28075	16391.57	16415.71	1448.40	40	41	40.5	27.3	1006.8	1.30	1889	2.8776	2.9633	0.0857	45
16-Jun-15	28093	16415.71	16439.88	1450.20	40	41	40.5	28	1005.8	1.30	1888	2.8853	2.9560	0.0707	37
22-Jun-15	28094	16469.91	16494.10	1451.40	38	40	39.0	28.6	1005.1	1.24	1806	2.8746	2.9399	0.0653	36
27-Jun-15	28122	16494.10	16518.26	1449.60	40	41	40.5	28.5	1005.7	1.30	1885	2.8946	2.9822	0.0876	46

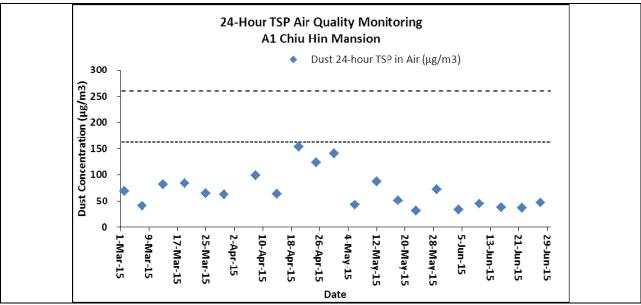


Appendix I

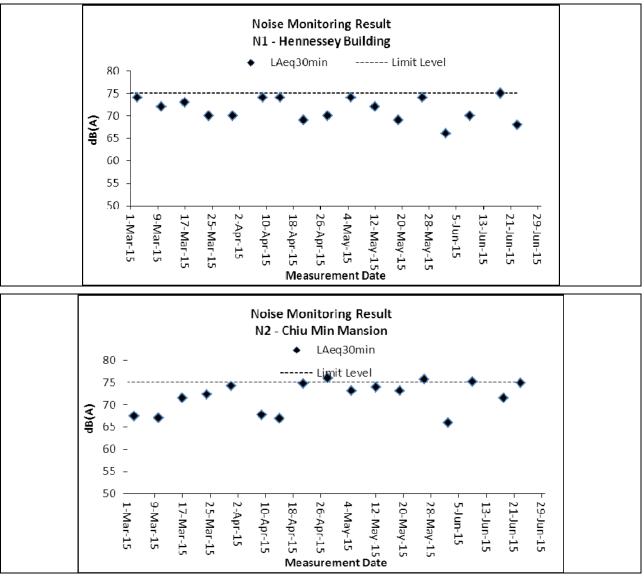
**Graphical Plots** 



### Air Quality



### **Construction Noise**





# Appendix J

# **Meteorological Information**

		Meteorological Data downloaded from HK		Kings Park Station				
Date	e	Weather	Total Rainfall (mm)	Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction	
1-Jun-15	Mon	Hot with sunny periods. Isolated showers in the morning. Moderate southerly winds.	10.6	29.7	8.2	80	SW	
2-Jun-15	Tue	Hot with sunny periods. Isolated showers in the morning. Moderate southerly winds.	5.4	29.3	8	74.7	S/SW	
3-Jun-15	Wed	Mainly fine and very hot. Moderate south to southwesterly winds.	Trace	29.7	8.5	75.5	W/NW	
4-Jun-15	Thu	It will be fine. Very hot in the afternoon. Moderate south to southwesterly winds.	10.6	29.8	7.6	76	W/NW	
5-Jun-15	Fri	Mainly cloudy with a few showers. There will be isolated thunderstorms overnight. Moderate southwesterly winds.	5.4	29.5	7.6	80	W/NW	
6-Jun-15	Sat	Mainly fine and hot apart from isolated showers. Moderate southwesterly winds.	Trace	29.9	8.4	76	W/NW	
7-Jun-15	Sun	Mainly fine and hot apart from isolated showers. Moderate southwesterly winds.	0	29.8	8.2	83.7	S/SW	
8-Jun-15	Mon	Mainly fine and hot apart from isolated showers. Moderate southwesterly winds.	0	29.9	9	75	SW	
9-Jun-15	Tue	Hot with sunny periods and isolated showers. Moderate southwesterly winds.	0.8	29.9	9	76.5	W/NW	
10-Jun-15	Wed	Hot with sunny periods and isolated showers. Moderate southwesterly winds.	Trace	29.3	9	77.2	W/NW	
11-Jun-15	Thu	Hot with sunny intervals and isolated showers. Moderate southwesterly winds.	1.6	29.6	8.4	78.7	W/SW	
12-Jun-15	Fri	Hot with sunny intervals and a few showers. Moderate southwesterly winds.	96.8	28.3	12.8	84	W/NW	
