## **Civil Engineering and Development Department**

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

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

Monthly EM&A Report

February 2014

(Version 2.0)

Approved By	(Environmental Team Leader)
REMARKS:	

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

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CINOTECH CONSULTANTS LTD Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388 Email: info@cinotech.com.hk

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## **EXECUTIVE SUMMARY**

## Introduction

- 1. This is the 3<sup>rd</sup> Monthly Environmental Monitoring and Audit Report prepared by Cinotech Consultants Ltd. for "Contract No. KL/2012/03 Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area" (Hereafter referred to as "the Project"). This contract comprises the construction of Schedule 2 designated projects Road D2 & Sewage Pumping Station PS2 and NPS which forms a part of the works under two Environmental Permits (EP), EP-337/2009 and EP-344/2009. The title of the designated projects under Environmental Permit No.: EP-344/2009 is "New sewage pumping stations serving Kai Tak Development" and under Environmental Permit No.: EP-337/2009 is "New distributor roads serving the planned Kai Tak Development". This report documents the findings of EM&A Works conducted from 1 28 February 2014.
- 2. The major site activities undertaken in the reporting month included:
  - Daily Clearance;
  - Drainage work in L19 Road;
  - Excavation for twin cell and single cell box culvert; and
  - Excavation for PS2.

## **Environmental Monitoring Works**

- 3. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 4. Summary of the non-compliance in the reporting month for the Project is tabulated in Table II.

Parameter	No. of Project-rela	Action Taken	
I al allietel	Action Level	Limit Level	Action Taken
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Noise	0	0	N/A

 Table I
 Non-compliance Record for the Project in the Reporting Month

1-hour & 24-hour TSP Monitoring

5. All 1-hour & 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

6. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

## **Environmental Licenses and Permits**

- 7. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, Environmental Permits No. EP-344/2009 and EP-337/2009 were issued on 23 April 2009.
- 8. Registration of Chemical Waste Producer (N/A).
- 9. Water Discharge License (N/A).
- 10. Construction Noise Permit (License No.: PP-RE0056-13).

## Key Information in the Reporting Month

11. Summary of key information in the reporting month is tabulated in Table III.

Tuble II Summary Tuble for Key Information in the Keporting Month					
Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0		N/A	N/A	
Reporting Changes	0		N/A	N/A	
Notifications of any summons & prosecutions received	0		N/A	N/A	

## Table II Summary Table for Key Information in the Reporting Month

## Future Key Issues

12. The future key environmental issues in the coming month include:

- Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
- Water spraying for dust generating activity and on haul road;
- Proper storage of construction materials on site;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Accumulation of general and construction waste on site;
- Noise from operation of the equipment, especially for rock-breaking activities, piling works and machinery on-site; and
- Review and implementation of temporary drainage system for the surface runoff.

## 1. INTRODUCTION

### Background

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. It covers a land area of about 328 hectares. Stage 4 Infrastructure at Former North Apron Area is one of the construction stages of KTD. It contains various Schedule 2 DPs including new distributor roads serving the planned KTD and new sewage pumping stations serving the planned KTD. The general layout of the Project is shown in **Figure 1**.
- 1.2 Two Environmental Permits (EPs) No. EP-344/2009 and EP-337/2009 were also issued on 23 April 2009 for new sewage pumping stations serving the planned KTD and new distributor roads serving the planned KTD respectively to Civil Engineering and Development Department as the Permit Holder.
- 1.3 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. An EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 April 2009.
- 1.4 Cinotech Consultants Limited (Cinotech) was commissioned by Kwan On Construction Co., Ltd. (the Contractor) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2012/03 - Stage 4 Infrastructure at Former North Apron Area. The construction work under KL/2012/03 comprises the construction of Road D2 & Sewage Pumping Station PS2 and PS NPS which forms a part of the works under two EPs (EP-337/2009 and EP-344/2009).
- 1.5 The construction commencement of this Contract was on  $1^{st}$  December 2013 for Road D2, Sewage Pumping Station PS2 and PS NPS. This is the  $3^{rd}$  Monthly EM&A report summarizing the EM&A works for the Project from 1 - 28 February 2014.

## **Project Organizations**

- 1.6 Different parties with different levels of involvement in the project organization include:
  - Project Proponent Civil Engineering and Development Department (CEDD).
  - The Engineer and the Engineer's Representative (ER) AECOM.
  - Environmental Team (ET) Cinotech Consultants Limited (CCL).
  - Independent Environmental Checker (IEC) Hyder Consultants Ltd. (Hyder).
  - Contractor Kwan On Construction Co., Ltd. (Kwan On).

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

Table 1.1	Ke	ey Project Contacts			
Party	Role	<b>Contact Person</b>	Position	Phone No.	Fax No.
CEDD	Project Proponent	Mr. K Y SHIN	Engineer	2301 1461	2301 1277
AECOM	Engineer's	Mr. Vincent Lee	SRE	27980771	3013 8864
AECOM	Representative	Mr. Mickey Lee	RE		
		Dr. Priscilla Choy	Environmental	2151 2089	
	Environmental		Team Leader	2131 2089	
Cinotech	Team	Ms. Ivy Tam	Project Coordinator		3107 1388
	Icam		and Audit Team	2151 2090	
			Leader		
	Independent	Mr. Fan Cheong	Independent		
Hyder	Environmental	Tsang	Environmental	2911 2744	
	Checker		Checker		
Kwan On	Contractor	Mr. Terry Yu	Project Manager		

## Construction Activities undertaken during the Reporting Month

- 1.8 The site activities undertaken in the reporting month included:
  - Daily Clearance;
  - Drainage work in L19 Road;
  - Excavation for twin cell and single cell box culvert; and
  - Excavation for PS2.
- 1.9 The construction programme showing the inter-relationship with environmental protection/mitigation measures are presented in Table 1.2.

#### Table 1.2 Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures

Construction Works	Major Environmental Impact	Control Measures
As mentioned in Section 1.8	Noise, dust impact, water quality and waste generation	Sufficient watering of the works site with active dust emitting activities; Properly cover the stockpiles; On-site waste sorting and implementation of trip ticket system; Appropriate desilting/sedimentation devices provided on site for treatment before discharge; Use of quiet plant and well-maintained construction plant; Provide movable noise barrier; Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall; Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement.

#### Summary of EM&A Requirements

- 1.10 The EM&A programme requires construction noise monitoring, air quality monitoring, landscape and visual monitoring and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:
- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental requirements and mitigation measures, as recommended in the EM&A Manual under the EP.
- 1.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 6 of this report.
- 1.12 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely air quality and noise levels and audit works for the Project from 1 28 February 2014.
- 1.13 With reference to the same principle of EIA report of the Project, air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in Table I (see Figure 2 and 3 for their locations).

Locations	Monitoring Stations In accordance with EM&A Manual	Alternative Monitoring Stations		
Air Quality Monitoring Stations				
AM2 - Lee Kau Yan Memorial School	Yes	N/A		
AM3 – Sky Tower	No	AM3(A) – Holy Trinity Bradbury Centre		
AM4 – Grand Waterfront	No	AM4(A) – EMSE Workshop		
AM5 – CCC Kei To Secondary School	No	AM5(A) – Po Leung Kuk Ngan Po Ling College		
AM6 – Site 1B4 (Planned)		N/A		
Noise Monitoring Stations				
M6 – Holy Carpenter Primary School	Yes	N/A		
M7 – CCC Kei To Secondary School	Yes	N/A		
M8 – Po Leung Kuk Ngan Po Ling College	Yes	N/A		
M9 – Site 1B1 (Planned) M10 – Site 1B4 (Planned)				

 Table 1.3 Air Quality and Noise Monitoring Stations for this Project

1.14 According to the Environmental Monitoring and Audit Manual (EM&A Manual) of the Kai Tak Development (KTD) Schedule 3 Environmental Impact Assessment (EIA) Report, the impact monitoring at the designated monitoring stations as required in KTD EM&A Manual under the EP, have been conducted in Environmental Monitoring Works for Kai Tak Development under Schedule 3 of KTD, which is on-going starting from December 2010. The impact monitoring data under Schedule 3 of KTD will be adopted for the Project. Therefore, this report presents the air quality and noise monitoring works extracted from Schedule 3 of KTD.

## **Status of Compliance with Environmental Permits Conditions**

1.15 The status of required submission related to this Project under the Environmental Permits No. EP-337/2009 and EP-344/2009 are summarized in the following tables:

EP Conditions	Submission	Submission Date	Remark
1.11	Notification of Commencement Date of Construction of Project	31 October 2013	For Road D2
2.3	Management Organization of Main Construction Companies	31 October 2013	For Contract No. KL/2012/03
2.4	Design Drawing(s) of the Project	28 October 2013	For Road D2
2.11	Landscape Mitigation Plan(s) for distributors road(s)	7 January 2014	For Road D2
2.12	As-built drawing(s) for the distributor road(s)	To be submitted at least one commencement of operation	
3.2	Baseline Monitoring Report	26 November 2010 (Part I) 24 December 2010 (Part II)	/
3.3	Monthly EM&A Report No.2	10 March 2014	Monthly EM&A Report for Contract No. KL/2012/03

 Table 1.4
 Summary Table for Required Submission under EP No. EP-337/2009

Table 1.5         Summary Table for Required Submission under EP No. EP-344/2009				
EP Conditions	Submission	Submission Date	Remark	
1.11	Notification of Commencement Date of Construction of Project	31 October 2013	For Pumping Station PS2 and NPS	
2.3	Management Organization of Main Construction Companies	31 October 2013	For Contract No. KL/2012/03	
2.4	Design Drawing(s) of the Project	28 October 2013	For Pumping Station PS2 and NPS	
2.11	Landscape Mitigation Plan(s) for sewage pumping station(s)	7 January 2014	For Pumping Station PS2 and NPS	
2.12	As-built drawing(s) for the sewage pumping station (s)	To be submitted at least one commencement of operation		
3.2	Baseline Monitoring Report	26 November 2010 (Part I) 24 December 2010 (Part II)	/	
3.3	Monthly EM&A Report No.2	10 March 2014	Monthly EM&A Report for Contract No. KL/2012/03	

Table 1.5         Summary Table for Required Submission under EP No. EP-344/2009	Table 1.5	<b>Summary Table</b>	for Required Submission	under EP No. EP-344/2009
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## 2. AIR QUALITY

## **Monitoring Requirements**

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

## **Monitoring Locations**

2.2 Five designated monitoring stations were selected for air quality monitoring programme. Impact dust monitoring was conducted at four of the air quality monitoring stations (AM2, AM3(A), AM4(A) and AM5(A)). Table 2.1 describes the air quality monitoring locations, which are also depicted in **Figure 2**.

Monitoring Stations	Locations	Location of Measurement
AM2	Lee Kau Yan Memorial School	Rooftop (about 8/F) Area
AM3(A)	Holy Trinity Bradbury Centre	Rooftop (about 8/F) Area
AM4(A)	EMSD Workshops	Rooftop (about 6/F) Area
AM5(A)	Po Leung Kuk Ngan Po Ling College	Rooftop (about 10/F) Area
#AM6	PA 15	Site 1B4 (Planned)

Table 2.1Locations for Air Quality Monitoring

Remarks: # The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

## **Monitoring Equipment**

2.3 Table 2.2 summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates are attached in **Appendix B**.

Table 2.2Air Quality Monitoring Equipment

Equipment	Model and Make	Quantity
Calibrator	G25A	1
1-hour TSP Dust Meter	Laser Dust Monitor – Model LD-3, LD-3B	8
HVS Sampler	GMWS 2310 c/w of TSP sampling inlet	4
Wind Anemometer	Davis Weather Monitor II, Model no. 7440	1

## Monitoring Parameters, Frequency and Duration

2.4 Table 2.3 summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting month is shown in **Appendix D**.

### Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration

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

### Monitoring Methodology and QA/QC Procedure

1-hour TSP Monitoring

#### Measuring Procedures

- 2.5 The measuring procedures of the 1-hour dust meters were in accordance with the Manufacturer's Instruction Manual as follows:
  - The 1-hour dust meter is placed at least 1.3 meters above ground.
  - Set POWER to "ON" and make sure that the battery level was not flash or in low level.
  - Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
  - Push the knob at MEASURE position.
  - Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
  - Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display. Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
  - Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

#### Maintenance/Calibration

- 2.6 The following maintenance/calibration was required for the direct dust meters:
  - Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

#### 24-hour TSP Monitoring

#### Instrumentation

2.7 High volume (HVS) samplers (Model GMWS-2310 Accu-Vol) completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler was composed of

a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in section 2.5 of the updated EM&A Manual.

## **Operating/Analytical Procedures**

- 2.8 Operating/analytical procedures for the operation of HVS were as follows:
  - A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
  - No two samplers were placed less than 2 meters apart.
  - The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
  - A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
  - A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
  - No furnaces or incineration flues were nearby.
  - Airflow around the sampler was unrestricted.
  - The sampler was more than 20 meters from the drip line.
  - Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.
- 2.9 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between  $1.1 \text{ m}^3/\text{min.}$  and  $1.4 \text{ m}^3/\text{min.}$ ) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- 2.10 For TSP sampling, fiberglass filters have a collection efficiency of > 99% for particles of  $0.3\mu m$  diameter were used.
- 2.11 The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- 2.12 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- 2.13 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- 2.14 The shelter lid was closed and secured with the aluminum strip.
- 2.15 The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).

- 2.16 After sampling, the filter was removed and sent to the HOKLAS laboratory (Wellab Ltd.) for weighing. The elapsed time was also recorded.
- 2.17 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than  $\pm 3$ °C; the relative humidity (RH) should be < 50% and not vary by more than  $\pm 5\%$ . A convenient working RH is 40%.

Maintenance/Calibration

- 2.18 The following maintenance/calibration was required for the HVS:
  - The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
  - High volume samplers were calibrated at bi-monthly intervals using G25A Calibration Kit throughout all stages of the air quality monitoring.

### **Results, Observations and Action/Limit Level Exceedance**

- 2.19 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 2.20 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 2.21 The air temperature, precipitation and the relative humidity data was obtained from Hong Kong Observatory where the wind speed and wind direction were recorded by the installed Wind Anemometer set at rooftop (about 8/F) Lee Kau Yan Memorial School. The location is shown in **Figure 4**. This weather information for the reporting month is summarized in **Appendix C.**
- 2.22 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices E and F** respectively.
- 2.23 The summary of exceedance record in reporting month is shown in **Appendix H**. No exceedance was recorded for the air quality monitoring.
- 2.24 According to our field observations, the major dust source identified at the designated air quality monitoring stations are as follows:

Station	Major Dust Source
AM2 – Lee Kau Yan Memorial School	Road Traffic Dust
	Exposed site area and open stockpiles
	Site vehicle movement
AM3(A) – Holy Trinity Bradbury	Road Traffic Dust
Centre	Exposed site area
	Excavation works
	Site vehicle movement
AM4(A) – EMSD Workshops	Recycling Company
	Site vehicle movement
AM5(A) – Po Leung Kuk Ngan Po	Road Traffic Dust
Ling College	Excavation works at the site (Contract No.:
	1/WSD/08(K)) facing Po Leung Kuk Ngan Po
	Ling College

## 3. NOISE

### **Monitoring Requirements**

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

#### **Monitoring Locations**

3.2 Five designated monitoring stations were selected for noise monitoring programme. Noise monitoring was conducted at three designated monitoring stations (M6, M7 and M8). **Figure 3** shows the locations of these stations.

Monitoring Stations	Locations	Location of Measurement
M6	Holy Carpenter Primary School	Rooftop (about 7/F) Area
M7	CCC Kei To Secondary School	Rooftop (about 8/F) Area
M8	Po Leung Kuk Ngan Po Ling College	Staircase Area (about 9/F)
#M9	Site 1B1 (Planned)	-
#M10	Site 1B4 (Planned)	-

Table 3.1Noise Monitoring Stations

Remarks: # The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

#### **Monitoring Equipment**

3.3 **Table 3.2** summarizes the noise monitoring equipment. Copies of calibration certificates are provided in **Appendix B**.

#### Table 3.2Noise Monitoring Equipment

Equipment	Model and Make	Qty.
Integrating Sound Level Meter	SVAN 955 & 957	6
Calibrator	SVAN 30A	4
Canorator	B&K4231	2

## **Monitoring Parameters, Frequency and Duration**

3.4 Table 3.3 summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix D**.

Monitoring Stations Parameter	Period	Frequency	Measurement
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$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	0700-1900 hrs on normal weekdays	Once per week	Façade
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## Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2 m above the ground.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement : 30 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the  $L_{eq}$ ,  $L_{90}$  and  $L_{10}$  were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused temporarily during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

#### Maintenance and Calibration

- 3.5 The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- 3.6 The sound level meter and calibrator were checked and calibrated at yearly intervals.
- 3.7 Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

#### **Results, Observations and Action/Limit Level Exceedance**

- 3.8 All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 3.9 The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 3.4**.
- 3.10 Noise monitoring results and graphical presentations are shown in Appendix G.
- 3.11 The major noise source identified at the designated noise monitoring stations are as follows:

Monitoring Stations	Locations	Major Noise Source
M6	Holy Carpenter Primary School	Road and marine traffic Noise
M7	CCC Kei To Secondary School	Road and marine traffic Noise
M8	Po Leung Kuk Ngan Po Ling College	Excavation works at the site (Contract No.: 1/WSD/08(K)) facing Po Leung Kuk Ngan Po Ling College

#### Table 3.4 Baseline Noise Level and Noise Limit Level for Monitoring Stations

Station	Baseline Noise Level, dB (A)	Noise Limit Level, dB (A)
M6	63.9 (at 0700 – 1900 hrs on normal weekdays)	
M7	68.7 (at 0700 – 1900 hrs on normal weekdays)	70* (at 0700 – 1900 hrs on normal weekdays)
M8	61.9 (at 0700 – 1900 hrs on normal weekdays)	

(\*) Noise Limit Level is 65 dB(A) during school examination periods.

## 4. COMPARISON OF EM&A RESULTS WITH EIA PREDICTIONS

4.1 The EM&A data was compared with the EIA predictions as summarized in 4.1 to 4.3.

 Table 4.1
 Comparison of 1-hr TSP data with EIA predictions

Station	Predicted 1-hr TSP conc.			
	Scenario1 (Mid 2009 to	Scenario2 (Mid 2013 to		ing Month 2014), μg/m3
	Mid 2013), µg/m3	Late 2016), µg/m3	Average	Range
AM2 – Lee Kau Yan Memorial School	290	312	126.6	61.7 – 198.0
AM3(A) - Holy Trinity Bradbury Centre (Alternative station for Sky Tower)	217	247	126.4	64.9 - 209.2
AM4(A) – EMSD Workshops (Alternative station for Grand Waterfront)	246	258	125.7	70.4 – 191.6
AM5(A) – Po Leung Kuk Ngan Po Ling College (Alternative station for CCC Kei To Secondary School)	159	221	126.1	65.5 – 196.3

#### Table 4.2Comparison of 24-hr TSP data with EIA predictions

Station	Predicted 24-hr TSP conc.			
	Scenario1 (Mid 2009 to	Scenario2 (Mid 2013 to		ing Month 2014), μg/m3
	Mid 2013), µg/m3	Late 2016), µg/m3	Average	Range
AM2 – Lee Kau Yan Memorial School	145	169	78.8	47.8 – 117.7
AM3(A) - Holy Trinity Bradbury Centre (Alternative station for Sky Tower)	106	138	76.6	46.7 – 126.2
AM4(A) – EMSD Workshops (Alternative station for Grand Waterfront)	143	152	117.3	83.4 - 168.8
AM5(A) – Po Leung Kuk Ngan Po Ling College (Alternative station for CCC Kei To Secondary School)	103	128	42.8	21.0 - 64.0

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Stations	Predicted Mitigated Construction Noise Levels during Normal Working Hour (L <sub>eq (30min)</sub> dB(A))	Reporting Month (February 2014), L <sub>eq (30min)</sub> dB(A)
M6 - Holy Carpenter Primary School	47 – 86	52.4 - 64.5
M7 - CCC Kei To Secondary School	45 - 68	60.9 - 67.5
M8 - Po Leung Kuk Ngan Po Ling College	44 – 70	56.0 - 66.5

Table 4.3	Comparison	of Noise	Monitoring	Data with	EIA pre	dictions
-----------	------------	----------	------------	-----------	---------	----------

- 4.2 The averages of 1-hour TSP concentrations in all stations in the reporting month were below to the prediction in the approved Environmental Impact Assessment (EIA) Report.
- 4.3 The averages of 24-hour TSP concentrations in all stations in the reporting month were below to the prediction in the approved Environmental Impact Assessment (EIA) Report.
- 4.4 The noise monitoring results in the reporting month was also within the range of predicted mitigated construction noise levels in the EIA report

## 5. LANDSCAPE OF VISUAL

## **Monitoring Requirements**

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

#### **Results and Observations**

- 5.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix I**.
- 5.3 No non-compliance of the landscape and visual impact was recorded in the reporting month.
- 5.4 Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in **Appendix J** shall be performed.

#### 6. **ENVIRONMENTAL AUDIT**

#### Site Audits

- 6.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in Appendix I.
- Site audits were conducted on 7<sup>th</sup>, 12<sup>th</sup>, 21<sup>st</sup> and 28<sup>th</sup> February 2014 in the reporting month. IEC site inspections were conducted on 12<sup>th</sup> February 2014. No non-compliance was 6.2 observed during the site audits.

## **Review of Environmental Monitoring Procedures**

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

### Air Quality Monitoring

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

#### Noise Monitoring

- The monitoring team recorded all observations around the monitoring stations, which 1. might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the 2. result was trimmed off by pausing the monitoring temporarily.

## **Status of Environmental Licensing and Permitting**

6.4 All permits/licenses obtained for the Project are summarized in Table 6.1.

Permit No.	Valid Period		Details	Status
rernnt No.	From	То	Detans Statt	
Environmental Permit (EP)				
EP-337/2009	23/04/09	N/A	Construction of new distributor roads serving the planned Kai Tak development.	Valid
EP-344/2009	23/04/09	N/A	serving the planned Kai Tak development.Construction of a new sewage pumping station serving the planned Kai Tak development with installed capacity of more than 2,000 m³ per day and a boundary of which is less than 150m from an existing or planned residential area or educational institution.	

#### Effluent Discharge License

Permit No.	Valid Period		Details	Status	
	From	То	Details	Status	
Registration of Chemical Waste Producer					
Construction Noise Permit (CNP)					
PP-RE0056-13	10/12/13	08/03/14	Construction Noise Permit for the carrying out of percussive piling.	Valid	

#### **Status of Waste Management**

- 6.5 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix M**.
- 6.6 In respect of the dump truck cover, the Contractor is advised to take record photos and inspection to ensure that all dump trucks have fully covered the skip before leaving the site.

#### **Implementation Status of Environmental Mitigation Measures**

6.7 During site inspections in the reporting month, no non-conformance was identified. ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in Table 6.2.

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality			
Air Quality			
Noise			
Waste/Chemical Management			
Landscape and Visual			
Permits /Licences			

 Table 6.2
 Observations and Recommendations of Site Inspections

#### **Summary of Mitigation Measures Implemented**

6.8 The monthly IEC audit was carried out on 12<sup>th</sup> February 2014, the observations were recorded and they are presented as follows:

Follow up of last observation:

1. An empty oil container was found at Portion 1. The Contractor was reminded to store the container with drip tray underneath, or remove it from the site. (Closed)

Observations:

- 2. Hoardings at the construction site of Road L19 were not fully installed. The Contractor would install sufficient hoardings at the boundary of the site.
- 3. Exposed slope surfaces were not covered at Portion 1 (Box Culvert B5). The Contractor was reminded to cover the surfaces, whenever possible.

6.9 An updated summary of the EMIS is provided in **Appendix K**.

#### **Implementation Status of Event Action Plans**

6.10 The Event Action Plans for air quality, noise and landscape and visual are presented in Appendix J.

1-hr TSP Monitoring

6.11 No Action/Limit Level exceedance was recorded in the reporting month.

<u>24-hr TSP Monitoring</u>

6.12 No Action/Limit Level exceedance was recorded in the reporting month.

Construction Noise

6.13 No Action/Limit Level exceedance was recorded in the reporting month.

Landscape and visual

6.14 No non-compliance was recorded in the reporting month.

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

6.15 The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix L**.

## 7. FUTURE KEY ISSUES

- 7.1 Major site activities undertaken for the coming two months include:
  - Daily Clearance;
  - Drainage work in L19 Road;
  - Hoarding installation in L19 road;
  - Excavation for PS2; and
  - Excavation for twin cell and single cell box culvert.
- 7.2 The tentative construction program for the Project is provided in Appendix N.

### Key Issues for the Coming Month

- 7.3 Key environmental issues in the coming month include:
  - Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
  - Water spraying for dust generating activity and on haul road;
  - Proper storage of construction materials on site;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;
  - Accumulation of general and construction waste on site;
  - Noise from operation of the equipment, especially for rock-breaking activities, piling works and machinery on-site; and
  - Review and implementation of temporary drainage system for the surface runoff.
- 7.4 The tentative program of major site activities and the impact prediction and control measures for the coming two months, i.e. March and April 2014 are summarized as follows:

Construction Works	Major Impact Prediction	Control Measures
	Air quality impact	a) Frequent watering of haul road and unpaved/exposed
	(dust)	areas;
		b) Frequent watering or covering stockpiles with tarpaulin or similar means; and
		c) Watering of any earth moving activities.
	Water quality	d) Diversion of the collected effluent to de-silting facilities
	impact (surface	for
	run-off)	treatment prior to discharge to public storm water drains;
		e) Provision of adequate de-silting facilities for treating
		surface run-off and other collected effluents prior to
As mentioned in		discharge;
Section 7.1		f) Provision of perimeter protection such as sealing of
		hoarding footings to avoid run-off from entering the
		existing storm water drainage system via public road; and
		g) Provision of measures to prevent discharge into the
		stream.
	Noise Impact	h) Scheduling of noisy construction activities if necessary to
		avoid persistent noisy operation;
		i) Controlling the number of plants use on site;
		j) Regular maintenance of machines; and
		k) Use of acoustic barriers if necessary.

## Monitoring Schedule for the Next Month

7.5 The tentative environmental monitoring schedules for the next month are shown in **Appendix D**.

## 8. CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

8.1 Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.

#### <u>1-hr TSP Monitoring</u>

8.2 All 1-hr TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

#### 24-hr TSP Monitoring

8.3 All 24-hr TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

#### Construction Noise Monitoring

8.4 All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. No non-compliance was recorded in the reporting month.

#### **Complaint and Prosecution**

8.5 No environmental complaints and environmental prosecution were received in the reporting month.

#### Recommendations

8.6 According to the environmental audit performed in the reporting month, the following recommendations were made:

#### Air Quality Impact

- To implement dust suppression measures on all haul roads, stockpiles, dry surfaces and excavation works.
- To mitigate the dust generation by adequate water spraying in dry days.

#### Noise Impact

- To inspect the noise sources inside the site.
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers.
- To provide temporary noise barriers for operations of noisy equipment near the noise sensitive receivers in an appropriate location.

#### Water Impact

- To prevent any surface runoff discharge into any stream course.
- To review and implement temporary drainage system.
- To identify any wastewater discharges from site.

- To ensure properly maintenance for de-silting facilities.
- To clear the silt and sediment in the sedimentation tanks.
- To review the capacity of de-silting facilities for discharge.
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge.

#### Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site.
- To ensure the performance of sorting of C&D materials at source (during generation);
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site.
- To provide proper storage area or drip trays for oil containers/ equipment on site.
- To avoid improper handling or storage of oil drum on site.

#### Landscape and Visual

- To protect the existing trees to be retained.
- To transplant the trees unavoidably affected by the works.
- To control of night-time lighting.
- To provide decorative screen hoarding.
- To complete landscape works at site area as early as possible.

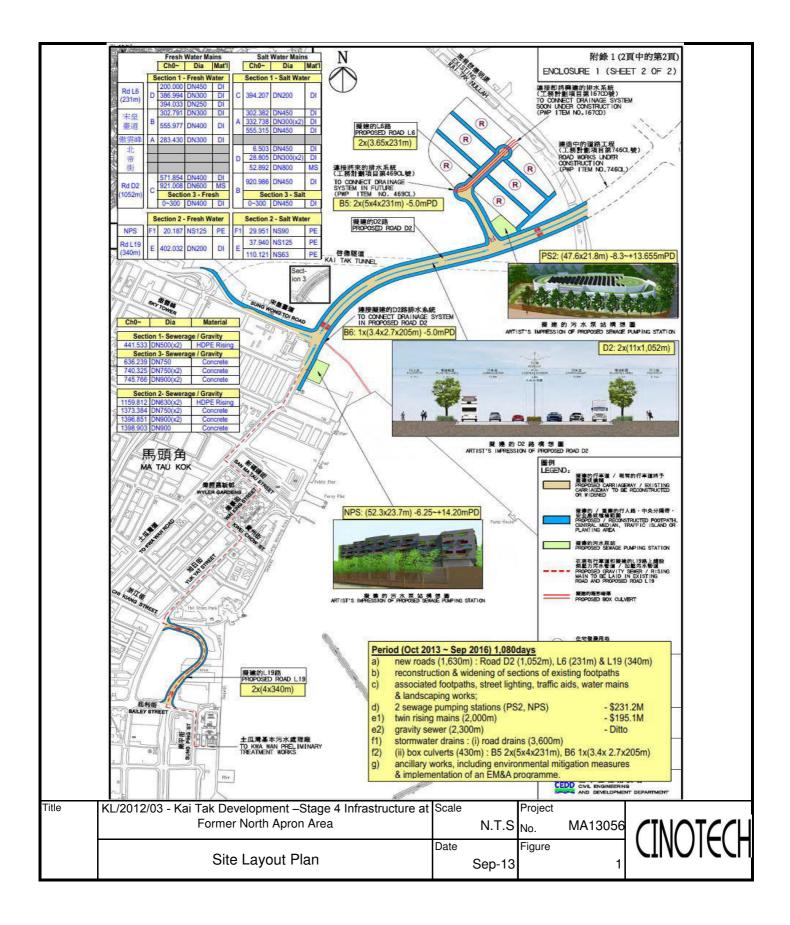
## **Effectiveness of Environmental Management**

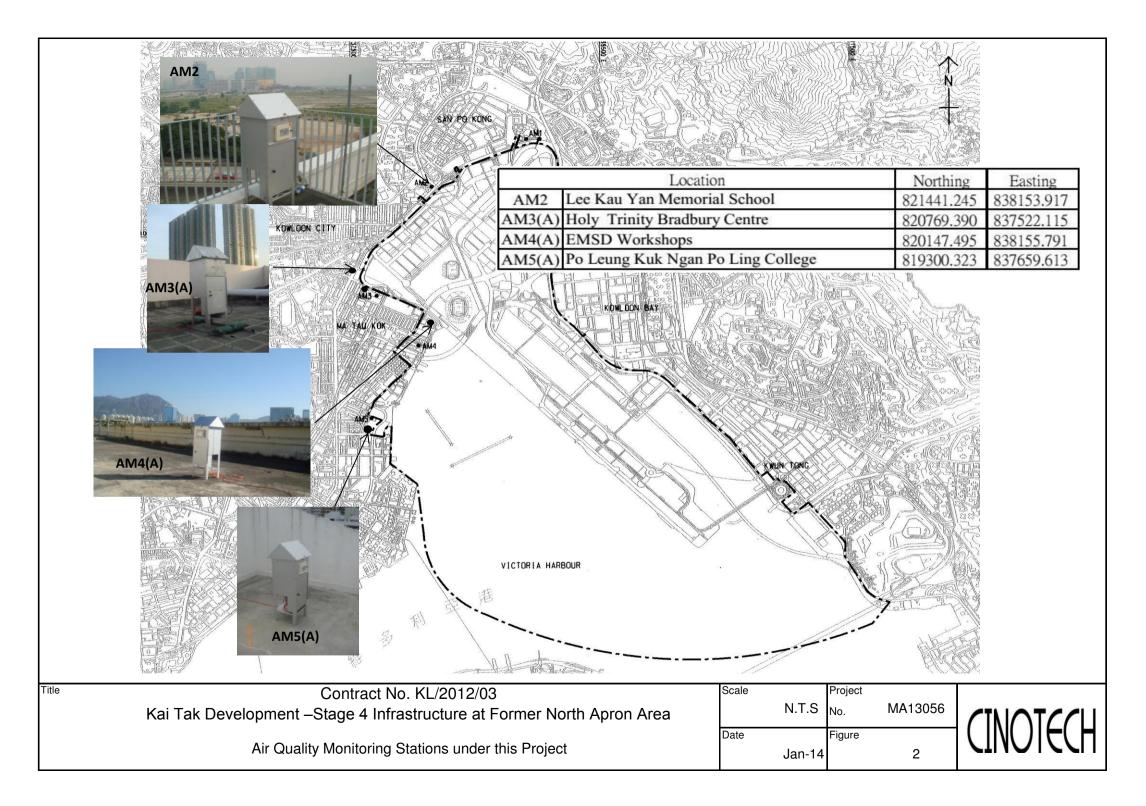
- 8.7 The above recommendations and the recommended mitigation measures in the EM&A Manual were carried out by the Contractor during construction. No non-compliance was recorded during the environmental site inspections as shown in **Appendix I**.
- 8.8 The effectiveness of the selected above recommendations is given in **Table 8.1** below.

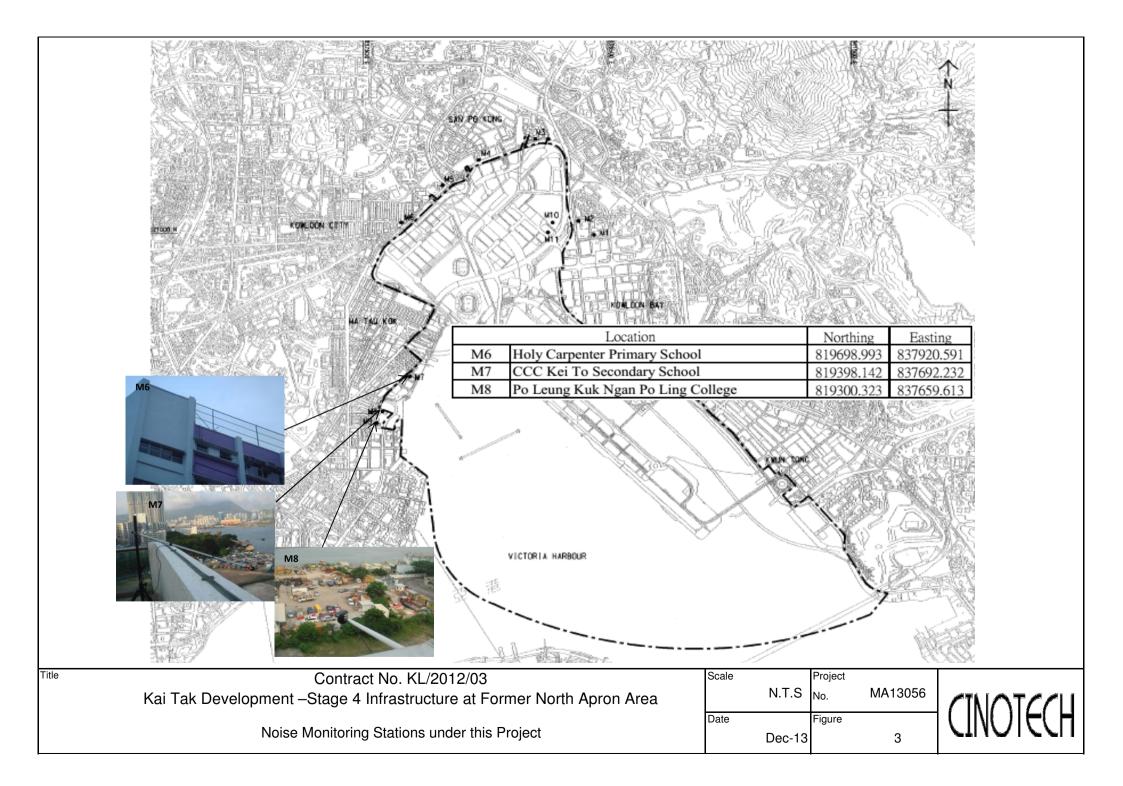
## **Table 8.1 Examples of Mitigation Measures for Environmental Recommendations**

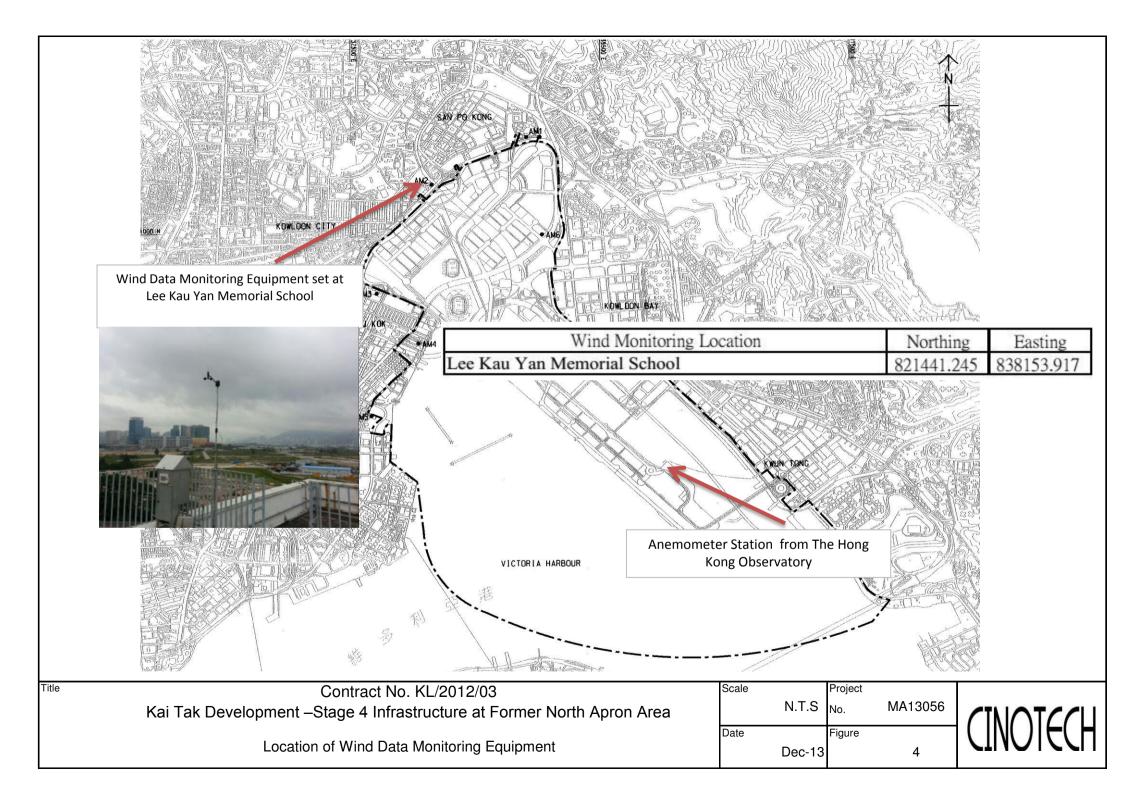


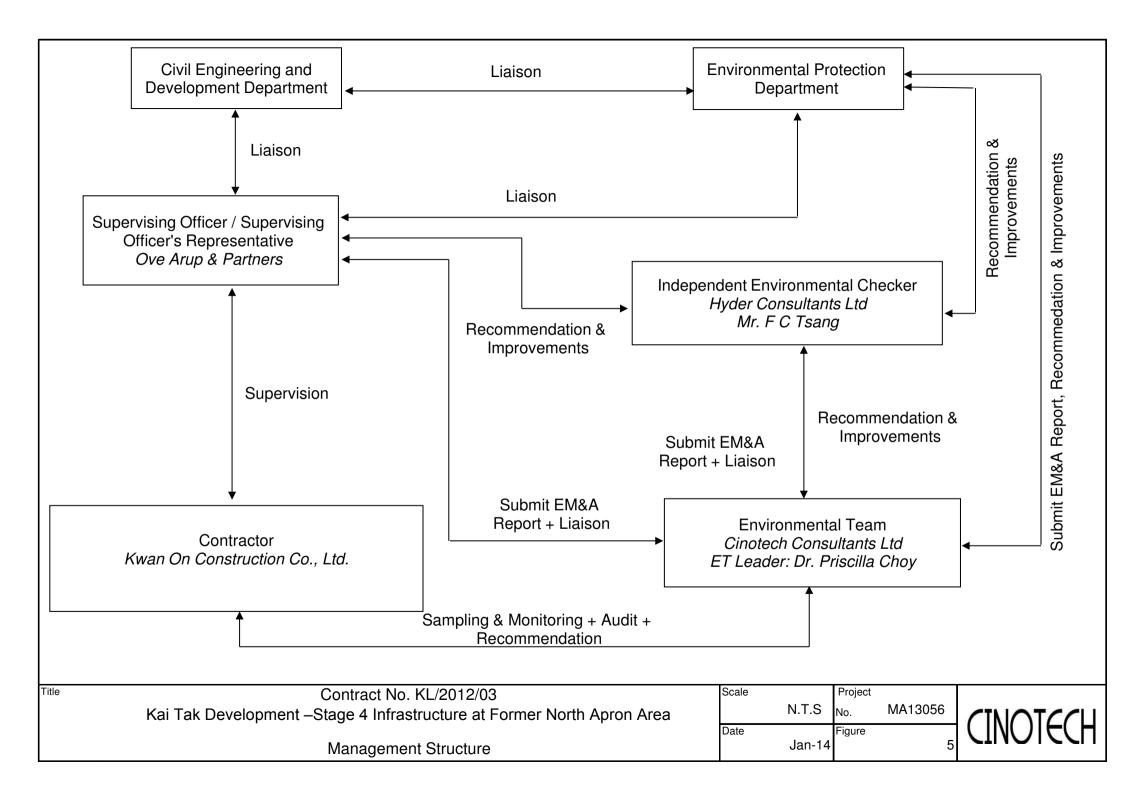
FIGURES











APPENDIX A ACTION AND LIMIT LEVELS

# **Appendix A - Action and Limit Levels**

Location	Action Level, μg/m <sup>3</sup>	Limit Level, µg/m <sup>3</sup>
AM2	346	
AM3(A)	351	500
AM4(A)	371	- 500
AM5(A)	345	

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

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

Location	Action Level, μg/m <sup>3</sup>	Limit Level, µg/m <sup>3</sup>
AM2	157	
AM3(A)	167	260
AM4(A)	187	260
AM5(A)	156	

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

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

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

APPENDIX B COPIES OF CALIBRATION CERTIFCATES



						File No.	MA0040/59/0021	
-		Yan Memorial So	Yan Memorial School Operator:					
Date:	6-Jan-14		]		5-Mar-			
Equipment No.:	A-01-59			Serial No.	2354			
			Ambient Condition					
Temperature, Ta (K) 288.7		Pressure, Pa	a (mmHg)		766.8			
		Or	ifice Transfer St	andard Inform	ation			
Equipme	nt No.:	A-04-04	Slope, mc	0.0588	Intercept	t, bc	-0.0461	
Last Calibra		30-Sep-13		me x Qstd + l	$bc = [\Delta H \times (Pa/76)]$	i0) x (298/Ta)	1 <sup>1/2</sup>	
Next Calibra		29-Sep-14			x (Pa/760) x (298			
		•						
			Calibration of	f TSP Sampler				
Calibration		Ort	lce			HVS		
Point	∆H (orifice), in. of water	[ΔH x (Pa/760	)) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	∆W (HVS), in. of oil		60) x (298/Ta)] <sup>1/2</sup> Y- axis	
1	12.0	3	.54	60.91	7.9		2.87	
2	9.8	3	.19	55.12	6.4		2.58	
3	7.6	2	.81	48.63	4.9		2.26	
4	5.4	2	.37	41.11	3.3		1.85	
5	3.3	1	1.85		2.0		1.44	
Slope , mw = Correlation c		- 0.9		Intercept, bw	-0.190	)6		
	-	90, check and reca						
			Set Point (	Calculation				
From the TSP Fi	eld Calibration C	Curve, take Qstd =	= 43 CFM					
From the Regres	sion Equation, th	ne "Y" value acco	rding to					
		mw v (	Qstd + bw = $[\Delta W]$	х (Ра/760) х (2	98/Ta)1 <sup>1/2</sup>			
		inter a v	2010	x (1 / 00 / x (.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Therefore, Se	et Point; W = ( n	$1 \le x = (1 \le 1 \le 1)^2$	x ( 760 / Pa ) x (	Ta / 298 ) =	3.72	·		
Remarks:								
Remarks;								
				[			μ	
Conducted by:	WK TANA	Signature:	Kw	roni /	_	Date:	61,114	
Checked by:		Signature:	,	$\checkmark$	_	Date:	6 January doll	
				V			0	

# CINOTECH

						File No.	MA0040/49/0020
Station	AM3(A) - Holy	Trinity Bradbur	y Centre	Operator:	WK		
Date:	6-Jan-14			Next Due Date:	5-Mar-	5-Mar-14	
Equipment No.:	A-01-49			Serial No.	. 1793		
		Septembri da en tra- 	Ambient	Condition			
Temperatu	Temperature, Ta (K) 288.6 Pressure,		Pressure, P	a (mmHg)		767	
		Ori	fice Transfer Sta	indard Inform	ation		
Equipme	ent No.:	A-04-04	Slope, mc	0.0588	Intercept		-0.0461
Last Calibra	ation Date:	30-Sep-13			с = [ΔH x (Pa/760		
Next Calibr	ation Date:	29-Sep-14		Qstd = ${[\Delta H x]}$	(Pa/760) x (298/	fa)] <sup>1/2</sup> -bc} /	me
		•					
			Calibration of	<b>TSP Sampler</b>			
Calibration		Or	fice			HVS	
Point	$\Delta H$ (orifice),	[AH v (Do/76	0) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM)	ΔW	[∆W x (Pa	/760) x (298/Ta)] <sup>1/2</sup>
	in. of water		(2) x (290/10)]	X - axis	(HVS), in. of oil		Y-axis
1	12.4		3.59	61.92	8.3		2.94
2	9.7		3.18	54.85	6.4		2.58
3	7.6	:	2.81	48.64	5.1		2.31
4	5.2		2.33	40.37	3.2		1.83
5	3.1		1.80	31.35	2.0		1.44
By Linear Rega Slope , mw = Correlation c	0.0496	_	9989	Intercept, bw	-0.132	0	
*If Correlation (	Coefficient < 0.9	90, check and red	calibrate.				
			Set Point C	algulation			
From the TSP F	ield Calibration	Curve, take Qstd					
		he "Y" value acc					
From the Regres	ssion Equation, i	ne i value ace	orung to				
		mw x Q	$std + bw = [\Delta W]$	x (Pa/760) x (2	98/Ta)] <sup>1/2</sup>		
l			•				
Therefore, S	et Point; W = ( n	nw x Qstd + bw )	<sup>2</sup> x ( 760 / Pa ) x (	Ta / 298 ) =	3.84		
Remarks:							
				,			
			1.				
Conducted by:		Signature:	Kw	ai /	-	Date:	6/1/14
Checked by:	<u> </u>	Signature:		$\Delta$	-	Date:	6 January Vol
				V			J



P.1. N. NAA0040/62/0020

04-4		) Washahang		Onaratory	WK		MA0040/62/0020
Station Date:	6-Jan-14	44(A) - EMSD Workshops			WK 5-Mar-		
			1		2351	17	
Equipment No	quipment No.: A-01-62			001101 140.	2551		
		elene de la celeg	Ambient C	Condition			
Temperatu	ire, Ta (K)	289.2	Pressure, Pa	(mmHg)		766.3	
		<u> </u>	fice Transfer Sta	1 X C			
Equipme	ant No :	A-04-04	Slope, mc	0.0588	Intercept	hc	-0.0461
Last Calibra		30-Sep-13			$c = [\Delta H x (Pa/760)]$		
Next Calibr		29-Sep-14			(Pa/760) x (298/]		
INEXT CALLOI	ation Date.	27-5cp-14		Zara (l'arr v	(1		
			Calibration of	TSP Sampler			
O Pharles	1	Or	fice			HVS	
Calibration Point	$\Delta H$ (orifice),	LATT - (Do /76	$(208/T_{c})^{1/2}$	Qstd (CFM)	ΔW	[ΔW x (Pa/7	60) x (298/Ta)] <sup>1/2</sup>
i viitt	in. of water	[ДН X (Ра//б	0) x (298/Ta)] <sup>1/2</sup>	X - axis	(HVS), in. of oil		r-axis
1	12.2		3.56	61.33	8.4		2.95
2	9.9		3.21	55.33	6.5		2.60
3	7.6	:	2.81	48.57	5.1		2.30
4	5.4	:	2.37	41.07	3.3		1.85
5	3.2		1.82	31.79	2.0		1.44
Slope , mw = Correlation c		-	1986	Intercept, bw	-0.213	9	
	Coefficient < 0.99			-			
P 4 TOD P	4-14 O-19	Course de las Ostal	Set Point C	alculation			
	ield Calibration C ssion Equation, th						
rion me kegre	ssion Equation, tr						
		mw x Q	$std + bw = [\Delta W]$	x (Pa/760) x (2	98/Ta)] <sup>1/2</sup>		
Thorsford 9	at Doint, W-(	uuu Ootd I horr)	<sup>2</sup> x ( 760 / Pa ) x (	To / 208 ) -	3.82		
Therefore, S	et Point; w = ( m	w x Qsia + ow )	x ( 100 / Pa ) X (	1a/ 270 j	3.82		
Remarks:							
Conducted by:	Whitang	Signature:	K	na /	-	Date:	61 ( 1 14
Checked by:		Signature:		<u>_</u>	-	Date:	6 January de
							()



		5101				File No.	MA0040/60/0021
Station	AM5(A) - Po Le	ung Kuk Ngan Po		-	WK		
Date:			Next Due Date:				
Equipment No.: A-01-60				Serial No.	2358		
			Ambient	Condition			
Temperature, Ta (K) 289 Pressure, Pa (mmHg)						766.5	
<u></u>		referie (n. Reiser en 11)			e name e mare éste	n operations.	
			fice Transfer St				0.0461
Equipme		A-04-04	Slope, mc	0.0588	$Intercep$ $bc = [\Delta H \times (Pa/76)]$		-0.0461
Last Calibr		30-Sep-13		Cotd - SIAH	х (Pa/760) х (298	$(290) \times (290) 1 \times (290) $	/ma
Next Calibr	ation Date:	29-Sep-14		Qstu – {[ΔII	x (1 a/700) x (290	/1a/] -003/	inc
		•	Calibration o	f TSP Sampler			
Calibration		Orf	ice	*		HVS	
Point	$\Delta H$ (orifice), in. of water	[ΔH x (Pa/760	) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	∆W (HVS), in. of oil		760) x (298/Ta)] <sup>1/2</sup> Y- axis
1	12.2	3	.56	61.36	7.6		2.81
2	9.6	3	.16	54.52	6.2		2.54
3	7.5	2	.79	48.28	4.9		2.26
4	5.2	2	.33	40.33	3.2		1.82
5	3.1	1	.80	31.32	1.9		1.41
Slope , mw = Correlation o	L	0.99	987	Intercept, bw	-0.076	56	
			Set Point (	Calculation			
From the TSP F	ield Calibration C	urve, take Qstd =	43 CFM				
From the Regres	ssion Equation, th	e "Y" value accor	ding to				
		mw x Q	$bstd + bw = [\Delta W]$	x (Pa/760) x (2	298/Ta)] <sup>1/2</sup>		
Therefore, S	et Point; W = ( m	w x Qstd + bw $)^2$	x (760 / Pa) x (	Ta / 298 ) =	3.73	<u> </u>	
Remarks:							
Conducted by: Checked by:	<u>lwk. 7 ang</u> : Hz	Signature: Signature:	k	íwoni /	-	Date: Date:	6/1/14 6 January 2010



# TEST REPORT

DescriptionCalibration OrificeSerial No.0993Model No.TE-5025ADate30 September 2013

Manufacturer Temperature,Ta (K) Pressure, Pa (mmHg) Equipment No.:

TISCH 300.8 759.3 A-04-04

Plate	Diff.Vol (m <sup>3</sup> )	Diff.Time (min)	Diff.Hg (mm)	Diff.H <sub>2</sub> O (in.)
1	1.00	1.4103	3.4	2.00
2	1.00	0.9980	6.8	4.00
3	1.00	0.8970	8.5	5.00
. 4	1.00	0.8540	9.4	5.50
5	1.00	0.7060	13.6	8.00

### DATA TABULATION

Vstd	(X axis)	(Y axis)
	Qstd	
0.9853	0.6986	1.4069
0.9808	0.9828	1.9897
0.9786	1.0910	2.2245
0.9775	1.1446	2.3331
0.9720	1.3768	2.8138
V avia- SOP		01/208/Ta1

Y axis= SQRT[H<sub>2</sub>O(Pa/760)(298/Ta)] Qstd Slope ( m ) = <u>2.07768</u> Intercept ( b ) = <u>-0.04613</u> Coefficient ( r ) = <u>0.99997</u>

Va	(X axis)	(Y axis)
	Qa	
0.9955	0.7059	0.8901
0.9910	0.9930	1.2589
0.9888	1.1023	1.4074
0.9876	1.1565	1.4761
0.9821	1.3911	1.7803
Y axis= SQR	T[H <sub>2</sub> O(Ta/Pa	)]

Qa Slope (m) = <u>1.30101</u> Intercept (b) = <u>-0.02919</u> Coefficient (r) = <u>0.99997</u>

# 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:

 $\label{eq:Qstd=l/m{[SQRT(H_2O(Pa/760)(298/Ta))]-b}} \\ Qa=l/m{[SQRT H_2O(Ta/Pa)]-b} \\ \end{tabular}$ 

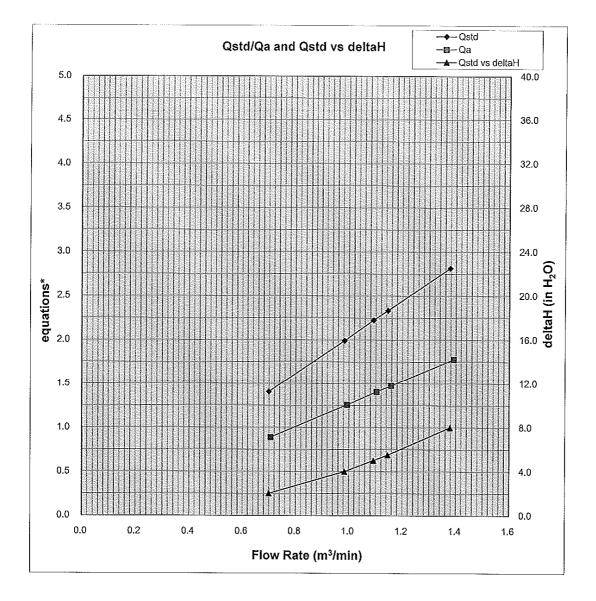
PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

while

PATRICK TSE Laboratory Manager



# **TEST REPORT**



Y-axis equations: Qstd series: SQRT[△H(Pa/Pstd)(Tstd/Ta)]

Qa series: SQRT[ $\Delta$ H(Ta/Pa)]



# **TEST REPORT**

# APPLICANT: Cinotech Consultants Limited Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong

C/131019A
2013-10-19
2013-10-19
2013-10-19
2013-10-19
2014-04-18
1 of 2

ATTN:

Mr. W.K. Tang

# **Certificate of Calibration**

# Item for calibration:

Description	: Weather Monitor II
Manufacturer	: Davis Instruments
Model No.	: 7440
Serial No.	: MC20813A11

### **Test conditions:**

Room Temperature Relative Humidity : 20 degree Celsius : 53%

### **Test Specifications:**

1. Performance check of anemometer

2. Performance check of wind direction sensor

### Methodology:

In-house method with reference anemometer (RS232 Integral Vane Digital Anemometer)

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager



### TEST REPORT **APPLICANT: Cinotech Consultants Limited** Test Report No.: C/131231/1 Room 1710, Technology Park, Date of Issue: 2014-01-02 18 On Lai Street, Date Received: 2013-12-31 Shatin, NT, Hong Kong Date Tested: 2013-12-31 Date Completed: 2014-01-02 Next Due Date: 2014-03-01 Page: ATTN: Mr. W.K. Tang 1 of 1 **Certificate of Calibration Item for Calibration:** Description : Laser Dust Monitor Manufacturer : Sibata Model No. : LD-3 Serial No. :251634 $: 0.001 \text{ mg/m}^3$ Sensitivity (K) 1 CPM Sen. Adjustment Scale Setting : 550 CPM : A-02-01 Equipment No. **Test Conditions:** : 18 degree Celsius Room Temperature **Relative Humidity** : 50% **Test Specifications & Methodology:**

Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
 In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

### **Results:**

Correlation Factor (CF)	0.0031
****	

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager



# **TEST REPORT**

# APPLICANT: Cinotech Consultants Limited Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong

Test Report No.:	C/131231/2
Date of Issue:	2014-01-02
Date Received:	2013-12-31
Date Tested:	2013-12-31
Date Completed:	2014-01-02
Next Due Date:	2014-03-01
Page:	1 of 1

ATTN:

Mr. W. K. Tang

Certificate of Calibration	
Item for Calibration:	
Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 853944
Sensitivity (K) 1 CPM	: 0.001 mg/m <sup>3</sup>
Sen. Adjustment Scale Setting	: 685 CPM
Equipment No.	: A-02-04
Test Conditions:	
Room Temperature	: 18 degree Celsius
Relative Humidity	: 50%

# Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.