13-Jun-15	Sat	Mainly fine and hot apart from isolated showers. Moderate southerly winds.	0.4	30	7.2	76	SW	
14-Jun-15	Sun	Mainly fine and hot apart from isolated showers. Moderate southerly winds.	1.5	29.7	8	76.7	S/SW	
15-Jun-15	Mon	Mainly fine and hot apart from isolated showers. Moderate southerly winds.	5.2	29.8	6.9	75.7	S/SW	
16-Jun-15	Tue	Mainly fine and very hot. Light to moderate southerly winds.	0	30	6.5	74	W/NW	
17-Jun-15	Wed	Mainly fine. Very hot in the afternoon. Moderate south to southwesterly winds.	0	30.1	8.2	76	W/NW	
18-Jun-15	Thu	Mainly fine. Very hot in the afternoon. Moderate south to southwesterly winds.	0	30.5	10.2	71	W/NW	
19-Jun-15	Fri	Mainly fine. Very hot in the afternoon. Moderate south to southwesterly winds.	Trace	30.6	8.4	71.5	W/NW	
20-Jun-15	Sat	Mainly cloudy with a few showers. Isolated squally thunderstorms .Moderate southerly winds, occasionally fresh offshore.	0	31.1	7.2	71	E/SE	
21-Jun-15	Sun	Mainly cloudy with a few showers. Isolated squally thunderstorms .Moderate southerly winds, occasionally fresh offshore.	39.9	28.7	11.2	86.2	E/SE	
22-Jun-15	Mon	Mainly cloudy with a few showers. Isolated squally thunderstorms .Moderate southerly winds, occasionally fresh offshore.	18.1	28.1	9.2	88.7	E/SE	
23-Jun-15	Tue	Mainly cloudy with a few showers. Isolated squally thunderstorms .Moderate southerly winds, occasionally fresh offshore.	51.3	27.1	8.5	90	E/SE	
24-Jun-15	Wed	Mainly cloudy with a few showers. Isolated squally thunderstorms .Moderate southerly winds, occasionally fresh offshore.	9.7	27.9	8.9	87.5	S/SW	
25-Jun-15	Thu	Mainly cloudy with scattered showers. Isolated squally thunderstorms at first. Moderate southerly winds.	28.5	27.8	8.9	87.5	S/SW	
26-Jun-15	Fri	Mainly fine. Very hot in the afternoon. Moderate southerly winds.	10.4	29.1	7.2	81	W/SW	
27-Jun-15	Sat	Mainly fine. Very hot in the afternoon. Moderate southerly winds.	0	30.5	8.5	75.5	S/SW	
28-Jun-15	Sun	Mainly fine. Very hot in the afternoon. Moderate southerly winds.	1.9	29.9	8.5	76.7	W/NW	
29-Jun-15	Mon	Mainly fine. Very hot in the afternoon. Moderate southerly winds.	Trace	30.4	8	73.5	W/NW	
30-Jun-15	Tue	Mainly fine. Very hot in the afternoon. Moderate southerly winds.	Trace	30.5	7.7	76.5	W/NW	