2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

### **Results:**

Correlation Factor (CF)	0.0031
******	

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager



### **TEST REPORT** Test Report No.: C/131223/1 **APPLICANT: Cinotech Consultants Limited** Date of Issue: 2013-12-23 Room 1710, Technology Park, Date Received: 2013-12-20 18 On Lai Street, Date Tested: 2013-12-20 Shatin, NT, Hong Kong Date Completed: 2013-12-23 Next Due Date: 2014-02-22 Page: 1 of 1 ATTN: Mr. WK Tang **Certificate of Calibration Item for Calibration:** Description : Laser Dust Monitor Manufacturer : Sibata : LD-3B Model No. Serial No. : 954253 Sensitivity (K) 1 CPM $: 0.001 \text{ mg/m}^3$ : 772 CPM Sen. Adjustment Scale Setting : A-02-05 Equipment No. **Test Conditions:** : 18 degree Celsius Room Temperature **Relative Humidity** : 62% **Test Specifications & Methodology:** 1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.

2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

### **Results:**

Correlation Factor (CF)	0.0030

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PÁTRICK TSE Laboratory Manager



### **TEST REPORT APPLICANT: Cinotech Consultants Limited** Test Report No.: C/131231/3 Date of Issue: 2014-01-02 Room 1710, Technology Park, Date Received: 2013-12-31 18 On Lai Street, Date Tested: 2013-12-31 Shatin, NT, Hong Kong Date Completed: 2014-01-02 Next Due Date: 2014-03-01 ATTN: Mr. W. K. Tang Page: 1 of 1 **Certificate of Calibration Item for Calibration:** Description : Laser Dust Monitor Manufacturer : Sibata

Model No.	: LD-3B
Serial No.	: 014750
Sensitivity (K) 1 CPM	: 0.001 mg/m <sup>3</sup>
Sen. Adjustment Scale Setting	: 790 CPM
Equipment No.	: A-02-06
Test Conditions:	
Room Temperature	: 18 degree Celsius
Relative Humidity	: 50%

### **Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.

2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

### **Results:**

Correlation Factor (CF)	0.0033	
****		

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager



# **TEST REPORT**

# APPLICANT: Cinotech Consultants Limited Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong

Test Report No.:	C/140103/1
Date of Issue:	2014-01-06
Date Received:	2014-01-03
Date Tested:	2014-01-03
Date Completed:	2014-01-06
Next Due Date:	2014-03-05
Page:	1 of 1

### ATTN:

Mr. W. K. Tang

Certificate of Calibration	
Item for Calibration:	
Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 095039
Sensitivity (K) 1 CPM	: 0.001 mg/m <sup>3</sup>
Sen. Adjustment Scale Setting	: 764 CPM
Equipment No.	: A-02-08
Test Conditions:	
Room Temperature	: 19 degree Celsius
Relative Humidity	: 53%

# **Test Specifications & Methodology:**

Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
 In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

### **Results:**

Correlation Factor (CF)	0.0030

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager



### TEST REPORT APPLICANT: **Cinotech Consultants Limited** Test Report No.: C/140103/2 Room 1710, Technology Park, Date of Issue: 2014-01-06 18 On Lai Street, Date Received: 2014-01-03 Shatin, NT, Hong Kong Date Tested: 2014-01-03 Date Completed: 2014-01-06 Next Due Date: 2014-03-05 ATTN: Mr. W. K. Tang Page: 1 of 1 **Certificate of Calibration Item for Calibration:** Description : Laser Dust Monitor Manufacturer : Sibata Model No. :LD-3B Serial No. :095050 nitivity (V) 1 CDM , 3 0.001

Sensitivity (K) I CPM	: 0.001 mg/m <sup>3</sup>
Sen. Adjustment Scale Setting	: 577 CPM
Equipment No.	: A-02-09
Test Conditions:	
Room Temperature	: 19 degree Celsius
Relative Humidity	: 53%

### **Test Specifications & Methodology:**

Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
 In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

### **Results:**

Correlation Factor (CF)	0.0034	

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PATRICK TSE Laboratory Manager



### TEST REPORT **APPLICANT: Cinotech Consultants Limited** Test Report No.: C/140103/3 Date of Issue: 2014-01-06 Room 1710, Technology Park, Date Received: 2014-01-03 18 On Lai Street, Date Tested: Shatin, NT, Hong Kong 2014-01-03 Date Completed: 2014-01-06 Next Due Date: 2014-03-05 **ATTN:** Mr. W. K. Tang Page: 1 of 1 **Certificate of Calibration Item for Calibration:** Description : Laser Dust Monitor Manufacturer : Sibata Model No. : LD-3B :095029Serial No. $: 0.001 \text{ mg/m}^3$ Sensitivity (K) 1 CPM Sen. Adjustment Scale Setting : 551 CPM Equipment No. : A-02-10 **Test Conditions:** : 19 degree Celsius Room Temperature **Relative Humidity** : 53% **Test Specifications & Methodology:** 1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.

2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

### **Results:**

Correlation Factor (CF)	0.0033	
****		

PREPARED AND CHECKED BY: For and On Behalf of **WELLAB Ltd.** 

**PATRICK TSE** Laboratory Manager



# **TEST REPORT**

# APPLICANT: Cinotech Consultants Limited Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong

Test Report No.:	C/N/130919/1
Date of Issue:	2013-09-21
Date Received:	2013-09-19
Date Tested:	2013-09-21
Date Completed:	2013-09-21
Next Due Date:	2014-09-20
Page:	1 of 1

ATTN: Mr. W.K. Tang

# **Certificate of Calibration**

### Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 12553
Microphone No.	: 35222
Equipment No.	: N-08-02

### **Test conditions:**

Room Temperatre Relative Humidity : 22 degree Celsius : 57%

# **Test Specifications:**

Performance checking at 94 and 114 dB

### Methodology:

In-house method, according to manufacturer instruction manual

### **Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager



# **TEST REPORT**

# APPLICANT: Cinotech Consultants Limited Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong

Test Report No.:	C/N/130919/2
Date of Issue:	2013-09-21
Date Received:	2013-09-19
Date Tested:	2013-09-21
Date Completed:	2013-09-21
Next Due Date:	2014-09-20
Page:	1 of 1

ATTN: Mr. W.K. Tang

# **Certificate of Calibration**

# Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 12563
Microphone No.	: 34377
Equipment No.	: N-08-03

# **Test conditions:**

Room Temperatre Relative Humidity : 22 degree Celsius : 57%

### **Test Specifications:**

Performance checking at 94 and 114 dB

### Methodology:

In-house method, according to manufacturer instruction manual

### **Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

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PATRICK TSE Laboratory Manager



# **TEST REPORT**

# APPLICANT: Cinotech Consultants Limited Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong

Test Report No.:	C/N/140104
Date of Issue:	2014-01-05
Date Received:	2014-01-04
Date Tested:	2014-01-04
Date Completed:	2014-01-05
Next Due Date:	2015-01-04
Page:	1 of 1

ATTN:

Mr. W. K. Tang

# **Certificate of Calibration**

# Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 14303
Microphone No.	: 35222
Equipment No.	: N-08-05
s:	

# Test conditions:

Room Temperatre Relative Humidity : 19 degree Celsius : 52%

# **Test Specifications:**

Performance checking at 94 and 114 dB

# Methodology:

In-house method, according to manufacturer instruction manual

### **Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

Remark: 1)This report supersedes the one dated 2012/01/21 with certificate number C/N/120120/1.

# PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager



2014-08-24

1 of 1

# **TEST REPORT**

<b>APPLICANT:</b>	<b>Cinotech Consultants Limited</b>	Test Report No.:	C/N/130824/1
	Room 1710, Technology Park,	Date of Issue:	2013-08-25
	18 On Lai Street,	Date Received:	2013-08-24
	Shatin, NT, Hong Kong	Date Tested:	2013-08-24
		Date Completed:	2013-08-25

ATTN:

### Mr. W.K. Tang

# **Certificate of Calibration**

# Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 21139
Microphone No.	: 43690
Equipment No.	: N-08-06
A. 61	

Next Due Date:

Page:

# **Test conditions:**

Room Temperatre Relative Humidity : 20 degree Celsius : 65%

### **Test Specifications:**

Performance checking at 94 and 114 dB

# Methodology:

In-house method, according to manufacturer instruction manual

### **Results:**

Reference Set Point, dB	Instrument Readings, dB	
94	94.0	
114	114.0	

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager



# **TEST REPORT**

# APPLICANT: Cinotech Consultants Limited Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong

Test Report No.:	C/N/130830/2
Date of Issue:	2013-08-31
Date Received:	2013-08-30
Date Tested:	2013-08-30
Date Completed:	2013-08-31
Next Due Date:	2014-08-30
Page:	1 of 1

ATTN:

# Mr. W.K. Tang

# **Certificate of Calibration**

# Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 957
Serial No.	: 21459
Microphone No.	: 43676
Equipment No.	: N-08-08
101	

# **Test conditions:**

Room Temperatre Relative Humidity : 21 degree Celsius : 69%

### **Test Specifications:**

Performance checking at 94 and 114 dB

### Methodology:

In-house method, according to manufacturer instruction manual

### **Results:**

Reference Set Point, dB	Instrument Readings, dB	
94	94.0	
114	114.0	

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager



# **TEST REPORT**

# APPLICANT: Cinotech Consultants Limited Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong

Test Report No.:	C/N/131129/3
Date of Issue:	2013-11-30
Date Received:	2013-11-29
Date Tested:	2013-11-29
Date Completed:	2013-11-30
Next Due Date:	2014-11-29
Page:	1 of 1

ATTN: Mr. W.K. Tang

# **Certificate of Calibration**

# Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 957
Serial No.	: 23851
Microphone No.	: 48532
Equipment No.	: N-08-12

### **Test conditions:**

Room Temperatre Relative Humidity : 19 degree Celsius : 57%

### **Test Specifications:**

Performance checking at 94 and 114 dB

# Methodology:

In-house method, according to manufacturer instruction manual

# **Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

**P'ATRICK TSE** Laboratory Manager



<b>APPLICANT:</b>	Cinotech Consultants Li	mited Test Repor	t No.: C/N/131101/1
	Room 1710, Technology	Park, Date of Iss	ue: 2013-11-02
	18 On Lai Street,	Date Recei	ved: 2013-11-01
	Shatin, NT, Hong Kong	Date Teste	d: 2013-11-01
		Date Comp	oleted: 2013-11-02
		Next Due I	Date: 2014-11-01
ATTN:	Mr. W.K. Tang	Page:	1 of 1
	Description Manufacturer Model No. Serial No. Equipment No.	: Acoustical Calibrator : SVANTEK : SV30A : 10965 : N-09-02	
Test conditions	S:		
	Room Temperatre	: 20 degree Celsius	
	Relative Humidity	: 52%	

### Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

# **Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	$114.0 \pm 0.1 \text{ dB}$

PREPARED AND CHECKED BY: For and On Behalf of **WELLAB Ltd.** 

PATRICK TSE Laboratory Manager

WELLAB LIMITED Rms 816, 1516 & 1701, Technology Park, 18 On Lai Street, Shatin, N.T, Hong Kong. Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

A DDI LCIA NT.	Cinotech Consultants L	imited Test Report No	D.: C/N/131004/1
APPLICANT:	Room 1710, Technology		2013-10-05
	18 On Lai Street,	Date Received	: 2013-10-04
	Shatin, NT, Hong Kong	Date Tested:	2013-10-04
		Date Complete	ed: 2013-10-05
		Next Due Date	2014-10-04
ATTN:	Mr. W.K. Tang	Page:	1 of 1
Item for calibi	ation:		
		: Acoustical Calibrator	
	Description	: Acoustical Calibrator	
	Description Manufacturer	: SVANTEK	
	-		
	Manufacturer	: SVANTEK	

### Test conditions:

Room Temperatre Relative Humidity : 21 degree Celsius : 57%

# Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### **Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	$94.0 \pm 0.1 \text{ dB}$
At 114 dB SPL	114.0	$114.0 \pm 0.1 \text{ dB}$

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

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PATRICK TSE Laboratory Manager



<b>APPLICANT:</b>	<b>Cinotech Consultants</b>	s Limited	Test Report No.:	C/N/131004/2
	Room 1710, Technolo	ogy Park,	Date of Issue:	2013-10-05
	18 On Lai Street,		Date Received:	2013-10-04
	Shatin, NT, Hong Ko	ng	Date Tested:	2013-10-04
		-	Date Completed:	2013-10-05
			Next Due Date:	2014-10-04
ATTN:	Mr. W.K. Tang		Page:	1 of 1
Item for calibra	ation:			
	Description	: Acoustic	al Calibrator	
	Manufacturer	: SVANT	EK	
	Model No.	: SV30A		
		: 24791		
	Serial No.	. 24/91		

Room Temperatre Relative Humidity : 21 degree Celsius : 57%

# Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### **Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	$114.0 \pm 0.1 \text{ dB}$

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager



TEST REPORT				
APPLICANT:	Cinotech Consultants L	imited	Test Report No.:	C/N/131004/3
	Room 1710, Technology	<sup>,</sup> Park,	Date of Issue:	2013-10-05
	18 On Lai Street,		Date Received:	2013-10-04
	Shatin, NT, Hong Kong		Date Tested:	2013-10-04
			Date Completed:	2013-10-05
			Next Due Date:	2014-10-04
ATTN:	Mr. W.K. Tang		Page:	1 of 1
Item for calibra	tion:			
1	Description	: Acoustic	al Calibrator	
	Description Manufacturer	: Acoustic : SVANTI		
1	*			
ת ת	Manufacturer	: SVANTI		

### Test conditions:

Room Temperatre Relative Humidity : 21 degree Celsius : 57%

# Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

# **Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	$94.0 \pm 0.1 \text{ dB}$
At 114 dB SPL	114.0	$114.0 \pm 0.1 \text{ dB}$

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

**PATRICK TSE** Laboratory Manager



APPLICANT:	Cinotech Consultants Room 1710, Technolog		Test Report No.: Date of Issue:	C/N/131108/1 2013-11-09
	18 On Lai Street,	5) I UN XX,	Date Received:	2013-11-08
	Shatin, NT, Hong Kon	Ig	Date Tested:	2013-11-08
			Date Completed: Next Due Date:	2013-11-09 2014-11-08
ATTN:	Mr. W.K. Tang		Page:	1 of 1
Item for calibra	ition:			
]	Description	: Acoustic	al Calibrator	
1	Manufacturer	: Brüel & I	Kjær	
I	Model No.	: 4231		
c L	Serial No.	: 2326353		
]	Project No.	: C13		
]	Equipment No.	: N-02-01		
Test conditions	:			
]	Room Temperatre	: 21 degree	e Celsius	

# Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### **Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	$94.0 \pm 0.1 \text{ dB}$
At 114 dB SPL	114.0	$114.0 \pm 0.1 \text{ dB}$

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

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PATRICK TSE Laboratory Manager



2014-08-30

# **TEST REPORT**

# APPLICANT:Cinotech Consultants Limited<br/>Room 1710, Technology Park,<br/>18 On Lai Street,<br/>Shatin, NT, Hong KongTest Report No.:C/N/130830/4-v1Date of Issue:2014-03-07Date Received:2013-08-30Date Completed:2013-08-30Date Completed:2013-08-31

# ATTN: Mr. W.K. Tang

### Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2412367
Equipment No.	: N-02-03

### Test conditions:

Room Temperatre	: 20 degree Celsius
Relative Humidity	: 64%

# Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Next Due Date:

# **Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY: For and On Behalf of WELLAB Ltd.

PATRICK TSE Laboratory Manager

or tested.

APPENDIX C WEATHER INFORMATION

# I. General Information

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 February 2014	18.3 - 22.2	68 - 93	0
2 February 2014	17.5 – 23.8	56 - 96	0
3 February 2014	17.4 – 24.6	52 - 83	0
4 February 2014	16.6 – 19.4	78 – 86	Trace
5 February 2014	15.9 – 19.0	74 – 94	Trace
6 February 2014	16.7 – 21.6	77 – 92	Trace
7 February 2014	18.1 – 23.4	76 – 94	Trace
8 February 2014	16.0 - 18.0	83 - 96	0.3
9 February 2014	10.4 - 16.7	92 – 99	13.1
10 February 2014	8.3 - 10.5	67 – 92	0.3
11 February 2014	7.5 – 9.7	63 – 78	Trace
12 February 2014	7.3 – 10.5	75 – 96	0.4
13 February 2014	8.0 - 9.8	74 – 99	21.4
14 February 2014	8.2 - 14.6	56 – 75	0
15 February 2014	9.7 – 13.6	73 – 84	Trace
16 February 2014	13.3 – 15.4	84 - 92	Trace
17 February 2014	15.3 - 20.9	84 – 99	0
18 February 2014	12.2 - 21.5	75 – 99	Trace
19 February 2014	7.9 – 12.4	64 – 96	3.8

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
20 February 2014	8.2 – 17.3	37 - 80	0
21 February 2014	12.3 – 15.2	63 – 86	0
22 February 2014	12.6 – 17.1	64 - 85	0.2
23 February 2014	14.4 – 19.2	65 – 87	0
24 February 2014	15.0 - 19.3	73 – 89	Trace
25 February 2014	17.3 – 20.9	77 – 95	0
26 February 2014	17.9 – 24.1	73 – 96	Trace
27 February 2014	18.7 – 21.1	84 - 93	Trace
28 February 2014	17.4 – 19.0	84 - 90	Trace

# I. General Information

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

Date	Time	Wind Speed m/s	Direction
1-Feb-2014	00:00	2	ENE
1-Feb-2014	01:00	1.8	ENE
1-Feb-2014	02:00	1.4	ENE
1-Feb-2014	03:00	1.7	NE
1-Feb-2014	04:00	1.6	ENE
1-Feb-2014	05:00	1.5	ENE
1-Feb-2014	06:00	1.6	ENE
1-Feb-2014	07:00	1.6	ENE
1-Feb-2014	08:00	1.9	ENE
1-Feb-2014	09:00	1.6	WNW
1-Feb-2014	10:00	2	SW
1-Feb-2014	11:00	2	Ν
1-Feb-2014	12:00	2	WNW
1-Feb-2014	13:00	1.9	E
1-Feb-2014	14:00	1.8	Ν
1-Feb-2014	15:00	1.9	Ν
1-Feb-2014	16:00	1.7	ENE
1-Feb-2014	17:00	1.6	ENE
1-Feb-2014	18:00	1.3	ENE
1-Feb-2014	19:00	1.3	ENE
1-Feb-2014	20:00	1.9	ENE
1-Feb-2014	21:00	1.9	NE
1-Feb-2014	22:00	1.6	NE
1-Feb-2014	23:00	1.7	ENE
2-Feb-2014	00:00	1.6	NE
2-Feb-2014	01:00	1.1	NE
2-Feb-2014	02:00	1.3	ENE
2-Feb-2014	03:00	1.1	NE
2-Feb-2014	04:00	1.4	ENE
2-Feb-2014	05:00	0.5	ENE
2-Feb-2014	06:00	0.3	ENE
2-Feb-2014	07:00	0.2	Ν
2-Feb-2014	08:00	0.4	NE
2-Feb-2014	09:00	0.4	NE
2-Feb-2014	10:00	0.6	ENE
2-Feb-2014	11:00	0.8	ENE

2-Feb-201412:001.5NE2-Feb-201413:001.8ENE2-Feb-201414:001.6ENE2-Feb-201415:001.3ENE2-Feb-201416:000.8ENE2-Feb-201417:001.1ENE2-Feb-201417:000.8NNE2-Feb-201419:000.7NE2-Feb-201420:000.9SW2-Feb-201421:001S2-Feb-201423:000.9SW2-Feb-201423:000.9SW3-Feb-201400:000.7SW3-Feb-201400:000.7SW3-Feb-201401:000.8SW	
2-Feb-2014         14:00         1.6         ENE           2-Feb-2014         15:00         1.3         ENE           2-Feb-2014         16:00         0.8         ENE           2-Feb-2014         17:00         1.1         ENE           2-Feb-2014         17:00         1.1         ENE           2-Feb-2014         18:00         0.8         NNE           2-Feb-2014         19:00         0.7         NE           2-Feb-2014         20:00         0.9         SW           2-Feb-2014         21:00         1         S           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         23:00         0.9         SW           3-Feb-2014         00:00         0.7         SW	
2-Feb-2014         15:00         1.3         ENE           2-Feb-2014         16:00         0.8         ENE           2-Feb-2014         17:00         1.1         ENE           2-Feb-2014         17:00         0.8         NNE           2-Feb-2014         18:00         0.8         NNE           2-Feb-2014         19:00         0.7         NE           2-Feb-2014         20:00         0.9         SW           2-Feb-2014         20:00         0.9         SW           2-Feb-2014         21:00         1         S           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         23:00         0.9         SW           3-Feb-2014         00:00         0.7         SW	
2-Feb-2014         16:00         0.8         ENE           2-Feb-2014         17:00         1.1         ENE           2-Feb-2014         18:00         0.8         NNE           2-Feb-2014         19:00         0.7         NE           2-Feb-2014         19:00         0.7         NE           2-Feb-2014         20:00         0.9         SW           2-Feb-2014         21:00         1         S           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         23:00         0.9         SW           3-Feb-2014         00:00         0.7         SW	
2-Feb-2014         17:00         1.1         ENE           2-Feb-2014         18:00         0.8         NNE           2-Feb-2014         19:00         0.7         NE           2-Feb-2014         20:00         0.9         SW           2-Feb-2014         21:00         1         S           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         23:00         0.9         SW           2-Feb-2014         00:00         0.7         SW	
2-Feb-2014         18:00         0.8         NNE           2-Feb-2014         19:00         0.7         NE           2-Feb-2014         20:00         0.9         SW           2-Feb-2014         21:00         1         S           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         23:00         0.9         SW           3-Feb-2014         00:00         0.7         SW	
2-Feb-2014         19:00         0.7         NE           2-Feb-2014         20:00         0.9         SW           2-Feb-2014         21:00         1         S           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         23:00         0.9         SW           3-Feb-2014         00:00         0.7         SW	
2-Feb-2014         20:00         0.9         SW           2-Feb-2014         21:00         1         S           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         23:00         0.9         SW           3-Feb-2014         00:00         0.7         SW	
2-Feb-2014         21:00         1         S           2-Feb-2014         22:00         0.9         SW           2-Feb-2014         23:00         0.9         WSW           3-Feb-2014         00:00         0.7         SW	
2-Feb-2014         22:00         0.9         SW           2-Feb-2014         23:00         0.9         WSW           3-Feb-2014         00:00         0.7         SW	
2-Feb-2014         23:00         0.9         WSW           3-Feb-2014         00:00         0.7         SW	
3-Feb-2014 00:00 0.7 SW	
	1
3-Feb-2014 01:00 0.8 SW	
3-Feb-2014 02:00 0.5 W	
3-Feb-2014 03:00 0.5 W	
3-Feb-2014 04:00 0.7 N	
3-Feb-2014 05:00 0.4 W	
3-Feb-2014 06:00 0.2 SE	
3-Feb-2014 07:00 0.2 NNW	1
3-Feb-2014 08:00 0.3 SSW	
3-Feb-2014 09:00 0.6 SSW	
3-Feb-2014 10:00 0.6 WNW	1
3-Feb-2014 11:00 0.8 ENE	
3-Feb-2014 12:00 1.4 NE	
3-Feb-2014 13:00 1.5 ENE	
3-Feb-2014 14:00 1.8 SW	
3-Feb-2014 15:00 1.6 SW	
3-Feb-2014 16:00 1.6 SW	
3-Feb-2014 17:00 1.5 ENE	
3-Feb-2014 18:00 0.9 S	
3-Feb-2014 19:00 0.9 NE	
3-Feb-2014 20:00 1 N	
3-Feb-2014 21:00 0.8 NE	
3-Feb-2014 22:00 0.8 NE	
3-Feb-2014 23:00 0.8 NE	
4-Feb-2014 00:00 0.8 ENE	

4-Feb-2014	01:00	0.8	ENE
4-Feb-2014	02:00	0.9	NE
4-Feb-2014	03:00	0.9	NE
4-Feb-2014	04:00	0.6	NE
4-Feb-2014	05:00	0.6	NE
4-Feb-2014	06:00	0.8	NE
4-Feb-2014	07:00	0.5	NE
4-Feb-2014	08:00	0.6	ENE
4-Feb-2014	09:00	0.8	NE
4-Feb-2014	10:00	1.6	ENE
4-Feb-2014	11:00	2.1	NE
4-Feb-2014	12:00	2.3	ENE
4-Feb-2014	13:00	2.2	NE
4-Feb-2014	14:00	2.1	NE
4-Feb-2014	15:00	2.1	NE
4-Feb-2014	16:00	1.6	NE
4-Feb-2014	17:00	2	NE
4-Feb-2014	18:00	1.4	ENE
4-Feb-2014	19:00	1.5	ENE
4-Feb-2014	20:00	1.7	NE
4-Feb-2014	21:00	1.3	NE
4-Feb-2014	22:00	1.5	ENE
4-Feb-2014	23:00	1.4	NNE
5-Feb-2014	00:00	1.5	NNE
5-Feb-2014	01:00	1.6	NE
5-Feb-2014	02:00	2	NE
5-Feb-2014	03:00	2.1	N
5-Feb-2014	04:00	2	N
5-Feb-2014	05:00	2.1	N
5-Feb-2014	06:00	2	WSW
5-Feb-2014	07:00	2.1	W
5-Feb-2014	08:00	2	WSW
5-Feb-2014	09:00	2	SW
5-Feb-2014	10:00	1.9	SSW
5-Feb-2014	11:00	2	SW
5-Feb-2014	12:00	1.9	SW
5-Feb-2014	13:00	2.5	WSW

5-Feb-2014         14:00         2.5         SW           5-Feb-2014         15:00         2.7         NE           5-Feb-2014         16:00         2.5         WSW           5-Feb-2014         17:00         2.3         SE           5-Feb-2014         18:00         2.2         NE           5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         21:00         1.7         SSE           5-Feb-2014         20:00         3.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         00:00         2.3         SW           6-Feb-2014         00:00         2.3         SW           6-Feb-2014         00:00         2         SW           6-Feb-2014         00:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.8         SW           6-Feb-2014	5-Feb-2014         15:00         2.7         NE           5-Feb-2014         16:00         2.5         WSW           5-Feb-2014         17:00         2.3         SE           5-Feb-2014         18:00         2.2         NE           5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         00:00         3.3         SW           6-Feb-2014         00:00         2.3         SW           6-Feb-2014         00:00         2.3         SW           6-Feb-2014         00:00         2.3         SW           6-Feb-2014         00:00         2.3         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         2.5         ENE           6-Feb-2014				
5-Feb-2014         16:00         2.5         WSW           5-Feb-2014         17:00         2.3         SE           5-Feb-2014         18:00         2.2         NE           5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         00:00         2.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.8         SW           6-Feb-2014         07:00         2.5         ENE           6-Feb-2014         08:00         1.8         SW           6-Feb-2014	5-Feb-2014         16:00         2.5         WSW           5-Feb-2014         17:00         2.3         SE           5-Feb-2014         18:00         2.2         NE           5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         00:00         3.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         04:00         2         SSW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         <	5-Feb-2014	14:00	2.5	SW
5-Feb-2014         17:00         2.3         SE           5-Feb-2014         18:00         2.2         NE           5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         00:00         3.3         SW           6-Feb-2014         00:00         2.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.8         SW           6-Feb-2014         07:00         2.5         ENE           6-Feb-2014         08:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014	5-Feb-2014         17:00         2.3         SE           5-Feb-2014         18:00         2.2         NE           5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         00:00         2.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SSW           6-Feb-2014         04:00         2         SSW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.8         SW           6-Feb-2014         06:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         10:00         2.7         E           6-Feb-2014	5-Feb-2014	15:00	2.7	NE
5-Feb-2014         18:00         2.2         NE           5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         01:00         3.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         04:00         2         SSW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         08:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         13:00         2.7         E           6-Feb-2014 <td< td=""><td>5-Feb-2014         18:00         2.2         NE           5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         11:00         2.7         WSW           6-Feb-2014         13:00         2.7         E           6-Feb-2014</td><td>5-Feb-2014</td><td>16:00</td><td>2.5</td><td>WSW</td></td<>	5-Feb-2014         18:00         2.2         NE           5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         11:00         2.7         WSW           6-Feb-2014         13:00         2.7         E           6-Feb-2014	5-Feb-2014	16:00	2.5	WSW
5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         01:00         3.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         04:00         2         SSW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         08:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014 <td< td=""><td>5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         01:00         3.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.8         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         <td< td=""><td>5-Feb-2014</td><td>17:00</td><td>2.3</td><td>SE</td></td<></td></td<>	5-Feb-2014         19:00         1.8         SSW           5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         01:00         3.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.8         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014 <td< td=""><td>5-Feb-2014</td><td>17:00</td><td>2.3</td><td>SE</td></td<>	5-Feb-2014	17:00	2.3	SE
5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         01:00         3.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         02:00         2         SW           6-Feb-2014         02:00         2         SW           6-Feb-2014         03:00         2         SW           6-Feb-2014         04:00         2         SSW           6-Feb-2014         06:00         1.9         SSW           6-Feb-2014         06:00         1.9         SSW           6-Feb-2014         07:00         2         SW           6-Feb-2014         07:00         2.5         ENE           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         11:00         2.7         E           6-Feb-2014         1	5-Feb-2014         20:00         2         SW           5-Feb-2014         21:00         1.8         SW           5-Feb-2014         22:00         1.7         SSE           5-Feb-2014         23:00         1.3         SSE           6-Feb-2014         00:00         3.3         SSE           6-Feb-2014         01:00         3.3         SW           6-Feb-2014         02:00         2.3         SW           6-Feb-2014         03:00         2         SSW           6-Feb-2014         04:00         2         SSW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         11:00         2.7         E           6-Feb-2014         12:00         2.3         E           6-Feb-2014	5-Feb-2014	18:00	2.2	NE
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6-Feb-2014         03:00         2         SW           6-Feb-2014         04:00         2         SSW           6-Feb-2014         05:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         08:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         14:00         2         E           6-Feb-2014         14:00         2         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         20:00 </td <td>6-Feb-2014         03:00         2         SW           6-Feb-2014         04:00         2         SSW           6-Feb-2014         05:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.5         ENE           6-Feb-2014         11:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         14:00         2         E           6-Feb-2014         14:00         2         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         16:00         2.2         E           6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         19:00         2.6         SSW           6-Feb-2014         21:00<td>6-Feb-2014</td><td>01:00</td><td>3.3</td><td>SW</td></td>	6-Feb-2014         03:00         2         SW           6-Feb-2014         04:00         2         SSW           6-Feb-2014         05:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.5         ENE           6-Feb-2014         11:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         14:00         2         E           6-Feb-2014         14:00         2         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         16:00         2.2         E           6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         19:00         2.6         SSW           6-Feb-2014         21:00 <td>6-Feb-2014</td> <td>01:00</td> <td>3.3</td> <td>SW</td>	6-Feb-2014	01:00	3.3	SW
6-Feb-2014         04:00         2         SSW           6-Feb-2014         05:00         1.9         SW           6-Feb-2014         06:00         1.9         SSW           6-Feb-2014         07:00         2         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         08:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         14:00         2         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         16:00         2.2         E           6-Feb-2014         18:00         2.2         E           6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         20:00 </td <td>6-Feb-2014         04:00         2         SSW           6-Feb-2014         05:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         08:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         11:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         14:00         2         E           6-Feb-2014         14:00         2         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         18:00         2.2         E           6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         20:00         2.6         SSW           6-Feb-2014         21:00<td>6-Feb-2014</td><td>02:00</td><td>2.3</td><td>SW</td></td>	6-Feb-2014         04:00         2         SSW           6-Feb-2014         05:00         1.9         SW           6-Feb-2014         06:00         1.9         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         07:00         2         SW           6-Feb-2014         08:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         11:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         14:00         2         E           6-Feb-2014         14:00         2         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         18:00         2.2         E           6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         20:00         2.6         SSW           6-Feb-2014         21:00 <td>6-Feb-2014</td> <td>02:00</td> <td>2.3</td> <td>SW</td>	6-Feb-2014	02:00	2.3	SW
6-Feb-201405:001.9SW6-Feb-201406:001.9SSW6-Feb-201407:002SW6-Feb-201408:001.8SW6-Feb-201409:002.5ENE6-Feb-201410:002.5ENE6-Feb-201411:002.7WSW6-Feb-201411:002.7E6-Feb-201411:002.7E6-Feb-201412:002.3E6-Feb-201413:002.7E6-Feb-201414:002E6-Feb-201416:001.9E6-Feb-201416:001.9E6-Feb-201417:002.2E6-Feb-201419:002.4SSW6-Feb-201421:002.6SSW6-Feb-201421:002.5NE6-Feb-201421:002.3NE6-Feb-201421:002.3NE6-Feb-201421:002.3NE6-Feb-201421:002.3NE6-Feb-201421:002.3NE6-Feb-201422:002.3NE6-Feb-201422:002.3NE6-Feb-201423:002.3NE6-Feb-201423:002.3NE6-Feb-201400:002.7NE	6-Feb-2014         05:00         1.9         SW           6-Feb-2014         06:00         1.9         SSW           6-Feb-2014         07:00         2         SW           6-Feb-2014         08:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.5         ENE           6-Feb-2014         11:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014         12:00         2.3         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         14:00         2         E           6-Feb-2014         14:00         2         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         16:00         2.2         E           6-Feb-2014         19:00         2.2         E           6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         21:00         2.5         NE           6-Feb-2014         21:00 </td <td>6-Feb-2014</td> <td>03:00</td> <td>2</td> <td>SW</td>	6-Feb-2014	03:00	2	SW
6-Feb-2014         06:00         1.9         SSW           6-Feb-2014         07:00         2         SW           6-Feb-2014         08:00         1.8         SW           6-Feb-2014         09:00         2.5         ENE           6-Feb-2014         10:00         2.5         ENE           6-Feb-2014         10:00         2.7         WSW           6-Feb-2014         11:00         2.7         WSW           6-Feb-2014         12:00         2.3         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         13:00         2.7         E           6-Feb-2014         14:00         2         E           6-Feb-2014         15:00         1.9         E           6-Feb-2014         16:00         1.9         E           6-Feb-2014         17:00         2.2         E           6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         19:00         2.6         SSW           6-Feb-2014         21:00         2.5         NE           6-Feb-2014         21:00         2.3         NE           6-Feb-2014         2	6-Feb-201406:001.9SSW6-Feb-201407:002SW6-Feb-201408:001.8SW6-Feb-201409:002.5ENE6-Feb-201410:002.5ENE6-Feb-201411:002.7WSW6-Feb-201412:002.3E6-Feb-201413:002.7E6-Feb-201414:002E6-Feb-201415:001.9E6-Feb-201416:001.9E6-Feb-201417:002.2E6-Feb-201418:002.2E6-Feb-201419:002.4SSW6-Feb-201421:002.5NE6-Feb-201423:002.3NE6-Feb-201421:002.5NE6-Feb-201422:002.3NE7-Feb-201400:002.7NE7-Feb-201401:002.2SSW	6-Feb-2014	04:00	2	SSW
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6-Feb-2014         18:00         2.2         E           6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         20:00         2.6         SSW           6-Feb-2014         21:00         2.5         NE           6-Feb-2014         22:00         2.3         NE           6-Feb-2014         23:00         2.3         NE           7-Feb-2014         00:00         2.7         NE	6-Feb-201418:002.2E6-Feb-201419:002.4SSW6-Feb-201420:002.6SSW6-Feb-201421:002.5NE6-Feb-201422:002.3NE6-Feb-201423:002.3NE7-Feb-201400:002.7NE7-Feb-201401:002.2SSW	6-Feb-2014	16:00	1.9	E
6-Feb-2014         19:00         2.4         SSW           6-Feb-2014         20:00         2.6         SSW           6-Feb-2014         21:00         2.5         NE           6-Feb-2014         22:00         2.3         NE           6-Feb-2014         23:00         2.3         NE           7-Feb-2014         00:00         2.7         NE	6-Feb-201419:002.4SSW6-Feb-201420:002.6SSW6-Feb-201421:002.5NE6-Feb-201422:002.3NE6-Feb-201423:002.3NE7-Feb-201400:002.7NE7-Feb-201401:002.2SSW	6-Feb-2014	17:00	2.2	E
6-Feb-2014         20:00         2.6         SSW           6-Feb-2014         21:00         2.5         NE           6-Feb-2014         22:00         2.3         NE           6-Feb-2014         23:00         2.3         NE           7-Feb-2014         00:00         2.7         NE	6-Feb-201420:002.6SSW6-Feb-201421:002.5NE6-Feb-201422:002.3NE6-Feb-201423:002.3NE7-Feb-201400:002.7NE7-Feb-201401:002.2SSW	6-Feb-2014	18:00	2.2	E
6-Feb-2014         21:00         2.5         NE           6-Feb-2014         22:00         2.3         NE           6-Feb-2014         23:00         2.3         NE           7-Feb-2014         00:00         2.7         NE	6-Feb-201421:002.5NE6-Feb-201422:002.3NE6-Feb-201423:002.3NE7-Feb-201400:002.7NE7-Feb-201401:002.2SSW	6-Feb-2014	19:00	2.4	SSW
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6-Feb-2014         23:00         2.3         NE           7-Feb-2014         00:00         2.7         NE	6-Feb-201423:002.3NE7-Feb-201400:002.7NE7-Feb-201401:002.2SSW	6-Feb-2014	21:00	2.5	NE
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	7-Feb-2014 01:00 2.2 SSW	6-Feb-2014	23:00	2.3	NE
7-Feb-2014 01:00 2.2 SSW		7-Feb-2014	00:00	2.7	NE
	7-Feb-2014 02:00 2 E	7-Feb-2014	01:00	2.2	SSW
7-Feb-2014 02:00 2 E		7-Feb-2014	02:00	2	E

7-Feb-2014	03:00	1.9	SW
7-Feb-2014	04:00	1.8	SW
7-Feb-2014	05:00	2.5	NNE
7-Feb-2014	06:00	1.6	E
7-Feb-2014	07:00	2.1	E
7-Feb-2014	08:00	2.5	E
7-Feb-2014	09:00	3	N
7-Feb-2014	10:00	3.2	W
7-Feb-2014	11:00	3.2	N
7-Feb-2014	12:00	3.8	N
7-Feb-2014	13:00	4.1	NE
7-Feb-2014	14:00	4	E
7-Feb-2014	15:00	4.4	E
7-Feb-2014	16:00	4.1	ESE
7-Feb-2014	17:00	3.5	WSW
7-Feb-2014	18:00	2.8	NNW
7-Feb-2014	19:00	1.8	SW
7-Feb-2014	20:00	1.9	SW
7-Feb-2014	21:00	2.9	N
7-Feb-2014	22:00	3.1	SSE
7-Feb-2014	23:00	1.9	NNE
8-Feb-2014	00:00	1	SW
8-Feb-2014	01:00	0.9	SSW
8-Feb-2014	02:00	0.9	SW
8-Feb-2014	03:00	0.9	W
8-Feb-2014	04:00	0.9	SSW
8-Feb-2014	05:00	1	SW
8-Feb-2014	06:00	0.7	S
8-Feb-2014	07:00	0.7	S
8-Feb-2014	08:00	0.8	E
8-Feb-2014	09:00	1.2	E
8-Feb-2014	10:00	1.8	E
8-Feb-2014	11:00	1.4	E
8-Feb-2014	12:00	1.9	NW
8-Feb-2014	13:00	2.2	NE
8-Feb-2014	14:00	2.2	NE
8-Feb-2014	15:00	2.1	NE

		1	1
8-Feb-2014	16:00	1.9	SSW
8-Feb-2014	17:00	1	SW
8-Feb-2014	18:00	0.8	E
8-Feb-2014	19:00	0.6	E
8-Feb-2014	20:00	0.4	E
8-Feb-2014	21:00	0.4	WSW
8-Feb-2014	22:00	0.4	E
8-Feb-2014	23:00	0.6	E
9-Feb-2014	00:00	1.3	E
9-Feb-2014	01:00	1	Ν
9-Feb-2014	02:00	0.9	W
9-Feb-2014	03:00	1	E
9-Feb-2014	04:00	0.9	E
9-Feb-2014	05:00	1	ESE
9-Feb-2014	06:00	0.9	SSW
9-Feb-2014	07:00	1.2	SW
9-Feb-2014	08:00	0.9	WSW
9-Feb-2014	09:00	1.7	N
9-Feb-2014	10:00	2.4	SSW
9-Feb-2014	11:00	2.1	N
9-Feb-2014	12:00	1.7	SW
9-Feb-2014	13:00	2.4	SW
9-Feb-2014	14:00	2.1	SW
9-Feb-2014	15:00	2.5	NE
9-Feb-2014	16:00	2	W
9-Feb-2014	17:00	1.3	S
9-Feb-2014	18:00	1.3	SW
9-Feb-2014	19:00	1	SW
9-Feb-2014	20:00	0.8	SW
9-Feb-2014	21:00	0.8	SW
9-Feb-2014	22:00	0.9	SW
9-Feb-2014	23:00	0.6	SW
10-Feb-2014	00:00	0.8	SW
10-Feb-2014	01:00	1.5	SW
10-Feb-2014	02:00	1.7	WSW
10-Feb-2014	03:00	1.5	W
10-Feb-2014	04:00	2.4	NNE

10-Feb-2014	05:00	2.3	ENE
10-Feb-2014	06:00	2.8	ENE
10-Feb-2014	07:00	2.7	NE
10-Feb-2014	08:00	2.5	NE
10-Feb-2014	09:00	2.5	NE
10-Feb-2014	10:00	2.2	Ν
10-Feb-2014	11:00	2.2	ENE
10-Feb-2014	12:00	2.4	SSE
10-Feb-2014	13:00	2.6	SSE
10-Feb-2014	14:00	2.5	WSW
10-Feb-2014	15:00	2.6	WSW
10-Feb-2014	16:00	2.7	S
10-Feb-2014	17:00	3	SSW
10-Feb-2014	18:00	2.7	WNW
10-Feb-2014	19:00	2.6	W
10-Feb-2014	20:00	2.3	S
10-Feb-2014	21:00	1.5	W
10-Feb-2014	22:00	1.6	WSW
10-Feb-2014	23:00	1.8	SW
11-Feb-2014	00:00	2.3	SW
11-Feb-2014	01:00	1.9	SW
11-Feb-2014	02:00	1.8	SW
11-Feb-2014	03:00	0.8	SW
11-Feb-2014	04:00	0.6	W
11-Feb-2014	05:00	1.9	WSW
11-Feb-2014	06:00	1.7	SW
11-Feb-2014	07:00	1.2	W
11-Feb-2014	08:00	1.4	SSE
11-Feb-2014	09:00	2.3	SSE
11-Feb-2014	10:00	2.4	W
11-Feb-2014	11:00	2.5	SW
11-Feb-2014	12:00	3.1	ESE
11-Feb-2014	13:00	3.1	NW
11-Feb-2014	14:00	3.3	SSW
11-Feb-2014	15:00	2.9	S
11-Feb-2014	16:00	2.6	SSW
11-Feb-2014	17:00	2.7	WNW

11-Feb-2014	18:00	2.2	WNW
11-Feb-2014	19:00	0.9	WSW
11-Feb-2014	20:00	1.7	WSW
11-Feb-2014	21:00	2	W
11-Feb-2014	22:00	1.6	W
11-Feb-2014	23:00	1.1	WSW
12-Feb-2014	00:00	1.3	WSW
12-Feb-2014	01:00	1.5	SW
12-Feb-2014	02:00	1.1	W
12-Feb-2014	03:00	1.2	W
12-Feb-2014	04:00	0.9	SW
12-Feb-2014	05:00	1	SSW
12-Feb-2014	06:00	0.7	W
12-Feb-2014	07:00	0.6	W
12-Feb-2014	08:00	0.8	WSW
12-Feb-2014	09:00	0.6	W
12-Feb-2014	10:00	1.5	W
12-Feb-2014	11:00	2	WSW
12-Feb-2014	12:00	2.4	W
12-Feb-2014	13:00	2.4	NE
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12-Feb-2014	16:00	1.8	W
12-Feb-2014	17:00	1.9	W
12-Feb-2014	18:00	1.7	W
12-Feb-2014	19:00	0.9	SSW
12-Feb-2014	20:00	0.6	ENE
12-Feb-2014	21:00	0.6	S
12-Feb-2014	22:00	0.5	WNW
12-Feb-2014	23:00	0.6	SSW
13-Feb-2014	00:00	0.6	W
13-Feb-2014	01:00	0.5	W
13-Feb-2014	02:00	0.6	WSW
13-Feb-2014	03:00	0.5	WSW
13-Feb-2014	04:00	0.5	SW
13-Feb-2014	05:00	0.6	WSW
13-Feb-2014	06:00	0.5	SW

13-Feb-2014	07:00	0.6	WSW
13-Feb-2014	08:00	0.6	SSW
13-Feb-2014	09:00	0.9	W
13-Feb-2014	10:00	1.8	WNW
13-Feb-2014	11:00	2.1	WSW
13-Feb-2014	12:00	2.3	WNW
13-Feb-2014	13:00	1.8	WSW
13-Feb-2014	14:00	1.8	WSW
13-Feb-2014	15:00	1.9	WSW
13-Feb-2014	16:00	1.7	SW
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13-Feb-2014	18:00	1.1	WNW
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13-Feb-2014	20:00	1.3	WSW
13-Feb-2014	21:00	1.5	WNW
13-Feb-2014	22:00	0.9	WSW
13-Feb-2014	23:00	1.1	WSW
14-Feb-2014	00:00	1.2	WNW
14-Feb-2014	01:00	1.3	WNW
14-Feb-2014	02:00	1.5	WNW
14-Feb-2014	03:00	1.2	WNW
14-Feb-2014	04:00	0.9	SW
14-Feb-2014	05:00	0.8	WSW
14-Feb-2014	06:00	0.9	WSW
14-Feb-2014	07:00	0.9	SW
14-Feb-2014	08:00	0.9	W
14-Feb-2014	09:00	1.2	W
14-Feb-2014	10:00	2	WSW
14-Feb-2014	11:00	2.2	SSW
14-Feb-2014	12:00	3	WSW
14-Feb-2014	13:00	2.6	SW
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14-Feb-2014	15:00	2.8	WSW
14-Feb-2014	16:00	2.4	SW
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14-Feb-2014	19:00	1.8	WSW

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14-Feb-2014	21:00	1.7	WSW
14-Feb-2014	22:00	1.7	WSW
14-Feb-2014	23:00	1.1	SW
15-Feb-2014	00:00	1.7	WSW
15-Feb-2014	01:00	1	W
15-Feb-2014	02:00	1.1	WNW
15-Feb-2014	03:00	1.5	WNW
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15-Feb-2014	14:00	2.6	WNW
15-Feb-2014	15:00	2.7	WNW
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15-Feb-2014	17:00	2.4	SSE
15-Feb-2014	18:00	2	W
15-Feb-2014	19:00	1.4	SW
15-Feb-2014	20:00	1.2	SW
15-Feb-2014	21:00	0.9	W
15-Feb-2014	22:00	1.3	SSW
15-Feb-2014	23:00	1.2	SW
16-Feb-2014	00:00	1	WSW
16-Feb-2014	01:00	1.2	WSW
16-Feb-2014	02:00	0.8	W
16-Feb-2014	03:00	0.7	SW
16-Feb-2014	04:00	0.7	W
16-Feb-2014	05:00	0.9	W
16-Feb-2014	06:00	0.6	W
16-Feb-2014	07:00	0.8	W
16-Feb-2014	08:00	0.8	WNW

16-Feb-2014	09:00	1.6	SW
16-Feb-2014	10:00	2	WSW
16-Feb-2014	11:00	2	W
16-Feb-2014	12:00	2.1	W
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16-Feb-2014	19:00	1	WSW
16-Feb-2014	20:00	1.1	WSW
16-Feb-2014	21:00	1.7	WSW
16-Feb-2014	22:00	0.9	WSW
16-Feb-2014	23:00	0.7	WSW
17-Feb-2014	00:00	0.8	WNW
17-Feb-2014	01:00	1	W
17-Feb-2014	02:00	0.7	WNW
17-Feb-2014	03:00	1	WNW
17-Feb-2014	04:00	1	WNW
17-Feb-2014	05:00	1	WSW
17-Feb-2014	06:00	1.2	WNW
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17-Feb-2014	21:00	1.1	S

17-Feb-2014	22:00	1	S
17-Feb-2014	23:00	0.7	W
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18-Feb-2014	01:00	1.2	WNW
18-Feb-2014	02:00	0.8	W
18-Feb-2014	03:00	0.8	WNW
18-Feb-2014	04:00	0.8	WNW
18-Feb-2014	05:00	0.9	WNW
18-Feb-2014	06:00	0.6	W
18-Feb-2014	07:00	0.6	WNW
18-Feb-2014	08:00	1	WNW
18-Feb-2014	09:00	1.7	WSW
18-Feb-2014	10:00	2.4	W
18-Feb-2014	11:00	2	WSW
18-Feb-2014	12:00	2.8	WSW
18-Feb-2014	13:00	2.4	WSW
18-Feb-2014	14:00	2.4	WSW
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18-Feb-2014	18:00	2.7	WNW
18-Feb-2014	19:00	2.3	WNW
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19-Feb-2014	04:00	2.5	WSW
19-Feb-2014	05:00	2.7	SSW
19-Feb-2014	06:00	2.9	SSW
19-Feb-2014	07:00	2.4	SSW
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19-Feb-2014	09:00	2.5	SW
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19-Feb-2014	20:00	2.4	WSW
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19-Feb-2014	22:00	1.5	W
19-Feb-2014	23:00	1.9	WSW
20-Feb-2014	00:00	1.5	WNW
20-Feb-2014	01:00	1	W
20-Feb-2014	02:00	1.4	W
20-Feb-2014	03:00	0.9	SW
20-Feb-2014	04:00	1	W
20-Feb-2014	05:00	0.9	SW
20-Feb-2014	06:00	0.9	SW
20-Feb-2014	07:00	0.9	W
20-Feb-2014	08:00	1.1	W
20-Feb-2014	09:00	1.8	W
20-Feb-2014	10:00	2.3	WSW
20-Feb-2014	11:00	2.4	SSW
20-Feb-2014	12:00	3	SW
20-Feb-2014	13:00	2.6	W
20-Feb-2014	14:00	2.8	W
20-Feb-2014	15:00	2.8	WNW
20-Feb-2014	16:00	2.5	WNW
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20-Feb-2014	18:00	1.9	WSW
20-Feb-2014	19:00	1.6	WSW
20-Feb-2014	20:00	1.4	N
20-Feb-2014	21:00	1.5	N
20-Feb-2014	22:00	1.6	NNE
20-Feb-2014	23:00	1.6	NNE

21-Feb-2014	00:00	1.9	NE
21-Feb-2014	01:00	1.5	ENE
21-Feb-2014	02:00	1.9	E
21-Feb-2014	03:00	1.7	E
21-Feb-2014	04:00	1.2	WSW
21-Feb-2014	05:00	1.2	WNW
21-Feb-2014	06:00	1.6	WNW
21-Feb-2014	07:00	1.2	WSW
21-Feb-2014	08:00	0.9	W
21-Feb-2014	09:00	1.6	WSW
21-Feb-2014	10:00	1.7	W
21-Feb-2014	11:00	1.9	W
21-Feb-2014	12:00	2	WNW
21-Feb-2014	13:00	1.9	WNW
21-Feb-2014	14:00	2.2	WSW
21-Feb-2014	15:00	2	WSW
21-Feb-2014	16:00	1.8	WNW
21-Feb-2014	17:00	1.6	WNW
21-Feb-2014	18:00	1.5	W
21-Feb-2014	19:00	1.2	WSW
21-Feb-2014	20:00	1.2	WSW
21-Feb-2014	21:00	1.3	WSW
21-Feb-2014	22:00	1.5	WSW
21-Feb-2014	23:00	2.1	WNW
22-Feb-2014	00:00	2.2	SW
22-Feb-2014	01:00	2.2	WSW
22-Feb-2014	02:00	2	W
22-Feb-2014	03:00	2	N
22-Feb-2014	04:00	2.5	N
22-Feb-2014	05:00	2.5	WNW
22-Feb-2014	06:00	1.9	W
22-Feb-2014	07:00	2.5	SSW
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22-Feb-2014	09:00	3.3	W
22-Feb-2014	10:00	3	WNW
22-Feb-2014	11:00	3.1	WNW
22-Feb-2014	12:00	2.7	WNW

22-Feb-2014	13:00	2.5	W
22-Feb-2014	14:00	2.5	W
22-Feb-2014	15:00	2.2	W
22-Feb-2014	16:00	2.9	WNW
22-Feb-2014	17:00	2.2	WNW
22-Feb-2014	18:00	1.9	WNW
22-Feb-2014	19:00	2.7	Ν
22-Feb-2014	20:00	2.5	WNW
22-Feb-2014	21:00	2.6	SSW
22-Feb-2014	22:00	2.8	W
22-Feb-2014	23:00	2.5	S
23-Feb-2014	00:00	2.5	SSW
23-Feb-2014	01:00	2.9	WNW
23-Feb-2014	02:00	3.1	WNW
23-Feb-2014	03:00	2.9	WNW
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23-Feb-2014	10:00	4.1	N
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23-Feb-2014	12:00	4.2	ESE
23-Feb-2014	13:00	4.3	WNW
23-Feb-2014	14:00	4.3	WNW
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23-Feb-2014	16:00	3.9	W
23-Feb-2014	17:00	3.7	W
23-Feb-2014	18:00	3	WNW
23-Feb-2014	19:00	2.9	N
23-Feb-2014	20:00	3.2	ENE
23-Feb-2014	21:00	2.7	E
23-Feb-2014	22:00	3	E
23-Feb-2014	23:00	2.3	E
24-Feb-2014	00:00	2.2	E
24-Feb-2014	01:00	2.3	ENE

24-Feb-2014	02:00	2.1	ESE
24-Feb-2014	03:00	2.2	E
24-Feb-2014	04:00	3	ENE
24-Feb-2014	05:00	2.7	ENE
24-Feb-2014	06:00	2.8	ENE
24-Feb-2014	07:00	2.3	ENE
24-Feb-2014	08:00	2.9	WSW
24-Feb-2014	09:00	3.1	ENE
24-Feb-2014	10:00	3.5	WSW
24-Feb-2014	11:00	3.8	SW
24-Feb-2014	12:00	3.2	SE
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24-Feb-2014	14:00	3.6	ENE
24-Feb-2014	15:00	3.4	W
24-Feb-2014	16:00	3.2	NE
24-Feb-2014	17:00	2.7	Ν
24-Feb-2014	18:00	1.9	SW
24-Feb-2014	19:00	1.1	W
24-Feb-2014	20:00	1.2	W
24-Feb-2014	21:00	1.4	ENE
24-Feb-2014	22:00	1.2	SE
24-Feb-2014	23:00	1.7	SSE
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25-Feb-2014	01:00	2.3	WSW
25-Feb-2014	02:00	1.8	ESE
25-Feb-2014	03:00	1.6	ESE
25-Feb-2014	04:00	1.7	SSE
25-Feb-2014	05:00	1.3	NE
25-Feb-2014	06:00	0.8	SW
25-Feb-2014	07:00	1.2	N
25-Feb-2014	08:00	1.9	SW
25-Feb-2014	09:00	2.2	NE
25-Feb-2014	10:00	2.4	WNW
25-Feb-2014	11:00	2.4	WNW
25-Feb-2014	12:00	1.9	ENE
25-Feb-2014	13:00	2.5	SE
25-Feb-2014	14:00	2.6	NNE
25-Feb-2014	14:00	2.6	NNE