# 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 Emp	oloyer: MTR Co	prporation Limi	ted								Contract No .:	C65931-13C			
			1	Actual Quantitie	s of Inert C&D	Materials Ge	nerated Month	ly			Actual Quantities of Non-Inert C&D Wastes Generated Monthly				
Month	Total Quantity	Broken Concrete	Building Debris	Mixed Rock & Soil	Bentonite	Rubbish	Slurry	Rock	Soil	Reused in this Project	Metals	Paper/ cardboard	Plastics	Chemical Waste	Others, e.g. general
	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m3/ Litre)	(in m <sup>3</sup> )									
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
Мау	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	4.87206	0.20859	0	0	0	0	0	0	4.66337	0	0	0	0	0	0.07693



## 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 IM	РАСТ					
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	<ul> <li><u>Use of noise enclosure and movable barrier</u></li> <li>movable barrier can achieve a 5 dB(A) reduction for movable PME and 10 dB(A) reduction for stationary PME;</li> <li>noise enclosure can achieve 15dB(A) reduction for PME;</li> </ul>	To minimize construction noise emissions	Contractor	Work site	Construction Stage	ProPECC PN2/93, Noise Control Ordinance and EIAO Guidance Note NO. 9/2010
	<ul> <li>noise enclosure can denote rocab(r) reduction for trink,</li> <li>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;</li> </ul>					
	• 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 <sup>2</sup> shall be required to achieve the maximum screening effect (and minimum 10kg/m <sup>2</sup> 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.					
S.5.1.1	General Construction Noise Control Measures	To minimize	Contractor	Work site	Construction	ProPECC PN2/93
	• 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;	construction noise emissions			Stage	and Noise Control Ordinance
	• 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;					

# Contract No. MTRC6593-13C – Wan Chai Station Lee Tung Street Subway 10<sup>th</sup> Environmental Monitoring and Audit Monthly Report – June 2015

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 QUA	LITY IMPACT	1				
S.5.1.2	Construction Dust Control Measures	To minimize the dust	Contractor	Work site	Construction	Air Pollution
	• Regular watering to reduce dust emissions from all exposed site surface, particularly during dry weather;	impacts arising from the construction works			Stage	Control (Construction Dust) Regulation
	• 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					

# Contract No. MTRC6593-13C – Wan Chai Station Lee Tung Street Subway 10<sup>th</sup> Environmental Monitoring and Audit Monthly Report – June 2015

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
_	UALITY IMPACT					
8.5.1.3	<ul> <li><u>Construction Water Quality Impact Measures</u></li> <li>Collection of wastewater into a sedimentation tank for treatment before discharge into the public drainage system;</li> </ul>	To reduce water quality impact induced by the construction work	Contractor	Work site	Construction Stage	ProPECC PN1/94; Water Pollution Control Ordinance
	• 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.					
WASTE M	ANAGEMENT					
S.5.1.4	Construction Waste Management Measures	To adopt waste	Contractor	Work site	Construction	Waste Disposal
	• Scrap metals or abandoned equipment should be recycled if possible;	management measures in the way			Stage	Ordinance (Cap. 354); Waste
	• Waste arising should be kept to a minimum and be handled, transported and disposed of in a suitable manner;	of avoiding, minimizing, reusing				Disposal (Chemical Waste) (General)
	• 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;	and recycling so as to reduce waste generation				Regulation; DEVB TCW No. 6/2010; ETWB TCW No. 19/2005.
	• Chemical waste shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes; and					

Project Profile Ref.	<b>Recommended Mitigation Measures</b>	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	<ul> <li>Landscape and Visual Measures</li> <li>Clear demarcation of works area to prevent damages to existing trees in close proximity;</li> </ul>	To reduce landscape and visual impact by construction works.	Contractor	Work Site and nearby playground	Construction Stage	EIAO; ETWB TCW No. 3/2006.
	• 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.					