25-Feb-2014	15:00	3.5	NNE
25-Feb-2014	16:00	3.2	ENE
25-Feb-2014	17:00	2.5	SW
25-Feb-2014	18:00	1.9	NE
25-Feb-2014	19:00	1.5	NE
25-Feb-2014	20:00	0.7	ESE
25-Feb-2014	21:00	0.3	SSE
25-Feb-2014	22:00	1	SW
25-Feb-2014	23:00	0.9	WSW
26-Feb-2014	00:00	0.9	SW
26-Feb-2014	01:00	0.8	E
26-Feb-2014	02:00	0.8	SSE
26-Feb-2014	03:00	0.9	SSE
26-Feb-2014	04:00	0.9	S
26-Feb-2014	05:00	0.8	S
26-Feb-2014	06:00	0.8	S
26-Feb-2014	07:00	0.8	WSW
26-Feb-2014	08:00	1.8	WSW
26-Feb-2014	09:00	1.9	NE
26-Feb-2014	10:00	1.4	SW
26-Feb-2014	11:00	0.9	SW
26-Feb-2014	12:00	1.3	N
26-Feb-2014	13:00	1.6	ESE
26-Feb-2014	14:00	1.6	W
26-Feb-2014	15:00	1.9	SW
26-Feb-2014	16:00	1.7	SW
26-Feb-2014	17:00	1.2	SW
26-Feb-2014	18:00	0.9	E
26-Feb-2014	19:00	0.9	E
26-Feb-2014	20:00	1.3	WSW
26-Feb-2014	21:00	1.8	WSW
26-Feb-2014	22:00	1.8	W
26-Feb-2014	23:00	1.9	W
27-Feb-2014	00:00	1.5	W
27-Feb-2014	01:00	1.5	WSW
27-Feb-2014	02:00	1.5	WSW
27-Feb-2014	03:00	1.3	SW

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27-Feb-2014	04:00	1.2	SW
27-Feb-2014	05:00	1	SSW
27-Feb-2014	06:00	0.9	NE
27-Feb-2014	07:00	0.9	NE
27-Feb-2014	08:00	1.3	ENE
27-Feb-2014	09:00	1.3	W
27-Feb-2014	10:00	1.2	W
27-Feb-2014	11:00	0.9	W
27-Feb-2014	12:00	1.7	W
27-Feb-2014	13:00	1.5	WNW
27-Feb-2014	14:00	1.6	WSW
27-Feb-2014	15:00	1.6	WSW
27-Feb-2014	16:00	1.5	WSW
27-Feb-2014	17:00	1.7	WSW
27-Feb-2014	18:00	1.3	WSW
27-Feb-2014	19:00	1	W
27-Feb-2014	20:00	0.7	SW
27-Feb-2014	21:00	0.8	SW
27-Feb-2014	22:00	0.7	SSE
27-Feb-2014	23:00	0.7	Ν
28-Feb-2014	00:00	0.5	ENE
28-Feb-2014	01:00	0.5	WSW
28-Feb-2014	02:00	0.4	WSW
28-Feb-2014	03:00	0.4	SW
28-Feb-2014	04:00	0.3	SW
28-Feb-2014	05:00	0.3	WSW
28-Feb-2014	06:00	0.3	WSW
28-Feb-2014	07:00	0.4	W
28-Feb-2014	08:00	0.4	E
28-Feb-2014	09:00	0.8	WNW
28-Feb-2014	10:00	1.7	SE
28-Feb-2014	11:00	2	SE
28-Feb-2014	12:00	2.2	NNE
28-Feb-2014	13:00	2.6	WSW
28-Feb-2014	14:00	2.5	SW
28-Feb-2014	15:00	2.6	W
28-Feb-2014	16:00	2.1	NE

28-Feb-2014	17:00	2.7	ESE
28-Feb-2014	18:00	2	WNW
28-Feb-2014	19:00	1.9	WNW
28-Feb-2014	20:00	1.7	WSW
28-Feb-2014	21:00	1.6	WNW
28-Feb-2014	22:00	1.6	W
28-Feb-2014	23:00	2	WNW

APPENDIX D ENVIRONMENTAL MONITORING SCHEDULES

#### Contract No. KL/2012/03 Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area Impact Air and Noise Monitoring Schedule for February 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		•	•			1-Feb
2-Feb	3-Feb	4-Feb	5-Feb	6-Feb	7-Feb	8-Feb
			1 hr TSP X3			
			Noise (M8)		Noise	
					(M6 and M7)	
		24 hr TSP			24 hr TSP	
		24 11 151			24 11 151	
9-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb
	1 hr TSP X3				1 hr TSP X3	
	Noise (M8)					
				Noise		
				(M6 and M7)		
				24 hr TSP		
	15.5.1			20 F.I		<b>20</b> E 1
16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb
				1 hr TSP X3		
		Noise		Noise (M8)		
		(M6 and M7)				
		(No and M7)	24 hr TSP			
			24 11 131			
23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb	
		1 hr TSP X3				
		Noise (M8)				
				Noise		
				(M6 and M7)		
	24 hr TSP					

#### Air Quality Monitoring Station

AM2 - Lee Kau Yan Memorial School AM3(A) - Holy Trinity Bradbury Centre AM4(A) - EMSD Workshops AM5(A) - Po Leung Kuk Ngan Po Ling College

#### **Noise Monitoring Station**

M6 - Holy Carpenter Primary School M7 - CCC Kei To Secondary School M8 - Po Leung Kuk Ngan Po Ling College

Contract No. KL/2012/03 Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area Tentative Impact Air and Noise Monitoring Schedule for March 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Mar
2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	8-Mai
- 11202	5 114	1114	0 114	0 1111	/ 1/14	0 1/14
	1 hr TSP X3				1 hr TSP X3	
	Noise (M8)					
			Noise			
			(M6 and M7)			
				24 hr TSP		
0 М	10-Mar	11-Mar	12 14	13-Mar	14 14	15-Mar
9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar
				1 hr TSP X3		
				Noise (M8)		
			Noise	Tiolise (IIIO)		
			(M6 and M7)			
			24 hr TSP			
16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar
			1 hr TSP X3			
		Noise	Noise (M8)			
		(M6 and M7)				
		24 hr TSP				
		24 11 131				
23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar
		1 hr TSP X3				
		Noise (M8)				
				Noise		
				(M6 and M7)		
	24 hr TSP				24 hr TSP	
	31-Mar					
	1 hr TSP X3					
	Noise (M8)					
	1					
	1					
	1					
	1					

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

#### Air Quality Monitoring Station

AM2 - Lee Kau Yan Memorial School AM3(A) - Holy Trinity Bradbury Centre AM4(A) - EMSD Workshops AM5(A) - Po Leung Kuk Ngan Po Ling College

#### Noise Monitoring Station

M6 - Holy Carpenter Primary School M7 - CCC Kei To Secondary School M8 - Po Leung Kuk Ngan Po Ling College

APPENDIX E 1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

# Appendix E - 1-hour TSP Monitoring Results

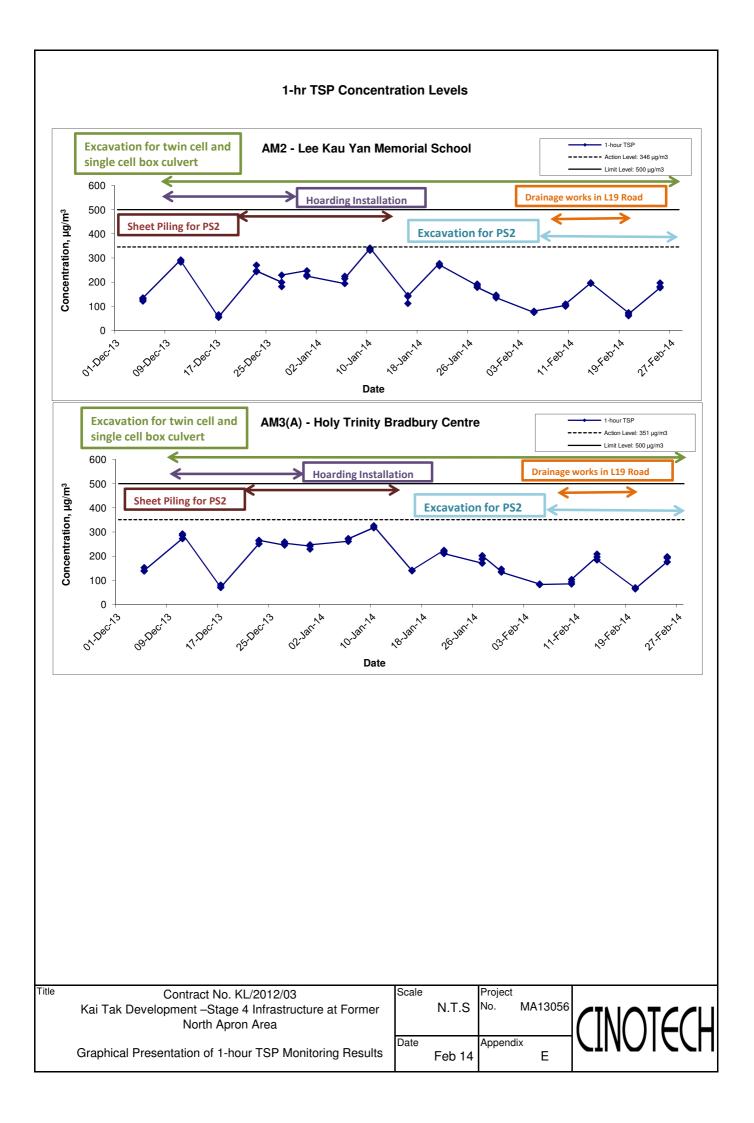
Date	Time	Weather	Particulate Concentration ( µg/m <sup>3</sup> )	Action / Limit Level ( µg/m3
5-Feb-14	9:00	Fine	75.1	
5-Feb-14	10:00	Fine	78.4	
5-Feb-14	11:00	Fine	80.1	
10-Feb-14	13:01	Cloudy	104.1	
10-Feb-14	14:01	Cloudy	101.4	
10-Feb-14	15:01	Cloudy	109.6	
14-Feb-14	9:00	Fine	196.2	
14-Feb-14	10:00	Fine	195.2	
14-Feb-14	11:00	Fine	198.0	246 / 500
20-Feb-14	13:00	Sunny	73.9	346 / 500
20-Feb-14	14:00	Sunny	61.7	
20-Feb-14	15:00	Sunny	68.6	
25-Feb-14	13:01	Cloudy	177.1	
25-Feb-14	14:01	Cloudy	182.0	
25-Feb-14	15:01	Cloudy	197.1	
		Average	126.6	
		Maximum	198.0	
	ſ	Minimum	61.7	

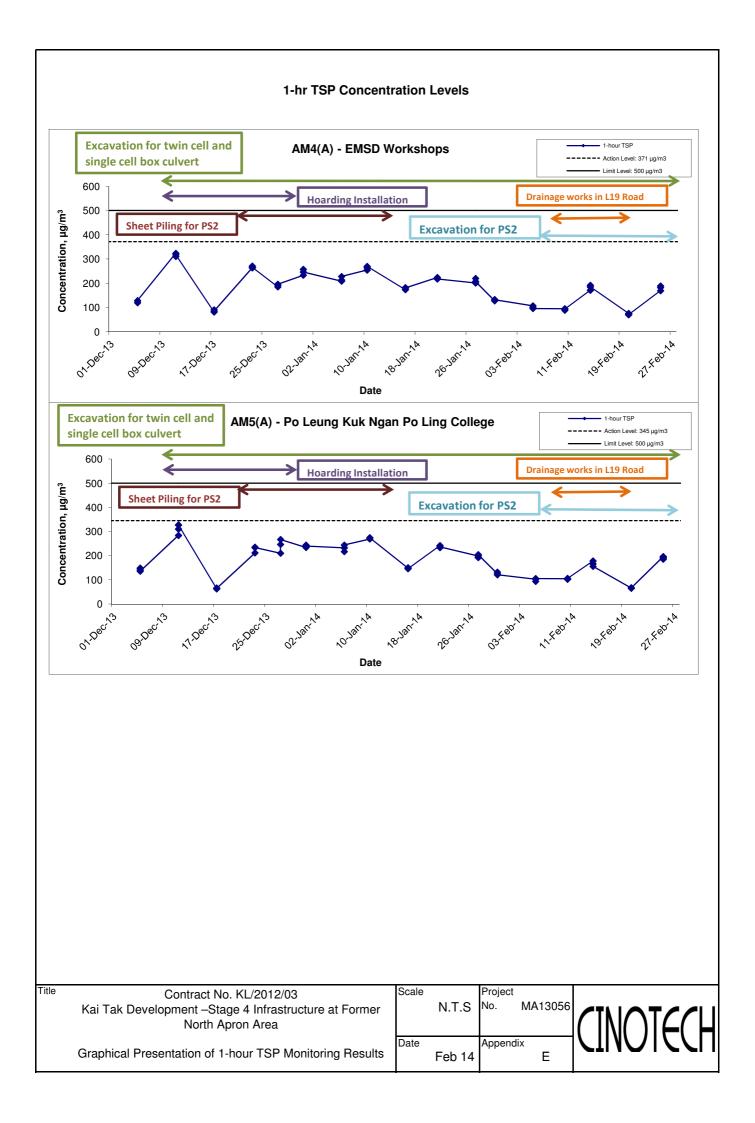
Date	Time	Weather	Particulate Concentration ( µg/m <sup>3</sup> )	Action / Limit Level ( µg/m3)
5-Feb-14	13:00	Fine	85.1	
5-Feb-14	14:00	Fine	82.6	
5-Feb-14	15:00	Fine	83.1	
10-Feb-14	9:00	Cloudy	85.5	
10-Feb-14	10:00	Cloudy	93.6	
10-Feb-14	11:00	Cloudy	103.9	
14-Feb-14	8:52	Fine	197.3	
14-Feb-14	9:52	Fine	209.2	
14-Feb-14	10:52	Fine	184.8	251 / 500
20-Feb-14	9:00	Sunny	67.4	351 / 500
20-Feb-14	10:00	Sunny	70.1	
20-Feb-14	11:00	Sunny	64.9	
25-Feb-14	8:55	Cloudy	176.8	
25-Feb-14	9:55	Cloudy	197.8	
25-Feb-14	10:55	Cloudy	193.5	
	_	Average	126.4	
		Maximum	209.2	
		Minimum	64.9	7

# Appendix E - 1-hour TSP Monitoring Results

Date	Time	Weather	Particulate Concentration ( µg/m <sup>3</sup> )	Action / Limit Level ( µg/m3
5-Feb-14	13:06	Cloudy	106.6	
5-Feb-14	14:06	Cloudy	100.6	
5-Feb-14	15:06	Cloudy	95.7	
10-Feb-14	13:00	Cloudy	94.8	
10-Feb-14	14:00	Cloudy	88.9	
10-Feb-14	15:00	Cloudy	93.2	
14-Feb-14	13:00	Cloudy	171.2	
14-Feb-14	14:00	Cloudy	191.6	
14-Feb-14	15:00	Cloudy	185.0	371 / 500
20-Feb-14	13:00	Sunny	75.5	3717500
20-Feb-14	14:00	Sunny	72.1	
20-Feb-14	15:00	Sunny	70.4	
25-Feb-14	8:42	Cloudy	169.2	
25-Feb-14	9:42	Cloudy	182.0	
25-Feb-14	10:42	Cloudy	188.8	
	-	Average	125.7	
		Maximum	191.6	
		Minimum	70.4	

Location AM5(A	A) - Po Leung	Kuk Ngan Po Lin	g College	
Date	Time	Weather	Particulate Concentration ( µg/m <sup>3</sup> )	Action / Limit Level ( µg/m3)
5-Feb-14	8:51	Cloudy	102.9	
5-Feb-14	9:51	Cloudy	93.6	
5-Feb-14	10:51	Cloudy	105.4	
10-Feb-14	9:00	Cloudy	104.9	
10-Feb-14	10:00	Cloudy	102.7	
10-Feb-14	11:00	Cloudy	106.3	
14-Feb-14	13:02	Cloudy	178.3	
14-Feb-14	14:02	Cloudy	166.5	
14-Feb-14	15:02	Cloudy	156.0	345 / 500
20-Feb-14	9:00	Sunny	65.5	3457 500
20-Feb-14	10:00	Sunny	67.2	
20-Feb-14	11:00	Sunny	67.0	
25-Feb-14	9:00	Cloudy	196.3	
25-Feb-14	10:00	Cloudy	186.2	
25-Feb-14	11:00	Cloudy	192.1	
		Average	126.1	
		Maximum	196.3	
		Minimum	65.5	





APPENDIX F 24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

#### Appendix F - 24-hour TSP Monitoring Results

#### Location AM2 - Lee Kau Yan Memorial School

Start Date	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	e (m <sup>3</sup> /min.)	Av. flow	Total vol.	Conc.	Action / Limit Level
Start Date	Condition	Temp. (K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m3)
4-Feb-14	Sunny	290.8	763.3	3.8117	4.0164	0.2047	12796.7	12820.7	24.0	1.21	1.21	1.21	1738.9	117.7	
7-Feb-14	Cloudy	291.9	762.0	3.6141	3.7571	0.1430	12820.7	12844.7	24.0	1.20	1.20	1.20	1734.5	82.4	
13-Feb-14	Cloudy	279.2	769.9	3.8467	3.9475	0.1008	12844.8	12868.7	24.0	1.24	1.23	1.24	1774.8	56.8	
19-Feb-14	Cloudy	280.3	770.3	3.8747	3.9595	0.0848	12868.7	12892.7	24.0	1.23	1.23	1.23	1775.7	47.8	157 / 260
24-Feb-14	Sunny	289.1	769.5	3.6718	3.8278	0.1560	12892.7	12916.7	24.0	1.22	1.21	1.22	1749.9	89.1	157 / 200
													Min	47.8	
													Max	117.7	
													Average	78.8	

#### Location AM3(A) - Holy Trinity Bradbury Centre

Start Date	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	e (m <sup>3</sup> /min.)	Av. flow	Total vol.	Conc.	Action / Limit Level
Start Date	Condition	Temp. (K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m3)
4-Feb-14	Sunny	290.8	763.3	3.7815	3.9459	0.1644	7426.8	7450.8	24.0	1.20	1.20	1.20	1733.3	94.8	
7-Feb-14	Cloudy	292.0	762.0	3.5998	3.7162	0.1164	7450.8	7474.8	24.0	1.20	1.20	1.20	1728.7	67.3	
13-Feb-14	Cloudy	279.2	769.9	3.6698	3.7527	0.0829	7474.8	7498.8	24.0	1.23	1.23	1.23	1774.0	46.7	
19-Feb-14	Cloudy	280.3	770.3	3.8810	3.9659	0.0849	7498.8	7522.8	24.0	1.23	1.23	1.23	1771.0	47.9	107/000
24-Feb-14	Sunny	289.1	769.6	3.8710	4.0911	0.2201	7522.8	7546.8	24.0	1.21	1.21	1.21	1744.7	126.2	167 / 260
													Min	46.7	

Max 126.2 Average 76.6

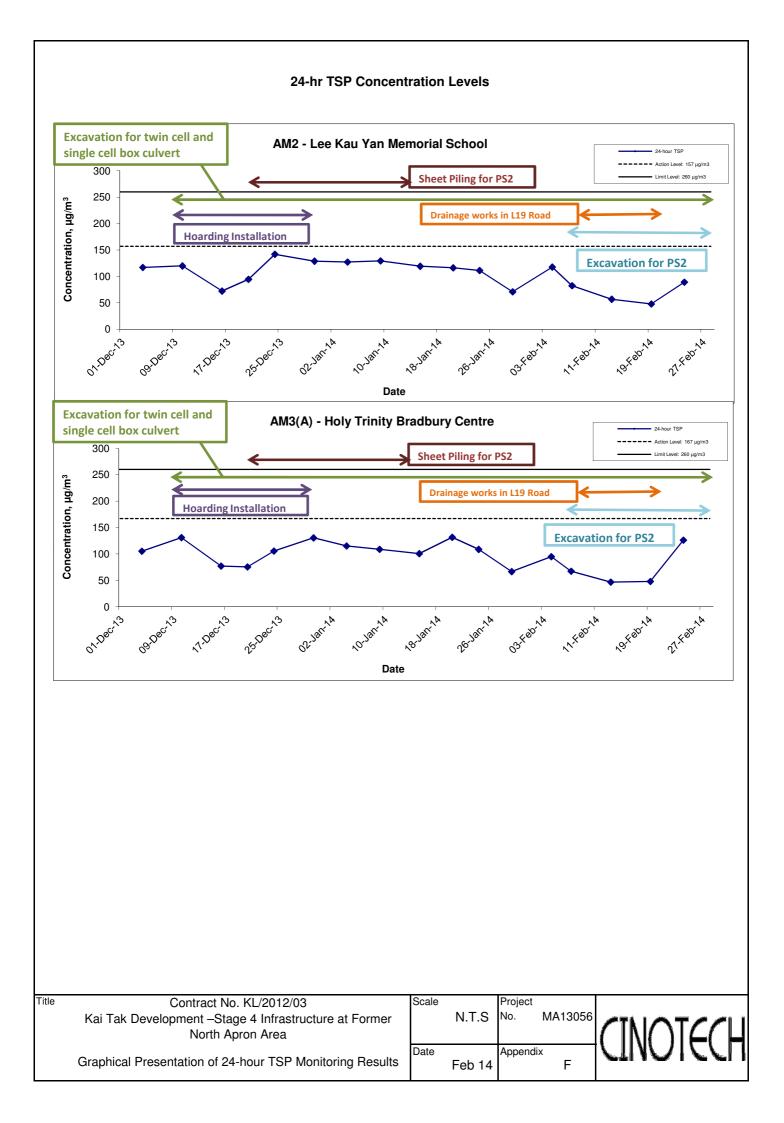
#### Appendix F - 24-hour TSP Monitoring Results

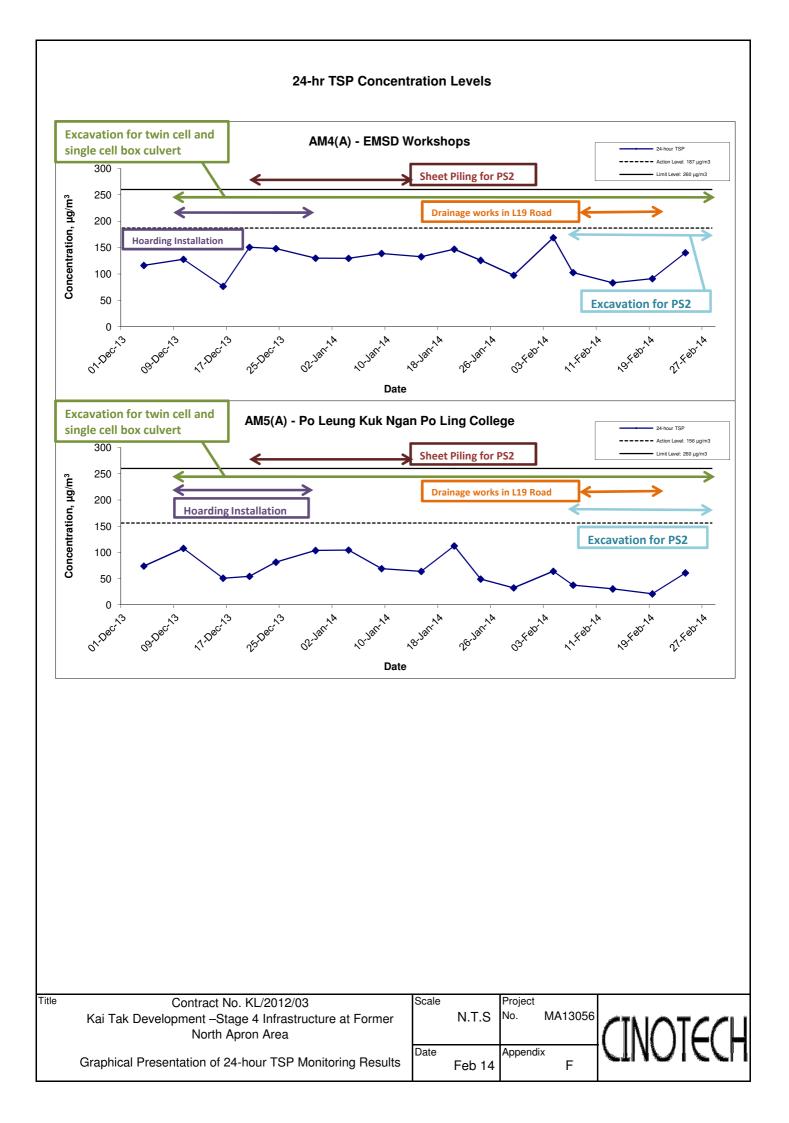
#### Location AM4(A) - EMSD Workshops

Start Date	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	e (m <sup>3</sup> /min.)	Av. flow	Total vol.	Conc.	Action / Limit Level
Start Date	Condition	Temp. (K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m3)
4-Feb-14	Sunny	290.8	763.3	3.7374	4.0313	0.2939	3669.6	3693.6	24.0	1.21	1.21	1.21	1740.9	168.8	
7-Feb-14	Cloudy	291.9	762.0	3.6074	3.7858	0.1784	3693.6	3717.6	24.0	1.21	1.21	1.21	1736.6	102.7	
13-Feb-14	Cloudy	279.2	769.9	3.5987	3.7471	0.1484	3717.6	3741.6	24.0	1.24	1.24	1.24	1780.2	83.4	
19-Feb-14	Cloudy	280.3	770.3	3.8683	4.0305	0.1622	3741.6	3765.6	24.0	1.23	1.23	1.23	1777.4	91.3	187 / 260
24-Feb-14	Sunny	289.1	769.6	3.5699	3.8155	0.2456	3765.6	3789.6	24.0	1.22	1.22	1.22	1752.0	140.2	107 / 200
													Min	83.4	
													Max	168.8	
													Average	117.3	

#### Location AM5(A) - Po Leung Kuk Ngan Po Ling College

Start Date	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	e (m <sup>3</sup> /min.)	Av. flow	Total vol.	Conc.	Action / Limit Level
Start Date	Condition	Temp. (K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m3)
4-Feb-14	Sunny	290.8	763.3	3.7635	3.8746	0.1111	2702.5	2726.5	24.0	1.21	1.21	1.21	1736.3	64.0	
7-Feb-14	Cloudy	291.9	762.0	3.6166	3.6817	0.0651	2726.5	2750.5	24.0	1.20	1.20	1.20	1731.6	37.6	
13-Feb-14	Cloudy	279.2	769.9	3.6287	3.6828	0.0541	2750.5	2774.5	24.0	1.23	1.23	1.23	1778.1	30.4	
19-Feb-14	Cloudy	280.3	770.3	3.5423	3.5795	0.0372	2774.5	2798.5	24.0	1.23	1.23	1.23	1775.1	21.0	156 / 260
24-Feb-14	Sunny	289.1	769.7	3.5615	3.668	0.1065	2798.5	2822.5	24.0	1.21	1.21	1.21	1748.2	60.9	1507200
													Min	21.0	
													Max	64.0	
													Average	42.8	





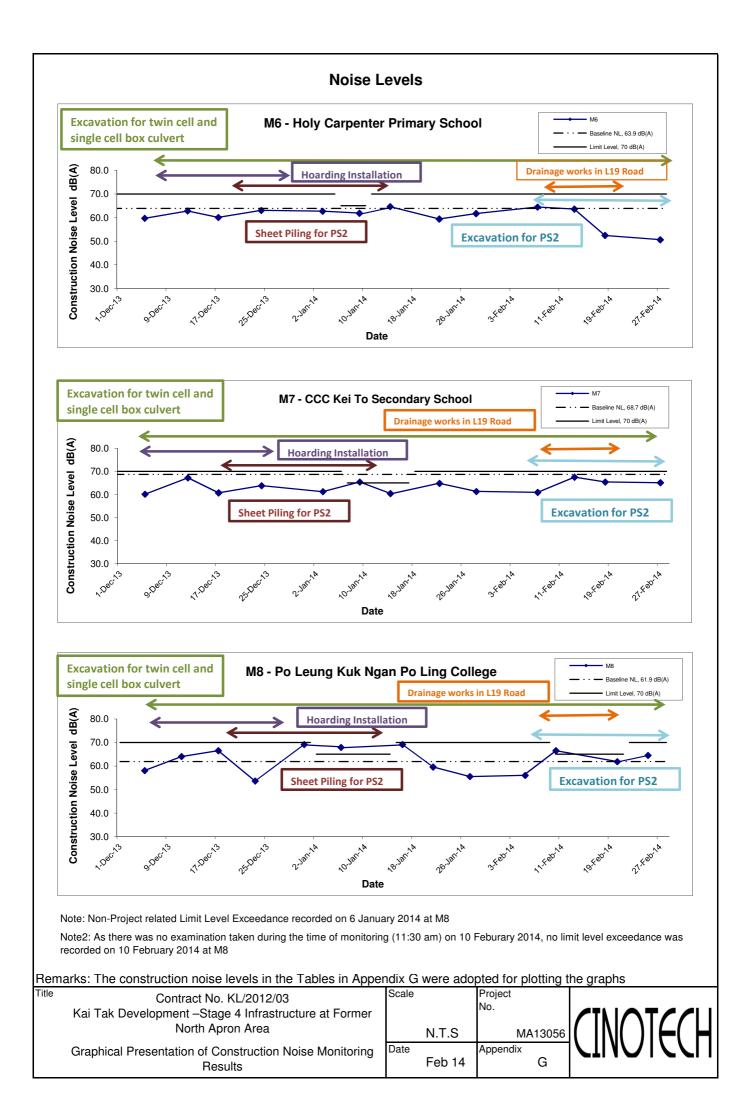
APPENDIX G NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

#### Appendix G - Noise Monitoring Results

Location M6 -	Holy Carpe	nter Primary	School						
					Uni	it: dB (A) (30-min)			
Date	Time	Weather	Meas	sured Noise I	Level	Baseline Level	Construction Noise Level	Action level	/ Limit Level
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>	L <sub>eq</sub>	When one	L <sub>eq</sub>
7-Feb-14	14:45	Cloudy	67.2	69.7	62.4		64.5	documented	
13-Feb-14	14:10	Cloudy	63.6	65.8	59.2	63.9	63.6 Measured $\leq$ Baseline	complaint is	70
18-Feb-14	14:02	Cloudy	64.2	67.5	60.1	03.9	52.4	received	70
27-Feb-14	14:30	Cloudy	64.1	65.9	60.2		50.6		

Location M7 -	CCC Kei To	o Secondary S	School						
					Uni	t: dB (A) (30-min)			
Date	Time	Weather	Meas	sured Noise	Level	Baseline Level	Construction Noise Level	Action level/	Limit Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>	When one	L <sub>eq</sub>
7-Feb-14	14:00	Cloudy	60.9	62.7	56.8		60.9 Measured $\leq$ Baseline	documented	
13-Feb-14	13:15	Cloudy	67.5	69.6	63.6	68.7	67.5 Measured $\leq$ Baseline	complaint is	70
18-Feb-14	14:55	Cloudy	65.4	67.9	62.2	00.7	65.4 Measured $\leq$ Baseline	received	70
27-Feb-14	15:15	Cloudy	65.1	67.2	61.5		65.1 Measured ≦ Baseline		

Location M8 -	Po Leung k	(uk Ngan Po	Ling College	)					
					Uni	t: dB (A) (30-min)			
Date	Time	Weather	Meas	sured Noise	Level	Baseline Level	Construction Noise Level	Action level	/ Limit Level
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>	L <sub>eq</sub>	When one	L <sub>eq</sub>
5-Feb-14	09:32	Sunny	62.9	64.4	59.6		56.0	documented	
10-Feb-14	11:30	Cloudy	67.8	70.1	66.2	61.9	66.5	complaint is	70
20-Feb-14	09:15	Sunny	64.9	66.2	60.6	01.9	61.9	received	70
25-Feb-14	10:10	Cloudy	66.4	68.9	62.5		64.5		



APPENDIX H SUMMARY OF EXCEEDANCE

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

# **Appendix H – Summary of Exceedance**

Exceedance Report for Contract No. KL/2012/03

- (A) Exceedance Report for Air Quality (NIL in the reporting month)
- (B) Exceedance Report for Construction Noise (NIL in the reporting month)
- (C) Exceedance Report for Landscape and Visual (NIL in the reporting month)

APPENDIX I SITE AUDIT SUMMARY

#### Contract No. KL/2012/03 Kai Tak Development - Stage 4 Infrastructure at Former North Apron Area EP-344/2009 - New Sewage Pumping Stations serving Kai Tak Development

Weekly Site Inspection Record Summary Inspection Information

1

1

Checklist Reference Number	140207
Date	7 February 2014
Time	11:00 - 12:00

Ref. No.	Non-Compliance	Related Item No.
	None identified	-
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit section (Ref. No.:140129), no environmental deficiency was identified during site inspection.	

Name	Signature	Date
Recorded by Johnny Fung	VA	7 February 2014
Checked by Dr. Priscilla Ch	oy W.L	7 February 2014
Checked by Dr. Priseina Ch		7 Fe

#### Contract No. KL/2012/03 Kai Tak Development - Stage 4 Infrastructure at Former North Apron Area EP-337/2009 - New Distributor Roads serving the Planned Kai Tak Development

Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140212
Date	12 February 2014
Time	14:00 - 15:15

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	-
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit section (Ref. No.:140207), no environmental deficiency was identified during site inspection.	

	Name	1 Signature	Date
Recorded by	Johnny Fung	1	12 February 2014
Checked by	Dr. Priscilla Choy	WZ	12 February 2014

140212 (EP3372009).doc

# Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140221	
Date	21 February 2014	
Time	11:00 - 12:00	

		Related
Ref. No.	Non-Compliance	Item No.
-	None identified	-
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit section (Ref. No.:140212), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Johnny Fung	ħ	21 February 2014
Checked by	Dr. Priscilla Choy	WT.	21 February 2014

## Contract No. KL/2012/03 Kai Tak Development - Stage 4 Infrastructure at Former North Apron Area EP-337/2009 - New Distributor Roads serving the Planned Kai Tak Development

#### Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140228	
Date	28 February 2014	
Time	11:00 - 12:00	

		Related
Ref. No.	Non-Compliance	Item No.
-	None identified	-
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit section (Ref. No.:140221), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Johnny Fung	17	28 February 2014
Checked by	Dr. Priscilla Choy	WI	28 February 2014

#### Contract No. KL/2012/03 Kai Tak Development - Stage 4 Infrastructure at Former North Apron Area EP-337/2009 - New Distributor Roads serving the Planned Kai Tak Development

Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140207
Date	7 February 2014
Time	11:00 - 12:00

Ref. No.	New Compliance	Related Item No.
Ref. No.	Non-Compliance None identified	-
-		Related
D.C.N.	Remarks/Observations	Item No.
Ref. No.		110111101
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	<ul> <li>Follow-up on previous audit section (Ref. No.:140129), all identified environmental deficiency was observed improved/rectified by the Contractor.</li> </ul>	

Signature	
$d \sim 1$	7 February 2014
WIL	7 February 2014
	-10- WF

Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140212
Date	12 February 2014
Time	14:00 - 15:15

		Related
Ref. No.	Non-Compliance	Item No
-	None identified	_
		Related
Ref. No.	Remarks/Observations	Item No
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	••••••••••••••••••••••••••••••••••••••
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit section (Ref. No.:140207), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Johnny Fung	$\beta$	12 February 2014
Checked by	Dr. Priscilla Choy	NT	12 February 2014

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# Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140221	
Date	21 February 2014	
Time	11:00 – 12:00	

		Related
Ref. No.	Non-Compliance	Item No.
-	None identified	-
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
<del> </del>	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
· ·	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit section (Ref. No.:140212), no environmental deficiency was identified during site inspection.	

12	21 February 2014
NI	21 February 2014
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# Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140228	
Date	28 February 2014	
Time	11:00-12:00	

		Related
Ref. No.	Non-Compliance	Item No.
-	None identified	-
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	• Follow-up on previous audit section (Ref. No.:140221), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Johnny Fung		28 February 2014
Checked by	Dr. Priscilla Choy	J.J.I.	28 February 2014

APPENDIX J EVENT ACTION PLANS

Event/Action Plan for Air Quality

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

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

Event/Action Plan for Construction Noise

EVENT	ACTION						
	ET	IEC	ER	CONTRACTOR			
Action Level	1. Notify ER, IEC and Contractor;	1. Review the investigation	1. Confirm receipt of	1. Submit noise mitigation			
being	2. Carry out investigation;	results submitted by the ET;	notification of failure in	proposals to IEC and ER;			
exceeded	3. Report the results of investigation	2. Review the proposed remedial	writing;	2. Implement noise mitigation			
	to the IEC, ER and Contractor;	measures by the Contractor and	2. Notify Contractor;	proposals.			
	4. Discuss with the IEC and	advise the ER accordingly;	3. In consolidation with the	(The above actions should be			
	Contractor on remedial measures	3. Advise the ER on the	IEC, agree with the	taken within 2 working days after			
	required;	effectiveness of the proposed	Contractor on the remedial	the exceedance is identified)			
	5. Increase monitoring frequency to	remedial measures.	measures to be implemented;				
	check mitigation effectiveness.	(The above actions should be	4. Supervise the				
	(The above actions should be taken	taken within 2 working days after	implementation of remedial				
	within 2 working days after the	the exceedance is identified)	measures.				
	exceedance is identified)		(The above actions should be				
			taken within 2 working days				
			after the exceedance is				
			identified)				
Limit Level	1. Inform IEC, ER, Contractor and	1. Discuss amongst ER, ET, and	1. Confirm receipt of	1. Take immediate action to			
being	EPD;	Contractor on the potential	notification of failure in	avoid further exceedance;			
exceeded	2. Repeat measurements to confirm	remedial actions;	writing;	2. Submit proposals for remedial			
	findings;	2. Review Contractor's remedial	2. Notify Contractor;	actions to IEC and ER within 3			
	3. Increase monitoring frequency;	actions whenever necessary to	3. In consolidation with the	working days of notification;			
	4. Identify source and investigate the	assure their effectiveness and	IEC, agree with the	3. Implement the agreed			
	cause of exceedance;	advise the ER accordingly.	Contractor on the remedial	proposals;			

5. Carry out analysis of Contractor's	(The above actions should be	measures to be implemented;	4. Submit further proposal if
working procedures;	taken within 2 working days after	4. Supervise the	problem still not under control;
6. Discuss with the IEC, Contractor	the exceedance is identified)	implementation of remedial	5. Stop the relevant portion of
and ER on remedial measures		measures;	works as instructed by the ER
required;		5. If exceedance continues,	until the exceedance is abated.
7. Assess effectiveness of		consider stopping the	(The above actions should be
Contractor's remedial actions and		Contractor to continue	taken within 2 working days after
keep IEC, EPD and ER informed of		working on that portion of	the exceedance is identified)
the results;		work which causes the	
8. If exceedance stops, cease		exceedance until the	
additional monitoring.		exceedance is abated.	
(The above actions should be taken		(The above actions should be	
within 2 working days after the		taken within 2 working days	
exceedance is identified)		after the exceedance is	
		identified)	

Event/Action Plan for Landscape and Visual

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

ER		2. Check Contractor's	implemented	undertake any necessary
2. Inc	ocrease	working method		replacement
mon	nitoring	3. Discuss with ET and		
frequ	quency	Contractor on possible		
3. Dis	iscuss remedial	remedial measures		
actic	ons with IEC,	4. Advise ER on		
ERa	and Contractor	effectiveness of		
4. Mo	Ionitor remedial	proposed remedial		
actic	ons until	measures		
recti	tification has	5. Supervise		
beer	en completed	implementation of		
5. If r	non-conformity	remedial measures.		
stop	os, cease			
addi	litional			
mon	nitoring			

APPENDIX K ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

Types of Impacts	Mitigation Measures	Status
	8 times daily watering of the work site with active dust emitting activities.	^
	Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts.	
	<ul> <li>Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission.</li> </ul>	^
	<ul> <li>Misting for the dusty material should be carried out before being loaded into the vehicle.</li> </ul>	^
	<ul> <li>Any vehicle with an open load carrying area should have properly fitted side and tail boards.</li> </ul>	^
Construction Dust	<ul> <li>Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin.</li> </ul>	^
	<ul> <li>The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary before transportation.</li> </ul>	^
	<ul> <li>The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. On- site unpaved roads should be compacted and kept free</li> </ul>	^
	<ul> <li>of lose materials.</li> <li>Vehicle washing facilities should be provided at every</li> </ul>	^

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

<ul> <li>vehicle exit point.</li> <li>The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.</li> <li>Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.</li> <li>Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides.</li> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> </ul>	

	Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump	^
Construction Noise	<ul> <li>Good Site Practice:</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.</li> <li>Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.</li> <li>Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</li> <li>Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.</li> <li>Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	^ N/A(1) ^ ^ ^
	Examination Period (i) Provision of low noise surfacing in a section of Road L2; and	^ N/A
	(ii) Provision of structural fins	N/A

<ul> <li>(i) Avoid the sensitive façade of class room facing Road</li> <li>L2 and L4; and</li> </ul>	N/A
<ul><li>(ii) Provision of low noise surfacing in a section of Road L2</li><li>&amp; L4</li></ul>	N/A
(i) Provision of low noise surfacing in a section of Road L4 before occupation of Site 1I1; and	N/A
(ii) Setback of building about 5m from site boundary.	N/A
Setback of building about 35m to the northwest direction at 1L3 and 5m at Site 1L2.	N/A
<ul> <li>avoid any sensitive façades with openable window facing the existing Kowloon City Road network; and</li> </ul>	N/A
<ul> <li>(ii) for the sensitive facades facing the To Kwa Wan direction, either setback the facades by about 5m to the northeast direction or do not provide the facades with openable window.</li> </ul>	N/A
<ul> <li>avoid any sensitive facades with openable window facing the existing To Kwa Wan Road or</li> <li>provision of 17.5m high noise tolerant building</li> </ul>	N/A
fronting To Kwa Wan Road and restrict the height of the residential block(s) located at less than 55m away from To Kwa Wan Road to no more than 25m above ground.	N/A
<ul> <li>avoid any sensitive facades with openable window facing the slip road connecting Prince Edward Road East and San Po Kong or other alternative mitigation measures and at-source mitigation measures for the surrounding new local roads to</li> </ul>	N/A
minimise the potential traffic noise impacts from the slip road	

All the ventilation fans installed in provided with silencers or acoustics tre (i) SPS (ii) ESS (iii) Tunnel Ventilation Shaft (iv) EFTS depot	
Installation of retractable roof or measures	other equivalent N/A

	<ul> <li>The following mitigation measures are proposed to be incorporated in the design of the SPS at KTD, including:</li> <li>Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply;</li> </ul>	N/A
	<ul> <li>Standby pumps should be provided at all SPSs to ensure smooth operation of the SPS during maintenance of the duty pumps;</li> <li>An alarm should be installed to signal emergency high</li> </ul>	N/A
	<ul> <li>water level in the wet well at all SPSs; and</li> <li>For all unmanned SPSs, a remote monitor system connecting SPSs with the control station through telemetry system should be provided so that swift</li> </ul>	N/A N/A
Construction Water Quality	actions could be taken in case of malfunction of unmanned facilities.	IN/A
		^

#### Land-based Construction

#### Construction Runoff

Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include:

- use of sediment traps
- adequate maintenance of drainage systems to prevent flooding and overflow

Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.

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Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	Λ
Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m <sup>3</sup> capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	۸
Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m <sup>3</sup> should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	٨
Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	Λ

Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events.	^
Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	^
All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.	٨
Drainage It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea.	^

All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	л Г
All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ.	^
Sewage Effluent	
Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices.	^
Stormwater Discharges	
Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes	N/A

Debris and Litter	
In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of contract, to ensure that site management is optimised and that disposal of any solid materials. litter or wastes to marine waters does not occur	Λ
Construction Works at or in Close Proximity of Storm Culvert or Seafront The proposed works should preferably be carried out within the dry season where the flow in the drainage	^
channel /storm culvert/ nullah is low. The use of less or smaller construction plants may be specified to reduce the disturbance to the bottom sediment at the drainage channel /storm culvert / nullah.	٨
Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.	^
Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.	Λ
Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.	۸
Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.	۸

Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff.	d d
Construction effluent, site run-off and sewage should be properly collected and/or treated.	e ^
Any works site inside the storm water courses should be temporarily isolated, such as by placing of sandbags or site curtains with lead edge at bottom and properly supported props to prevent adverse impact on the storm water quality.	
Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to accidental spillage of construction materials.	
Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea.	
Supervisory staff should be assigned to station on site to closely supervise and monitor the works	~
Marine water quality monitoring and audit programme shall be implemented for the proposed sediment treatment operation.	

		'
	Site Practices	
	not anticipated that adverse waste management	
related	impacts would arise, provided that good site	
	es are adhered to. Recommendations for good site	
	es during construction activities include:	
practic		
	Nomination of an approved person, such as a site	
	manager, to be responsible for good site practices,	
	arrangements for collection and effective disposal	Λ
	to an appropriate facility, of all wastes generated at	
	the site	
	Training of site personnel in proper waste	
	management and chemical waste handling	
		^
5.00x1	procedures	
•	Provision of sufficient waste disposal points and	
	regular collection for disposal	^
	Appropriate measures to minimise windblown litter	Λ
	and dust during transportation of waste by either	
	covering trucks or by transporting wastes in	^
	enclosed containers	
	A recording system for the amount of wastes	
	generated, recycled and disposed of (including the	Λ
	disposal sites)	

	<ul> <li>Waste Reduction Measures</li> <li>Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:</li> <li>Sort C&amp;D waste from demolition of the remaining structures to recover recyclable portions such as metals</li> <li>Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal</li> <li>Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force</li> <li>Any unused chemicals or those with remaining functional capacity should be recycled</li> <li>Proper storage and site practices to minimise the potential for damage or contamination of construction materials</li> </ul>	
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Construction and Demolition Material         Mitigation measures and good site practices should be incorporated into contract document to control potential environmental impact from handling and transportation of CAD material. The mitigation measures include:         • Where it is unavoidable to have transient stockpiles of CAD material within the Project work site pending collection for disposal, the transient stockpiles should be located away from waterform or otsorm drains as far as possible         • Open stockpiles of construction materials or construction waters on s-site should be covered with tarpaulin or similar fabric       A         • Skip hoist for material transport should be totally enclosed by impervious sheeting       A         • The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials criated by vehicle leaving a construction site should be povered with concrete, bituminous materials criated by vehicle leaving a construction site should be covered and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials criated by vehicle leaving a construction site should be covered entirely by clean impervious sheeting       A         • The load of dusty materials carried by vehicle       A         • All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.

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

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#### **Chemical Waste**

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

#### **General Refuse**

General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem

CM1 All existing trees should be carefully protected during construction.	*
CM2 Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work.	N/A
CM3 Control of night-time lighting.	^
CM4 Erection of decorative screen hoarding.	^
	<ul> <li>during construction.</li> <li>CM2 Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work.</li> <li>CM3 Control of night-time lighting.</li> </ul>

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

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

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

# Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

**Reporting Month**: February 2014

Contract No. KL/2012/03

Log Ref.	Location	Received Date	Details of Complaint/warning/summon and prosecution	Investigation/Mitigation Action	Status
N/A	N/A	N/A	N/A	N/A	N/A

Remarks: No environmental complaint/warning/summon and prosecution were received in the reporting period.

APPENDIX M WASTE GENERATED QUANTITY

### **Monthly Summary Waste Flow Table**

(PS Clause 1.86)

Name of Department: CEDD

Contract No. : <u>KL/2012/03</u>

#### Monthly Summary Waste Flow Table for Feb 2014 (year)

		Actual	Quantities of Iner	t C&D Materials G	enerated Monthly			Actual Qua	ntities of C&D Waste	es Generated Monthly	
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemicals Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Sep	0	0	0	0	0	0	0	0	0	0	0
Oct	0.011	0	0	0	0	0	0	0	0	0	0.011
Nov	0.177	0	0	0	0	0	0	0	0	0	0.177
Dec	0.176	0	0	0	0	0	0	0	0	0	0.176
Sub-Total	0.364	0	0	0	0	0	0	0	0	0	0.364
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0
Mar											
Apr											
May											
Jun											
Total	0.364	0	0	0	0	0	0	0	0	0	0.364

AECOM Asia Co. Ltd.

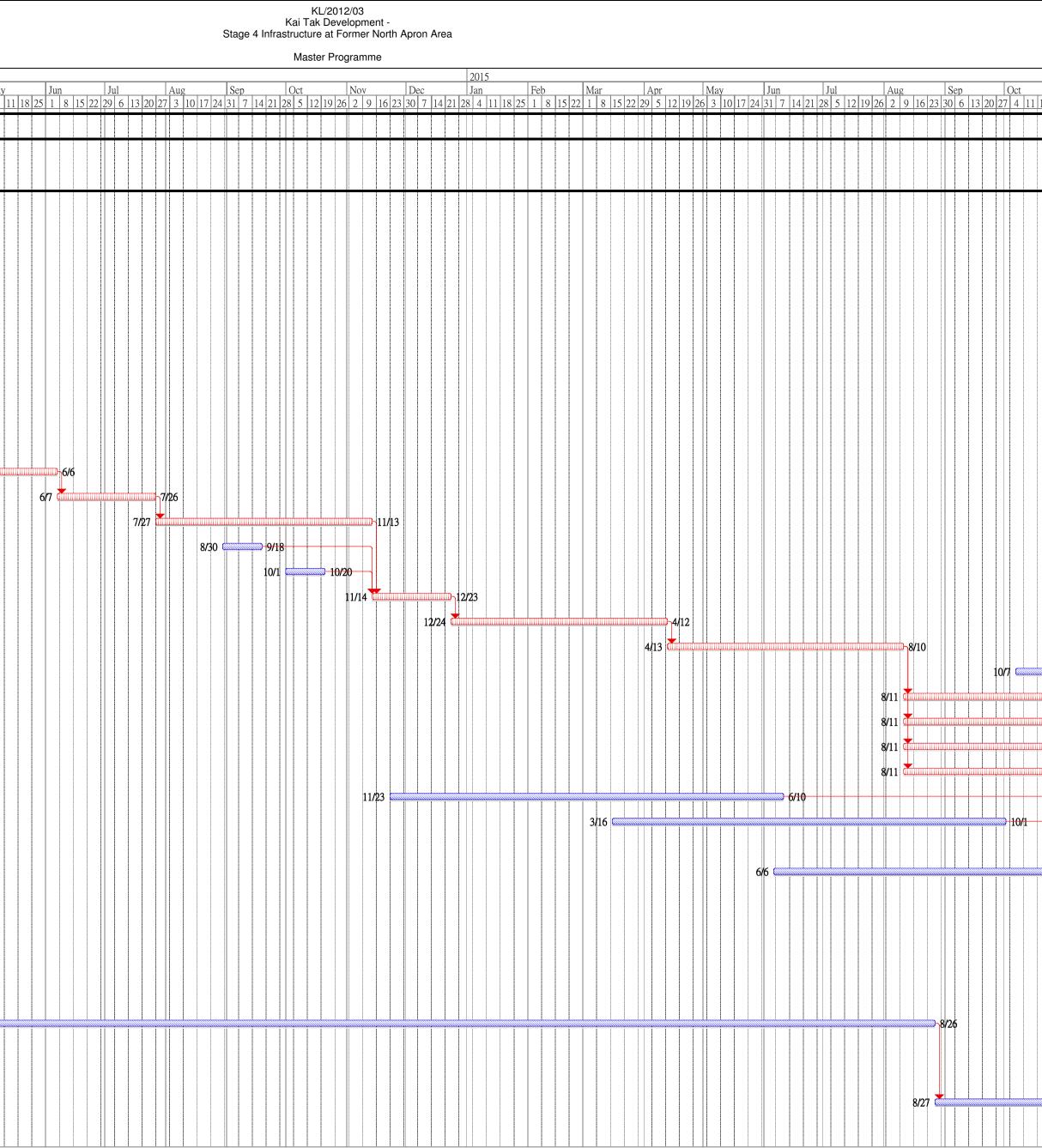
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APPENDIX N CONSTRUCTION PROGRAMME

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1 C	ommence KL/2012/03 construction	1080 days				•																																									
2	Section 1: Works within Portion 1 and 3	1080 days	Thu 9/19/	'13 Fri 9	9/2/16	9/19																																								9/2	
3	Site possession and preparation works	14 days	Thu 9/19/	/13 Wed 10	0/2/13	9/19	10/2																																								
4	Setting out site boundary and site clearance	30 days	Thu 10/3,	/13 Fri 1	1/1/13	10/3	1	1/1																																							
5	Initial joint survey	60 days	Sun 10/13/	/13 Wed 12/	/11/13	10,	/13		12/11																																						
6	Obtain underground utilities plans	60 days	Mon 9/30,	/13 Thu 11/	/28/13	9/30 🔤		1	.1/28																																						
7	Erect hoarding, chain link fence and vehicular gate	60 days	Sun 10/27/	/13 Wed 12/	/25/13		10/27		12/	25																																					
8	Works for Road L6	1037 days	Fri 11/1/	'13 Fri 9	9/2/16		11/1																																							9/2	
9	Submission / approval of construction materials, method	50 days	Tue 10/22	/13 Tue 12/	/10/13		10/22		12/10																																						
	statements and temporary work design for box culverts B5																																														
10	Plant mobilization	7 days	Wed 12/11	/13 Tue 12/	/17/13			12/	11 12/17																																						
11	Submission / approval of construction materials and delivery of	40 days	Fri 11/1	/13 Tue 12/	/10/13		11/1		12 <b>/</b> 10																																						
	materials and method statements for stormdrain and sewerage drain																																														
12	Install 2x750mm dia sewerage drain from FMH10_345 to	60 dave	Wed 12/11	/13 Sat /	2/8/14				11		<u></u>																																				
12	FMH10_350 under box culvert B5	00 days		10 0at 2	2/0/14			14																																							
10	Tampanan wake far hav arburte DE	160 1	Wed 12/18/	/13 Mon 5/	106/14				10/10																																						
13	Temporary works for box culverts B5								12/18	1.00						5/26																															
14	Excavation to the formation level for box culverts B5		Mon 1/20							1/20							<b></b> 6/28					1/2																									
15	Construct drainage box culverts B5 (total length: 231m)		Wed 2/26																			1/2																									
16	Submission / approval of construction materials and method statements for watermains	30 days	Sat 2/8/	/14 Sun 1	3/9/14						2/8	3/9																																			
17	Delivery of FWM and SWM pipes and fittings and valves		Mon 3/10		5/8/14							3/10			5/8																																
18	Install 250mm, 300mm 450mm dia.FWM CHD0-CHD394 and 200mm SWM CHC0-CHC394	300 days	Sat 6/14,	/14 Thu 4	4/9/15											6/14												₽-4/9																			
19	Pressure test, swabbing, sterilization and connection		Tue 4/14,																								4/14	4			7/2																
20	Construct valve, air-valve and wash-out chambers and fire hyrdants for watermain	100 days	Thu 3/26	/15 Fri 7	7/3/15																					3/2	26				<u>₽</u> 7/3																
21	Install irrigation system	200 days	Mon 1/26	/15 Thu 8/	/13/15																			1/26 🖾								8/13															
22	Install different dia. of stormwater drain, sewerage drain and manhole	300 days	Sat 6/14,	/14 Thu 4	4/9/15											6/14												₽-4/9																			
	maniole																																														
23	Liaison meeting with UU	60 days	Mon 1/27	/14 Thu 3/	/27/14					1/27 🖾			<mark>∭</mark> 3/27																																		
24	Installation of utility by the utility undertakers along proposed	300 days	Fri 3/28	/14 Wed 1/	/21/15							3/2	28												./21																						
	footpath																																														
25	Construct u-channel and drainpit at footpath	150 days	Thu 1/22	/15 Sat 6/	/20/15																			1/22 📥	,       					6/20	•┼─┤││																
26	Construct road gully and gully pipe	300 days	Fri 4/10	/15 Wed 2	2/3/16																						4/10											2/3									
27	Construct road kerb	250 days	Tue 7/14	/15 Sat 3/	/19/16																										7/14									3/19							
28	Construct footpath, planting area and concrete run-in	200 days	Tue 10/6	/15 Fri 4/	/22/16																													0/6 <mark>2</mark>							4/22	2					
29	Construct flexible carriageway	120 days	Tue 1/5/	/16 Tue 5	5/3/16																																1/5				₽	<mark>5/3 5/3</mark>					
30	Constrict stormwater drain and manhole at pedestrian street	100 days	Wed 3/12	/14 Thu 6/	/19/14							3/12				6,	6/19																														
31	Construct u-channel and drainpit at pedestrian street	100 days	Sat 6/21/	/14 Sun 9/	/28/14											6/21	,      <b> </b>			-9/	28																										
32	Install irrigation system at pedestrian street	100 days	Thu 10/2	/14 Fri 1	1/9/15															10/2				1/9																							
33	Construct pedestrian street	160 days	Tue 1/13/	/15 Sun 6/	/21/15																			1/13						6/2	1																
34	Road marking	15 days	Thu 5/5/	/16 Thu 5/	/19/16																																				5/5	5/19					
35	Plants delivery for landscaping works			/16 Wed 5/																																						5/					
36	Preparatory works for landscaping works		Sat 5/14,																																							5/14					
37	Hydroseeding		Sun 5/29																																							5/29					
38	Tree and shurb planting		Fri 6/3/		7/2/16																																							<b>7/2</b>			
39	Terminal float		Sun 7/3/		9/2/16																																						7/3	<b>3</b>		9/2	

# KL/2012/03 Kai Tak Development -Stage 4 Infrastructure at Former North Apron Area

ID	Task Name	Duration	Start	Finish										20	14										
					Ser 25 1	) 8 15	Oct	120	1     70   00	Nov 3 10	17 24	Dec	15 2	Jai	n	0 76	Feb	16	N	lar	16.2	Apr	13 0	N 20 27	May 4 1
1	Commence KL/2012/03 construction	1080 days	Thu 9/19/13	Fri 9/2/16		<u> </u>		, 1.5 Z	20 21	011	11 24	1 0	1.5 22	. 27	5 12 1	.7 20	2 9	10		- 7	10 2				+ 1
2	Section 1: Works within Portion 1 and 3	1080 days	Thu 9/19/13	Fri 9/2/16	9/	/19 🖣																	—		
3	Construction of Sewerage Pumping Station PS2	1080 days	Thu 9/19/13	Fri 9/2/16	9/	/19 🖛																	—		
4	Site possession and preparation works	14 days	Thu 9/19/13	Wed 10/2/13	9	9/19 🕻	10	/2																	
5	Site clearance and setting out pumping station	14 days	Thu 10/3/13	Wed 10/16/13			10/3 🏝	<u>ا</u> ست	0/16																
6	Initial survey	20 days	Wed 10/16/13	Mon 11/4/13			10/1	.6 📖		11/4															
7	Submission of baseline monitoring for EPD approval	30 days	Thu 10/10/13	Fri 11/8/13			10/10			ر11	8														
8	Approval of baseline monitoring by EPD	30 days	Sat 11/9/13	Sun 12/8/13					11/	9 🏧		נויייי <u>ר</u> ויייי	2/8												
9	Submission / approval of method statements and temporary works design	40 days	Fri 10/18/13	Tue 11/26/13			10/	'18 📼			ן 🔤 ו	1/26													
	works design																								
10	Mobilization of plant and delivery of materials	10 days	Wed 11/27/13	Fri 12/6/13						11	127 📥	12	16												
11	Construct sheet piling system	50 days	Mon 12/9/13	Mon 1/27/14							12	2/9 🏙				<u></u> 1/	27								
12	Install waling and strut, excavation to the formation level	130 days	Tue 1/28/14	Fri 6/6/14											1/2	28 雄							hinter		
13	Construct the base slab	50 days	Sat 6/7/14	Sat 7/26/14																					
14	Construct the basement	110 days	Sun 7/27/14	Thu 11/13/14																					
15	Install cast-in pipe for intake pipe	20 days	Sat 8/30/14	Thu 9/18/14																					
16	Install cast-in pipe for overflow pipe and rising main	20 days	Wed 10/1/14	Mon 10/20/14																					
17	Remove sheet piling and backfilling works	40 days	Fri 11/14/14	Tue 12/23/14																					
18	Construct upper part wall and column up to beam level	110 days	Wed 12/24/14	Sun 4/12/15																					
19	Construct the beam and roof	120 days	Mon 4/13/15	Mon 8/10/15																					
20	Construct green roof system	180 days	Wed 10/7/15	Sun 4/3/16																					
21	Architectural finishes and erect cladding	200 days	Tue 8/11/15	Fri 2/26/16																					
22	Erect handrailing, louvre, door, roller shutter etc.	200 days	Tue 8/11/15	Fri 2/26/16																					
23	Install rising main CHA0-CHA100	200 days	Tue 8/11/15	Fri 2/26/16																					
24	Construct intake and overflow pipes	200 days	Tue 8/11/15	Fri 2/26/16																					
25	Construct sewerage, drainage drain and manholes	200 days	Sun 11/23/14	Wed 6/10/15																					
26	Construct u-channel with cover	200 days	Mon 3/16/15	Thu 10/1/15																					
27	Construct access road inside PS	95 days	Sat 2/27/16	Tue 5/31/16																					
28	Erect fence wall, mini bollard light, vehicular and man access	150 days	Sat 6/6/15	Mon 11/2/15																					
29	Plants delivery for landscaping works	30 days	Wed 2/17/16	Thu 3/17/16																					
30	Hydroseeding	2 days	Wed 6/1/16	Thu 6/2/16																					
31	Tree and shurb planting	30 days	Fri 6/3/16	Sat 7/2/16																					
32	Terminal float	62 days	Sun 7/3/16	Fri 9/2/16																					
33	Submission / approval of E&M services materials and delivery (Detailed programme will be submitted separately)	650 days	Fri 11/15/13	Wed 8/26/15					1	1/15 🤇															
34	E&M building service installation. (Detailed programme will be submitted separately)	250 days	Thu 8/27/15	Mon 5/2/16																					
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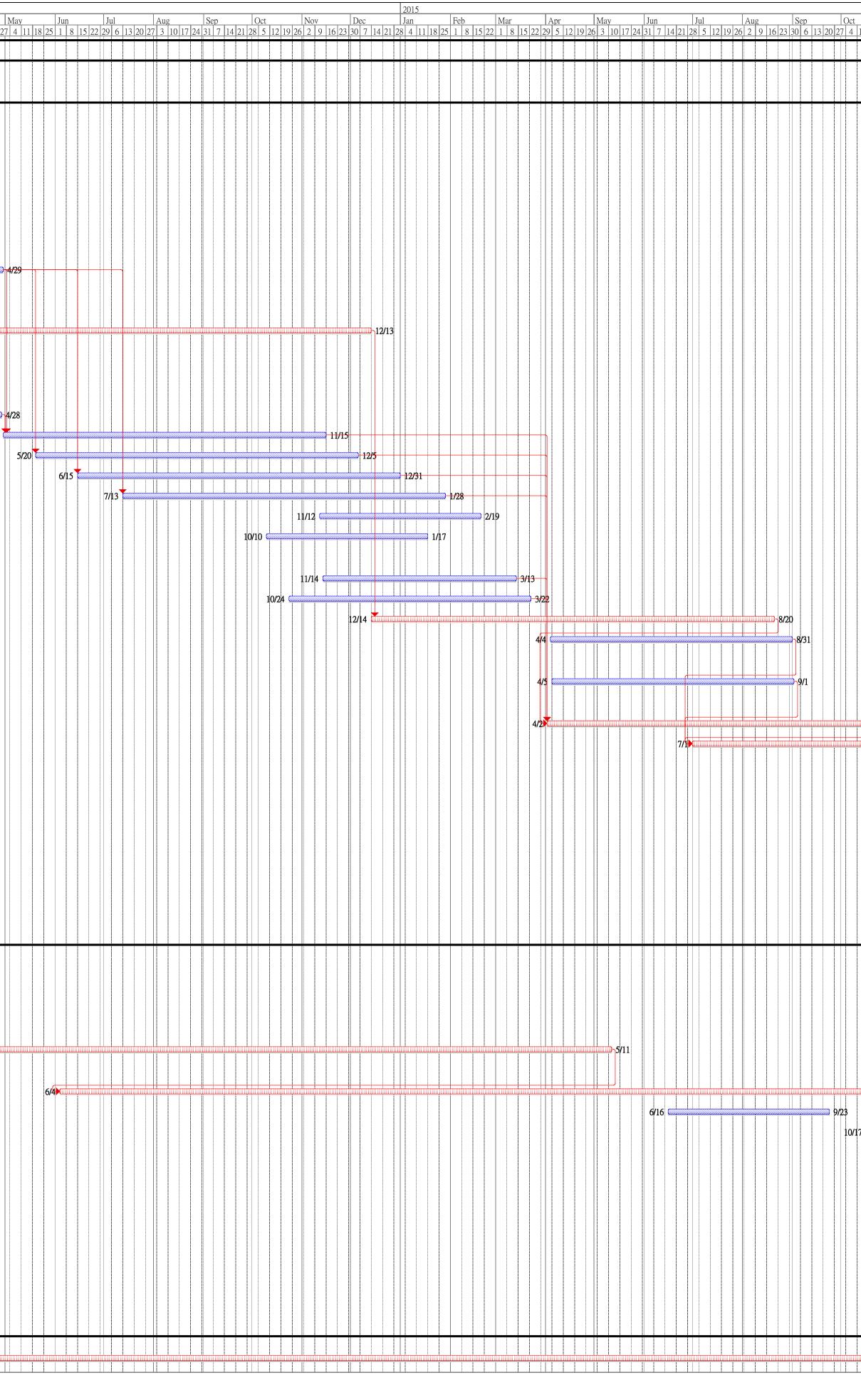
Task Name	Duration	Start	Finish				2014							Programme		2015									20	10				
				Sep 25 1 8 15 22	Oct 2 29 6 13 20 2	Nov         Dec           27         3         10         17         24         1	2011	Feb 2 19 26 2 9 16	Mar         Apr         N           23         2         9         16         23         30         6         13         20         27	Iay         Jun           4         11         18         25         1         8         15	Jul 22 29 6 13 20 2	Aug         Sep           27         3         10         17         24         31         7	Oct 7 14 21 28 5 1'	Nov 2 19 26 2 9	Dec 16 23 30 7 14 21	2015	0 Mar 8 15 22 1 8 15	Apr 5 22 29 5 12 19 2	May Ju 26 3 10 17 24 31	un Jul 7 14 21 28 5	Au 5 12 19 26 2	lg Sep 9 16 23 30 6	Oct 3 20 27 4 11 18	Nov , 25 1 8 15 22	20	10	Mar 2 14 21 28 6 13 2	Apr M 0 27 3 10 17 24 1	lay Jun 8 15 22 29 5 12	Jul 19 26 3 10 17
Commence KL/2012/03 construction	1080 days	Thu 9/19/13																												
Section 1: Works within Portion 1 and 3	1080 days	Thu 9/19/13	Fri 9/2/16	9/19																										
Site possession and preparation works		Thu 9/19/13																												
Setting out site boundary and site clearance		Thu 10/3/13	Fri 11/1/13	10/		<b>11/1</b>																								
Initial joint survey	60 days				11/1		12/30																							
Obtain underground utilities plans			Sun 11/17/13	9/19		11/17																								
Erect hoarding, chain link fence and vehicular gate		Tue 11/5/13	Fri 1/3/14			/5	1/3																							
Works for Northbound of Road D2	1054 days	Tue 10/15/13	Fri 9/2/16		10/15																									
Submission of baseline monitoring for EPD approval		Mon 10/7/13	Tue 11/5/13		10/7																									
Approval of baseline monitoring by EPD		Wed 11/6/13					12/5																							
Submission / approval of condition survey and TDMP for work within existing Kai Tak Tunnel	120 days	Tue 10/15/13	Tue 2/11/14		10/15			2/11																						
Submission / approval of construction materials and method statements for rising mains	40 days	Sun 10/13/13	Thu 11/21/13		10/13	11/21																								
-																														
Delivery of materials for rising mains			Mon 1/20/14			11/22		1/20																						
Install 2x500mm dia. HDPE rising main CHA100-CHA441	300 days	Sun 1/5/14	Fri 10/31/14				1/5							10/31																
Construct 750mm dia. concrete pipes CHA716-CHA745 and 450mm dia. concrete pipes	100 days	Sat 11/1/14	Sun 2/8/15											11/1			2/8													
Construct sewerage manhole, discharge chamber, wash-out	300 days	Thu 10/30/14	Tue 8/25/15											10/30								8/25								
chamber, air-valve chamber for rising main																														
Submission / approval of construction materials and method	30 days	Sun 11/3/13	Mon 12/2/13			3	2/2																							
statements for watermains																														
Delivery of materials for watermains	60 days	Tue 12/3/13	Fri 1/31/14			12/3		<b></b> -1/31																						
Install 400mm, 450 & 600 dia. FWM CHC250-CHC921 and	370 days		Sun 2/8/15					2/4									2/8													
450mm dia. SWM CHB250-CHB920	570 duys	100 2/ 1/11	5411 2/0/15					2/-									2/0													
Draconne test smelling statility of the statility of	100.1	Th 0/10/17	E. 6 100 /1 5																											
Pressure test, swabbing, sterilization and connection		Thu 2/12/15	Fri 5/22/15													<u> </u>			5/22											
Construct valve, fire hydrant, air-valve and wash-out chambers for watermain	150 days	Wed 11/19/14	Fri 4/17/15											11/19				4/17	7											
Install irrigation system	150 days	Sat 12/20/14	Mon 5/18/15												12/20				5/18											
Submission / approval of construction materials and delivery of materials and method statements for stormdrain and sewerage	60 days	Wed 11/6/13	Sat 1/4/14			1/6	1/4																							
drain																														
Install different dia. of stormwater drain and construct manhole	400 days	Sun 1/5/14	Sun 2/8/15				1/5										2/8													
Install different dia. of sewerage drain and construct manhole	400 days	Sun 1/5/14	Sun 2/8/15				1/5										2/8													
Reconstruct existing box culvert for addition of DWFI	120 days	Mon 1/26/15	Mon 5/25/15													1/26			5/25	5										
Liaison meeting with UU		Thu 11/7/13				1/7	1/5																							
Installation of utility by the utility undertakers along proposed		Mon 1/6/14					1/6									12/31														
footpath																														
Construct drainpit and u-channel	200 dave	Thu 1/1/15	Sun 7/10/15																		-7/10									
																					7/19									
Install traffic signal at the Junction of Road D2/ Slip Road of KCR	100 days	Sat 3/14/15	Sun 6/21/15														3/14 📟			6/21										
Install traffic signal at the Junction of Road D2/ Road D3	100 days	Sun 3/15/15	Mon 6/22/15														3/15 🖾			6/22										
Install traffic signal at the Junction of Road D2/ Eastern Access Road	100 days	Fri 3/13/15	Sat 6/20/15														3/13 📖			6/20										
Install traffic signal at the Junction of Road D2/ Western	100 days	Sat 3/14/15	Sun 6/21/15														3/14 📟			6/21										
Access Road																														
Construct road gully and gully pipe	300 days	Sat 2/14/15	Thu 12/10/15														4								12/10					
Construct road kerb	200 days																			7/9										
Construct footpath, planting area and concrete run-in		Mon 8/3/15																			8/3									
Construct central divider		Mon 9/7/15																				9/7						<b>⊡</b> ⊰3/24		
Construct flexible carriageway		Wed 10/7/15																					10/9						,	
Road marking		Sun 4/24/16																										4/24		
Plants delivery for landscaping works																												4/14		
Preparatory works for landscaping works		Sat 5/14/16																											5/13 5/27	
Hydroseeding		Sat 5/28/16	Thu 6/2/16																										5/28 6/2	
Tree and shuth planting	· · · · · · · · · · · · · · · · · · ·	Fri 6/3/16	Sat 7/2/16																										6/3	······································
Tree and shurb planting Terminal float	30 days 62 days		Fri 9/2/16																											7/3

# KL/2012/03 Kai Tak Development -Stage 4 Infrastructure at Former North Apron Area Master Programme

	Task Name	Duration	Start	Finish	Se 11 18 25 1	) 8 ]]	5 22	Oc 29	t 6 11	3 20	N  27	Nov 3 1(	0 17	I 24	Dec I 8	15		<u>201</u> Jan 9 5		19 2	Fe	b 9	16 2	Ma 3 2	r 9 1	6 23	Ap 30 (	r 5 13	20 2	M 27   4
	Commence KL/2012/03 construction	1445 days	Thu 9/19/13 Thu 9/19/13	Sat 9/2/17 Fri 9/2/16		110																								
2	Section 1: Works within Portion 1 and 3	1080 days	Thu 9/19/13	Fn 9/2/16	9	/19																								Π
3	Widening of Existing Footpaths at Sung Wong Toi Road and	1080 days	Thu 9/19/13	Fri 9/2/16	9	/19																							<u> </u>	_
	<u>To Kwa Wan Road</u>																													
4	Site possession and preparation works	21 days	Thu 9/19/13	Wed 10/9/13		9/19			<b>b</b> 10																					
5	Setting out site boundary and site clearance	30 days	Thu 10/10/13	Fri 11/8/13			1	.0/10					1/8		10	6														
6	Initial joint survey Obtain underground utilities plans	25 days 60 days	Tue 11/12/13 Thu 9/19/13	Fri 12/6/13 Sun 11/17/13		)/19					11/	12	1	1/17	<mark>≌</mark> _12	/6														
8	Erect hoarding, chain link fence and vehicular gate	60 days	Thu 12/5/13	Sun 2/2/14		7/13								12/5							2	2/2								
9	Apply XP for roadworks	210 days	Wed 10/2/13	Tue 4/29/14			10/2	2																						<u>}</u> 4/
10	Approval of TTA drawings	90 days	Mon 11/18/13	Sat 2/15/14								11/18	3 📖										2/15	5						
11	Liaison meeting with UU	60 days	Sat 11/9/13	Tue 1/7/14							11/9	9 📥						<u>س</u>	1/7											
12	Installation of utility by the utility undertakers along proposed footpath, XP to be applied by UU	340 days	Wed 1/8/14	Sat 12/13/14													1.	/8 🗖												
13	Submission / approval of construction materials and method statements for watermains	30 days	Wed 1/29/14	Thu 2/27/14															1	/29				₽2/2	7					
14	Delivery of materials for watermains	60 days	Fri 2/28/14	Mon 4/28/14																			2/28							4/2
15	Install 300mm dia. fresh water main CHA0-CHA283	200 days	Wed 4/30/14	Sat 11/15/14																								4	4/30	
16	Install 300mm dia. fresh water main CHB0-CHB555	200 days	Tue 5/20/14	Fri 12/5/14																										
17 18	Install 450mm dia. salt water main CHA0-CHA555 Install 800mm dia. salt water main CHD0-CHD52	200 days 200 days	Sun 6/15/14 Sun 7/13/14	Wed 12/31/14 Wed 1/28/15																										
19	Pressure test, swabbing, sterilization and connection	100 days	Wed 11/12/14	Thu 2/19/15																										
20	Construct valve, fire hydrant, air-valve and wash-out chambers for watermain	100 days	Fri 10/10/14																											
21	Install irrigation system	120 days	Fri 11/14/14	Fri 3/13/15																										
22	Construct u-channel, drainpit and stormwater drain	150 days	Fri 10/24/14	Sun 3/22/15																										
23	Construct road gully and gully pipe	250 days	Sun 12/14/14	Thu 8/20/15																										
24	Application and install traffic signal at the Junction of Sung Wong Toi Road / To Kwa Wan Road	150 days	Sat 4/4/15	Mon 8/31/15																										
25	Application and install traffic signal at the Junction along Sung Wong Toi Road	150 days	Sun 4/5/15	Tue 9/1/15																										
26	Construct road kerb and new footpath	240 days	Thu 4/2/15	Fri 11/27/15																										
27	Construct carriageway at the existing footpath	270 days	Wed 7/1/15	Sat 3/26/16																										
28	Erect traffic sign	100 days	Sun 1/17/16	Mon 4/25/16																										
29	Re-surface existing carriageway	60 days	Sun 3/27/16	Wed 5/25/16																										
30	Road marking	10 days	Wed 5/4/16	Fri 5/13/16																										
31	Plants delivery for landscaping works Preparatory works for landscaping works	30 days 14 days	Mon 4/25/16 Thu 5/26/16	Tue 5/24/16 Wed 6/8/16																										
33	Hydroseeding	4 days	Thu 5/20/16																											
34	Tree and shurb planting	20 days	Mon 6/13/16																											
35	Terminal float	62 days	Sun 7/3/16	Fri 9/2/16																										
36																														
37	Construction of Box Culverts B6	978 days	Mon 9/30/13	Fri 6/3/16			9/30																					+	$\square$	┿
38	Site possession and preparation works	15 days	Mon 9/30/13	Mon 10/14/13			9/30				4																			
39	Submission / approval of construction materials and method statements for box culverts B6	60 days	Tue 10/15/13	Fri 12/13/13				10/1	15 ₫							12/	13													
40	Plant mobilization	14 days	Sat 12/14/13	Fri 12/27/13										12	2/14		<b>⊡</b> _1	2/27												
41	Construct temporary works and excavation to the formation level for box culverts B6	500 days	Sat 12/28/13	Mon 5/11/15												12/2	3 構													
42	Construct drainage box culverts B6	500 days	Wed 6/4/14	Fri 10/16/15																										
43	Precast box culvert preparation works	100 days	Tue 6/16/15	Wed 9/23/15																										
44	Modification of seawall	100 days	Sat 10/17/15	Sun 1/24/16																										
45	Soil backfilling works	160 days	Mon 1/25/16																											
46	Terminal float	62 days	Sun 7/3/16	Fri 9/2/16																										
47	Demolition of Kowlean Fast DWEI symping station	120 dava	Sum 2/28/16	Sum 6/26/14																										
48	Demolition of Kowloon East DWFI pumping station	120 days	Sun 2/28/16																											
49	Submission / approval of method statements	60 days	Tue 12/22/15	Fri 2/19/16																										
50	Demolish Kowloon East DWFI pumping station (To be carried out after completion of NPS)	120 days	Sun 2/28/16	Sun 6/26/16																										
51																														
52	Section 1A	1445 days	Thu 9/19/13	Sat 9/2/17		/19	-																					+		+
53	Establishment works for Section 1	1445 days	Thu 9/19/13	Sat 9/2/17		9/19																								

Critical tasks Working days





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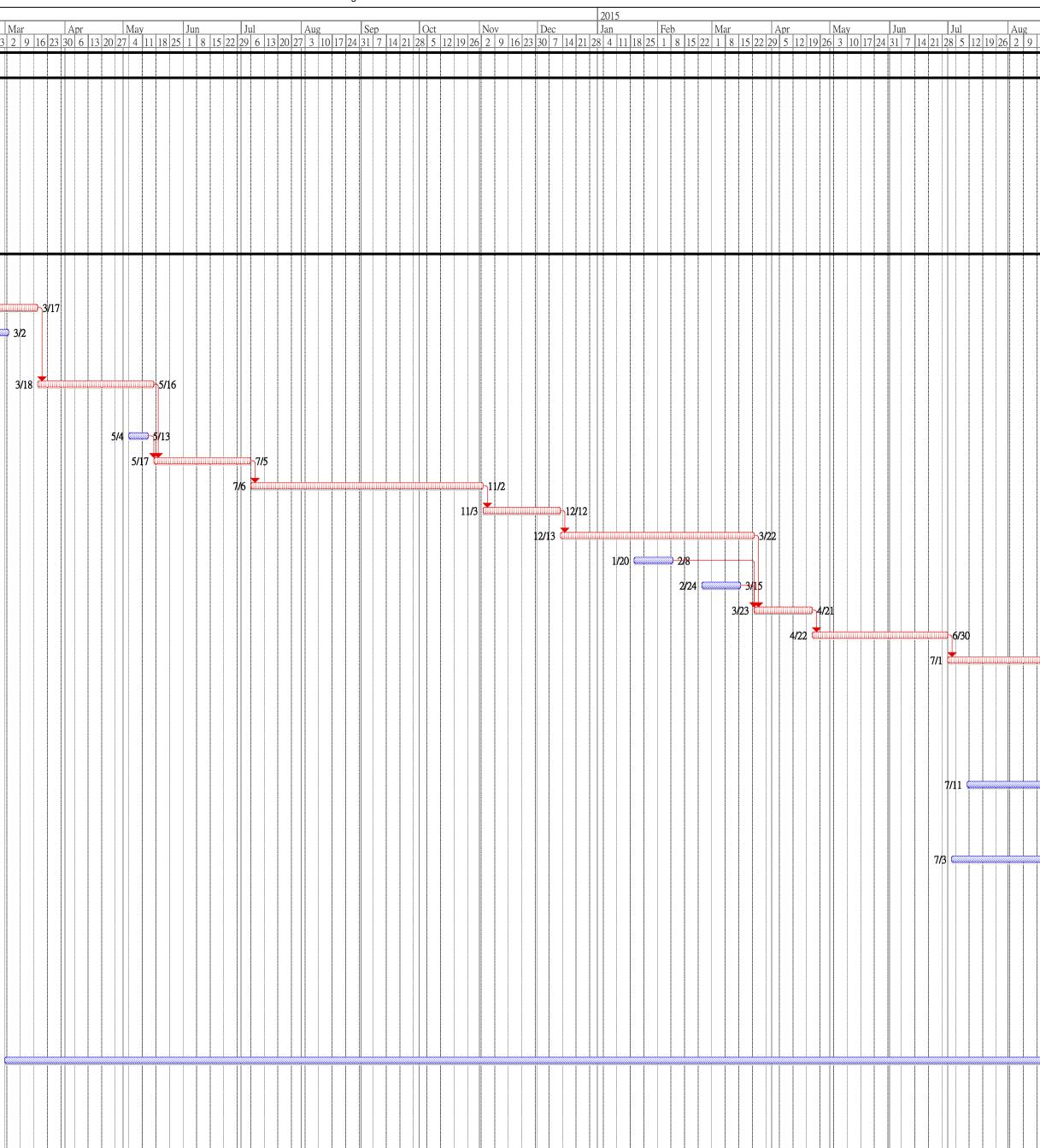
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ID Task Name	Duration	Start	Finish	Jul Aug	Sep	Oct	Nov	Dec	2014 Jan	Feb	Mar	Apr	May ]	Jun J	ul Au	ig S	Sep Oct	Nov		2015 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2016 Jan	Feb	Mar	Apr	May Jun	n Jul
1 Commence KL/2012/03 construction	1325 days	Thu 9/19/13	Fri 5/5/17	3 30 7 14 21 28 4 11	1 18 25 1 8		3 20 27 3 10	0 17 24 1 8 .	15 22 29 5 12	2 19 26 2 9 16	6 23 2 9 16	23 30 6 13 20 27	7 4 11 18 25	1 8 15 22 29	0 6 13 20 27 3	10 17 24 31	1 7 14 21 28 5 12	19 26 2 9 16	5 23 30 7 14 21	28 4 11 18	8 25 1 8 15	22 1 8 15 22	2 29 5 12 19	26 3 10 17 24	31 7 14 21	28 5 12 19 26	2 9 16 23	30 6 13 20	27 4 11 18	25 1 8 15	0 22 29 6 13 2	0 27 3 10 17	24 31 7 14 2	1 28 6 13 20	0 27 3 10 17 2	4 1 8 15 22 29 5	5 12 19 26 3 10
2 Section 2: Works within Portion 1 and 4	960 days	Thu 9/19/13	Thu 5/5/16		9/19	9 •																														<b>5/5</b>	
3 Setting out site boundary			Fri 10/18/13			9	□ 10/18																														
4 Obtain underground utilities plans	30 days	Thu 9/19/13	Fri 10/18/13		9/1	9	◎ 10/18																														
5 Site clearance			Sun 11/17/13			10/19		▶11/17																													
6 Initial survey		Mon 11/18/13					11/18	12/1																													
7 Erect hoarding, chain link fence and vehicular gate		Mon 12/2/13						12/2	12/31																												
8 Installation of rising main along To Kwa Wan Road	899 days	Thu 9/19/13	Sat 3/5/16		9/19	9																												375			
9 Application of XP and TTA for approval	180 dava	Set 10/10/12	Wed 4/16/14			10/10						406																									
9         Application of Xr and TIA for approval           10         Submission / approval of method statement, temporary works		Sat 10/19/13 Sat 12/28/13				10/19			.2/28			4/16																									
design and delivery of materials to site	100 4490							1																													
11         Inspection pits for determining the alignment of rising mains	60 days	Thu 4/17/14	Sun 6/15/14									4/17		<b>6/15</b>																							
	00 4490																																				
12         Allow for utilities diversion works by the UU	60 days	Mon 6/16/14	Thu 8/14/14											6/16		<b></b> 8/14																					
12     Image: A construct jacking pits at different locations (Locations will be		Sun 6/29/14												6/29										4/24													
subject to TMLG requirements. Detailed programme will be submitted after approval of TTA)																																					
14         Install 2x630mm HDPE rising main CHB0-CHB1050	500 days	Mon 9/1/14	Wed 1/13/16													9/ <del>1)</del>																	8				
(Alignment will be subject to TMLG requirements. Detailed programme will be submitted after approval of TTA)																																					
15         Construct sewerage manhole, discharge chamber, wash-out	300 days	Mon 5/11/15	Sat 3/5/16																					5/11										3/5			
chamber, air-valve chamber for rising main																																					
16 Terminal float	61 days	Sun 3/6/16	Thu 5/5/16																														3	3/6		<b>&gt;</b> 5/5	
17																																					
18 Construction of Road L19	899 days	Thu 9/19/13	Sat 3/5/16		9/1	.9 =																												3/5			
19         Application of XP and TTA for approval	210 days	Thu 9/19/13	Wed 4/16/14		9/1	.9																															
20 Submission / approval of construction materials and method	30 days	Wed 10/16/13	Thu 11/14/13			10/16		11/14																													
statements for rising mains																																					
21 Delivery of materials for rising mains	60 days	Fri 11/15/13	Mon 1/13/14				11/15			1/13																											
22 Install 2x630mm HDPE rising main CHB1089-CHB1159	170 days	Tue 1/14/14	Wed 7/2/14						1/14						7/2																						
23     Install 2x750mm dia. concrete pipes CHB1159-CHB1300	170 days	Tue 1/14/14	Wed 7/2/14						1/14						7/2																						
24 Install 600mm and 750 dia. stormwater drain	200 days	Thu 7/3/14	Sun 1/18/15											7/3							1/18																
25 Install 300mm dia. sewerage drain	200 days	Thu 7/3/14	Sun 1/18/15											7/3							1/18																
26 Install 200mm dia. fresh water main CHE0-CHE402	200 days	Thu 7/3/14	Sun 1/18/15											7/3							1/18																
27 Install NS125 & NS63 salt water main CHE0-CHE100		Thu 7/3/14												7/3							1/18																
28 Pressure test, swabbing, sterilization and connection		Mon 3/9/15																				3/9															
29 Construct sewerage manhole, discharge chamber, wash-out chamber, air-valve chamber for rising main	160 days	Thu 12/18/14	Tue 5/26/15																12/18						5/26												
30 Install 2x630mm HDPE rising main CHB1050-CHB1089 by trenchless method	200 days	Thu 4/17/14	Sun 11/2/14									4/17 📩 📖						11/2																			
																		11/3																			
31 Install 2x750mm and 2x900mm dia. concrete pipes CHB1300-CHB1398	150 days	Mon 11/3/14	Wed 4/1/15															11/3					4/1														
	20.1	0	0.1774																																		
32 Liaison meeting with UU		Sat 12/7/13						12/7	1/5																												
33 Installation of utility by the utility undertakers along proposed footpath	∠00 days	wion 1/6/14	Thu 7/24/14						1/þ						7/24																						
34 Utilities diversion works by the UU	160		Wed 12/21/14																	10/01																	
34     Utilities diversion works by the UU       35     Construct road gully and gully pipe			Wed 12/31/14 Tue 9/8/15												7/25					12/31			./2					<b>6</b> /0									
35     Construct road gully and gully pipe       36     Construct road kerb			Tue 9/8/15 Thu 9/17/15																			4,															
37     Construct footpath, planting area and concrete run-in			Fri 12/11/15																							7/25					-12/1	1					
38 Construct central refuge			Wed 11/4/15																							7/28				11/4							
39     Construct flexible carriageway			Tue 2/2/16																											11/5			<u> </u>				
40   Road marking			Wed 2/10/16																														2/1 2/10				
41 Relocate existing directional sign		Thu 10/29/15																											10/29	<b>9</b>			2/5				
42 Plants delivery for landscaping works	30 days	Mon 1/4/16	Tue 2/2/16																													1/4					
43 Preparatory works for landscaping works	14 days	Wed 2/3/16	Tue 2/16/16																														2/3 2/1	16			
44 Hydroseeding	2 days	Wed 2/17/16	Thu 2/18/16																														2/17 0-2/				
45 Tree and shurb planting	16 days	Fri 2/19/16	Sat 3/5/16																														2/19 📥	3/5			
46 Terminal float	61 days	Sun 3/6/16	Thu 5/5/16																														3	3/6		<b>5/</b> 5	
47																																					
48 Section 2A	1325 days	Thu 9/19/13	Fri 5/5/17		9/19	9																															
49 Establishment works for Section 2	1325 days	Thu 9/19/13	Fri 5/5/17		9/1	<b>9</b>																															
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KL/2012/03 Kai Tak Development -Stage 4 Infrastructure at Former North Apron Area Master Proor

Kwan On Construction Co. Ltd.

ID	Task Name	Duration	Start	Finish																				014					
					16 23	Jul 3 30 7	14 2	A 21   28	Aug 4 1	1 18	25	Sep 1 8	15 2	22 29	Oct 9 6 1	13 20	1   <u>27</u>	Nov 3 1	0 17	1 24	Dec 1 8	15 2	Ja 2 29	an 5 11	2 19	F0 26 2	eb 9	16 23	Ma 3 2
1	Commence KL/2012/03 construction	960 days	Thu 9/19/13	Thu 5/5/16									-																
2	Section 2: Works within Portion 1 and 4	960 days	Thu 9/19/13	Thu 5/5/16								9/19	,																
3	Setting out site boundary	30 days	Thu 9/19/13	Fri 10/18/13								9/1	9 📖			<u></u> 1(	0/18												
4	Obtain underground utilities plans	30 days	Thu 9/19/13	Fri 10/18/13								9/1	9 🚎			<u></u>	0/18												
5	Site clearance	30 days	Sat 10/19/13	Sun 11/17/13											10/19	9 太			11 🗠	1/17									
6	Initial survey	14 days	Mon 11/18/13	Sun 12/1/13														11/18	3	<u> </u>	12/1								
7	Erect hoarding, chain link fence and vehicular gate	60 days	Mon 12/2/13	Thu 1/30/14															12	2/2						<u></u> 1/	30		
8	Construction of sewrage pumping station NPS	960 days	Thu 9/19/13	Thu 5/5/16								9/19	,																
9	Site Possession	180 days	Thu 9/19/13	Mon 3/17/14								9/1	9 🗰																
10	Submission / approval of method statements and temporary work design	165 days	Thu 9/19/13	Sun 3/2/14								9/1	9 📼																ຉ 3/
11	Demolition work of ex-EMSD Sung Wong Toi vehicle repair and maintenance workshop by others	60 days	Tue 3/18/14	Fri 5/16/14																									3
12	Mobilization	10 days	Sun 5/4/14	Tue 5/13/14																									
13	Construct sheet piling system	50 days	Sat 5/17/14	Sat 7/5/14																									
14	Install waling and strut, excavation to the formation level	120 days	Sun 7/6/14	Sun 11/2/14																									
15	Construct the base slab	40 days	Mon 11/3/14	Fri 12/12/14																									
16	Construct the basement	100 days	Sat 12/13/14	Sun 3/22/15																									
17	Install cast-in pipe for intake pipe	20 days	Tue 1/20/15	Sun 2/8/15																									
18	Install cast-in pipe for overflow pipe and rising main	20 days	Tue 2/24/15	Sun 3/15/15																									
19	Remove sheet piling and backfilling works	30 days	Mon 3/23/15	Tue 4/21/15																									
20	Construct upper part wall and column up to roof level	70 days	Wed 4/22/15	Tue 6/30/15																									
21	Construct the beam and roof	80 days	Wed 7/1/15	Fri 9/18/15																									
22	Establishment of green roof system	100 days	Fri 12/4/15	Sat 3/12/16																									
23	Architectural finishes and erect granite tile	130 days	Sat 9/19/15	Tue 1/26/16																									
24	Erect handrailing, louvre, door, roller shutter etc.	130 days	Sat 9/19/15	Tue 1/26/16																									
25	Install rising main	60 days	Sat 9/19/15	Tue 11/17/15																									
26	Construct inlet and overflow pipes	60 days	Sat 7/11/15	Tue 9/8/15																									
27	Construct sewerage, drainage drain and manhole	70 days	Wed 11/18/15	Tue 1/26/16																									
28	Construct assess road	30 days	Thu 1/28/16	Fri 2/26/16																									
29	Construct u-channel with cover	60 days	Fri 7/3/15	Mon 8/31/15																									
30	Erect fence wall, vehicular and man access and mini bollard light	100 days	Fri 9/18/15	Sat 12/26/15																									
31	Plants delivery for landscaping works	30 days	Wed 1/20/16	Thu 2/18/16																									
32	Preparatory works for landscaping works	7 days	Sat 2/27/16	Fri 3/4/16																									
33	Hydroseeding	1 day	Sat 3/5/16	Sat 3/5/16																									
34	Tree and shurb planting	20 days	Sun 3/6/16	Fri 3/25/16																									
35	Terminal float	41 days	Sat 3/26/16	Thu 5/5/16																									
36	Submission / approval of E&M services materials and delivery (Detailed programme will be submitted separately)	570 days	Sat 3/1/14	Mon 9/21/15																								3/1	
37	E&M building service installation. (Details programme will be submitted separately)	180 days	Tue 9/22/15	Sat 3/19/16																									

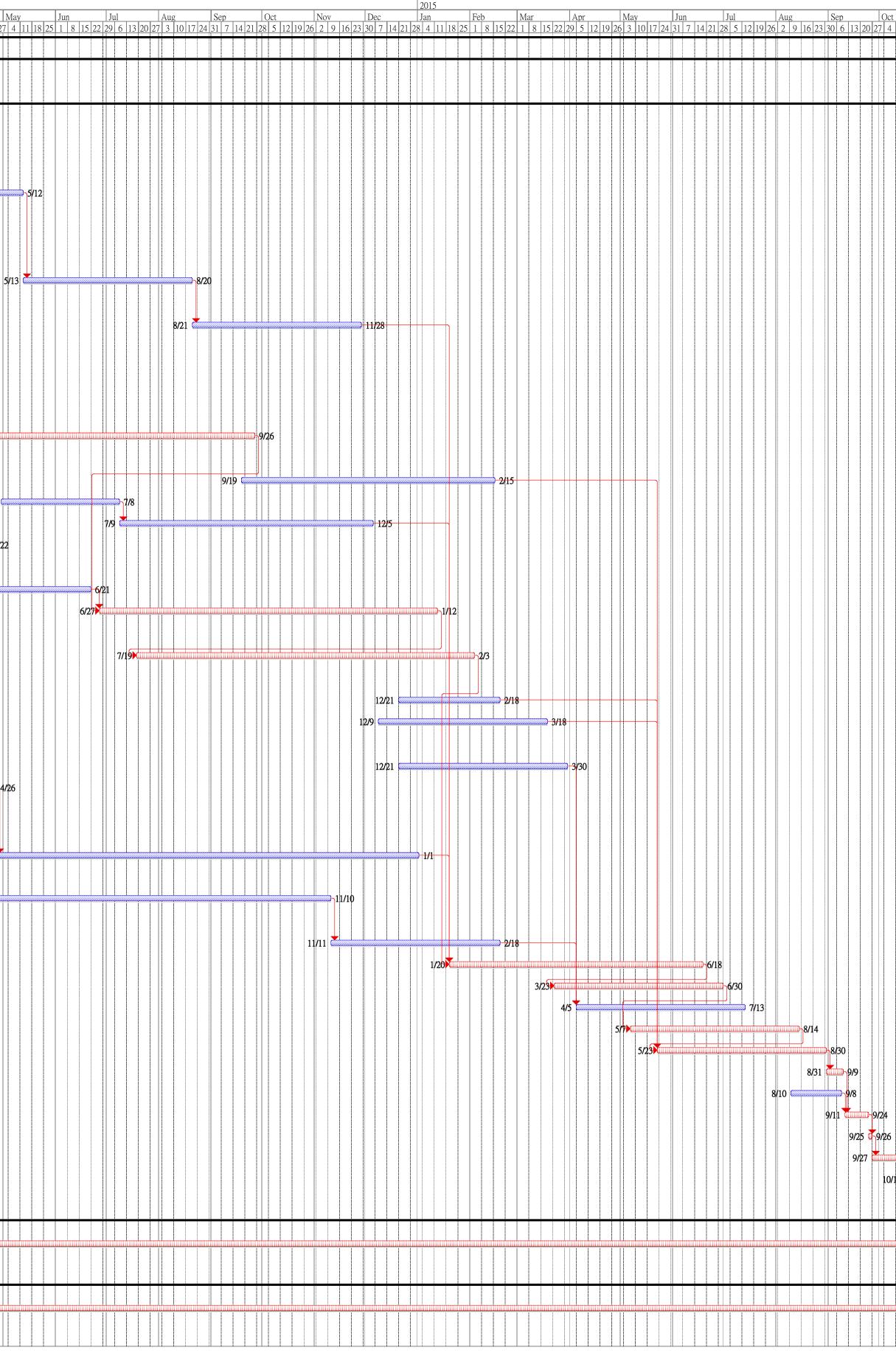




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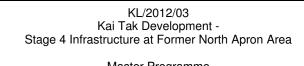
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ID	Task Name	Duration	Start	Finish	Sep 25 1 8	15 22	Oct	2 20	No	)V	I	Dec	15 0	Ja	014 an	2 10 /	Fe	b	16 22	Mar	0 16	22 20	Apr	2 20 2	May
1	Commence KL/2012/03 construction	1173 days	Thu 9/19/13	Sun 12/4/16	5 25 1 8	15 22	29 6 1	3 20	2/ 3	101	/ 24 .	8	15 2	2 29	5 1	2 19 .	26 2	9	16 23	5 2	9 16	23 3	0 6 1	3 20 2	/ 4
2	Section 3: Works within Portion 1	808 days	Thu 9/19/13	Sat 12/5/15	9/19																				
2	Works for Deet of Deed D2	909 Java	Thu 0/10/12	Set 10/5/15	0/10	_																			
3	Works for Part of Road D2	808 days	Thu 9/19/13	Sat 12/5/15	9/19																				
4	Site possession and preparation works	15 days	Thu 9/19/13	Thu 10/3/13	9/19		<u>□</u> -10/3																		
5	Site clearance and setting out site boundary	20 days	Fri 10/4/13	Wed 10/23/13			4		10/23																
6	Apply XP for roadworks at junction of SWTR and TKWR and	210 days	Tue 10/15/13	Mon 5/12/14			10/15																		
	TTA approval																								
7	Submission of baseline monitoring for EPD approval	30 days	Mon 10/7/13	Tue 11/5/13		10	0/77 📖			11/5															
8	Approval of baseline monitoring by EPD	30 days	Wed 11/6/13	Thu 12/5/13				1	1/6 🧕			12/	5												
9	Install 400mm dia. fresh water main CHC0-CHC30	100 days	Tue 5/13/14	Wed 8/20/14																					5/13
10	Install 300 and 450mm dia. salt water main CHB0-CHB30	100 days	Thu 8/21/14	Fri 11/28/14																					
11	Submission / approval of construction materials and method statements for rising mains	40 days	Sat 10/12/13	Wed 11/20/13			10/12				11/20														
12			<b>E</b> 11/01/10	<u> </u>																					
12	Delivery of materials for rising mains Construct 750mm dia. concrete pipes CHA450-CHA630	60 days 250 days	Thu 11/21/13 Mon 1/20/14	Sun 1/19/14 Fri 9/26/14						11/21					1 0		[9								
15	Construct / 50mm dia. concrete pipes CHA450-CHA650	250 days	Mon 1/20/14	FII 9/20/14											1/20	0									
14	Construct sewerage manhole for rising main	150 days	Fri 9/19/14	Sun 2/15/15																					
15	Construct jacking pits	70 days	Wed 4/30/14	Tue 7/8/14																				4/30	
16	Install 2x750mm dia. rising main CHA636-CHA716	150 days	Wed 7/9/14	Fri 12/5/14																					
17	Submission / approval of construction materials and method	30 days	Mon 3/24/14	Tue 4/22/14																	3/24			<u>4/2</u>	22
	statements for watermains																								
18	Delivery of materials for watermains	60 days	Wed 4/23/14	Sat 6/21/14																			4/.	23 📥	
19	Install 400mm dia. fresh water main CHC30-CHC250	200 days	Fri 6/27/14	Mon 1/12/15																					
20	Install 300 and 450mm dia. salt water main CHB30-CHB250	200 days	Sat 7/19/14	Tue 2/3/15																					
- 21																									
21	Pressure test, swabbing, sterilization and connection Construct valve, air-valve and wash-out chambers for	60 days	Sun 12/21/14 Tue 12/9/14	Wed 2/18/15 Wed 3/18/15																					
ZZ	watermain	100 days	Tue 12/9/14	wed 3/18/15																					
23	Install irrigation system	100 days	Sun 12/21/14	Mon 3/30/15																					
24	Submission / approval of construction materials and delivery of	40 days	Tue 3/18/14	Sat 4/26/14																3/	18 🖾			<u> </u>	4/26
	materials and method statements for stormdrain drain																								
25	Install stormwater drain and manhole	250 days	Sun 4/27/14	Thu 1/1/15																				4/27 👗	
26	Liaison meeting with UU	30 days	Thu 10/17/13	Fri 11/15/13			10/17			1	1/15														
27	Installation of utility by the utility undertakers along proposed footpath and CLP tunnel	360 days	Sat 11/16/13	Mon 11/10/14					11/	/16 📥															
28	Construct drainpit and u-channel	100 days	Tue 11/11/14	Wed 2/18/15																					
29	Construct road gully and gully pipe	150 days	Tue 1/20/15	Thu 6/18/15																					
30	Construct road kerb	100 days	Mon 3/23/15	Tue 6/30/15																					
31	Construct footpath, planting area and concrete run-in Construct central divider	100 days	Sun 4/5/15 Thu 5/7/15	Mon 7/13/15 Fri 8/14/15																					
32	Construct central divider Construct flexible carriageway	100 days 100 days	Sat 5/23/15	Sun 8/30/15																					
34	Road marking	10 days	Mon 8/31/15	Wed 9/9/15																					
35	Plants delivery for landscaping works	30 days	Mon 8/10/15	Tue 9/8/15																					
36	Preparatory works for landscaping works	14 days	Fri 9/11/15	Thu 9/24/15																					
37	Hydroseeding	2 days	Fri 9/25/15	Sat 9/26/15																					
38	Tree and shurb planting	20 days	Sun 9/27/15	Fri 10/16/15																					
39	Terminal float	50 days	Sat 10/17/15	Sat 12/5/15																					
40																									
41	Section 3A	1173 days	Thu 9/19/13	Sun 12/4/16	9/19	-																			
42	Establishment works for Section 3	1173 days	Thu 9/19/13	Sun 12/4/16	9/19																				
43	Destion 4																								
44	Section 4	1080 days	Thu 9/19/13	Fri 9/2/16 Fri 9/2/16	9/19																				
45	Perservation and preotection of trees within Portions 1 to 4	1080 days	Thu 9/19/13	гп 9/2/16	9/19																				

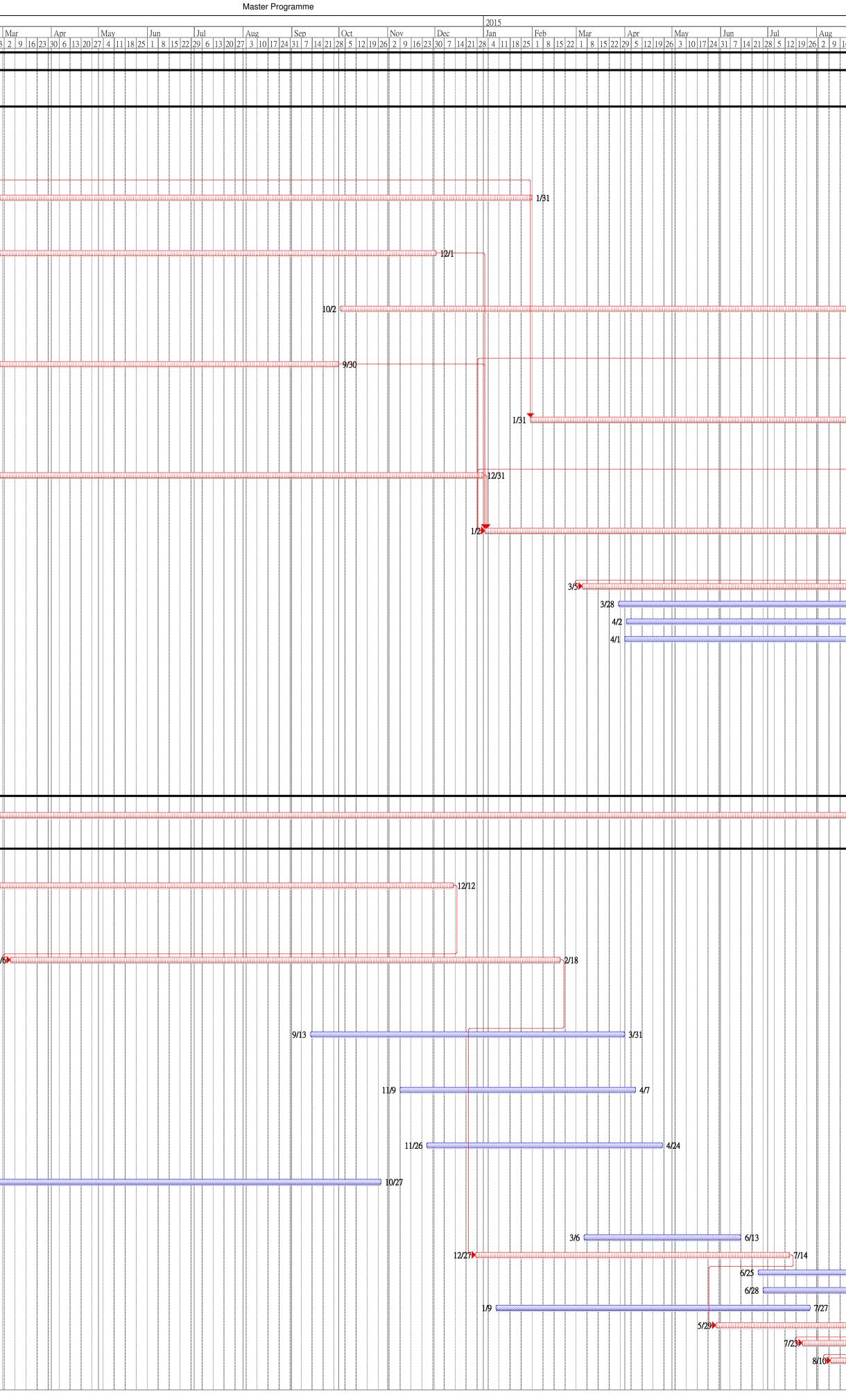




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ID	Task Name	Duration	Start	Finish		<u>/Ia</u>
1	Commence KL/2012/03 construction	1345 days	Thu 9/19/13	Thu 5/25/17	6       23       30       7       14       21       28       4       11       18       25       1       8       15       22       29       6       13       20       27       3       10       17       24       1       8       15       22       29       5       12       19       26       2       9       16       23       2	<u>!</u>
2	Section 5: Portion 1 (Subject to Excision)	980 days	Thu 9/19/13	Wed 5/25/16	9/19	
3	Works for Part of Road D2 (Footpath only)	980 days	Thu 9/19/13	Wed 5/25/16	9/19	-
4	Site possession and preparation works Awaiting for the notification of commencement of works by the	15 days 100 days	Mon 9/30/13 Mon 9/30/13	Mon 10/14/13 Tue 1/7/14	9/30 (10/14 9/30 (10/14	
5	Engineer	100 days	WIOII 9/30/13	1 uc 1///14		
6	Interface works meeting with CLP	30 days	Tue 10/15/13	Wed 11/13/13		
7	Construct of CLP tunnel by CLP CH67 to CH250 (Exact	444 days	Thu 11/14/13	Sat 1/31/15		ш
	duration will be agreed with CLP)					
8	Construct of CLP tunnel by CLP CH527 to CH585 (Exact duration will be agreed with CLP)	383 days	Thu 11/14/13	Mon 12/1/14		Щ
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9	Construct of CLP tunnel by CLP CH385 to CH527(Exact duration will be agreed with CLP)	395 days	Thu 10/2/14	Sat 10/31/15		
10	Construct of CLP tunnel by CLP CH250 to CH385 (Exact	321 days	Thu 11/14/13	Tue 9/30/14		Ш
	duration will be agreed with CLP)					
11	Construct of CLP tunnel by CLP CH0 to CH67 Exact duration	275 days	Sat 1/31/15	Sun 11/1/15		
	will be agreed with CLP)					
12	Construct of CLP tunnel by CLP CH585 to CH724 (Exact duration will be agreed with CLP)	365 days	Wed 1/1/14	Wed 12/31/14		ш
	duration will be agreed with CLF)					
13	Installation of utility by the utility undertakers along proposed footpath (Exact duration will be agreed with UU)	350 days	Fri 1/2/15	Thu 12/17/15		
14	Construct drainpit and u-channel	340 days	Thu 3/5/15	Sun 2/7/16		
14	Install stormwater drain, sewerage drain and manholes	300 days	Sat 3/28/15	Thu 1/21/16		
16	Install FWM and SWM and chambers	300 days	Thu 4/2/15	Tue 1/26/16		
17	Install irrigation system	300 days	Wed 4/1/15	Mon 1/25/16		
18	Install fire hydrant	50 days	Tue 12/8/15	Tue 1/26/16		
19	Install street lighting	70 days	Mon 2/8/16	Sun 4/17/16		
20	Construct footpath, planting area and concrete run-in	70 days	Mon 2/8/16	Sun 4/17/16		
21	Plants delivery for landscaping works	15 days	Sun 3/27/16	Sun 4/10/16		
22 23	Preparatory works for landscaping works Hydroseeding	14 days 2 days	Mon 4/18/16 Mon 5/2/16	Sun 5/1/16 Tue 5/3/16		
23	Tree and shurb planting	22 days 22 days	Wed 5/4/16	Wed 5/25/16		
25						
26	Section 5A: (Subject to Excision)	1345 days	Thu 9/19/13	Thu 5/25/17	9/19	-
27	Establishment works for Section 5	1345 days	Thu 9/19/13	Thu 5/25/17	9/19 - 9/19 - 9/19	ш
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29 30	Section 7A: Portion 1 (Subject to Excision) Awaiting for the notification of commencement of works by the J	800 days 100 days	Thu 9/19/13 Thu 9/19/13	Fri 11/27/15 Fri 12/27/13	9/19	-
31	Construct one 500mm dia., two 1000mm dia. District Cooling	350 days	Sat 12/28/13	Fri 12/2//13	9/19 00000000000000000000000000000000000	Ш
	System (DCS) chilled water pipes and four 1400mm dia. seawater pipes					
	seawater pipes					
32	Construct two DCS chilled water pipes tee to the building lots.	350 days	Thu 3/6/14	Wed 2/18/15	3/6	ā
	The diameter of DCS chilled water pipes are 200mm, 500mm and 800mm subject to various locations					
33	Construct valve chambers, instrumentation chambers, access manhole, thrust blocks, insulation provision for the DCS chilled	200 days	Sat 9/13/14	Tue 3/31/15		
	water pipes					
24		150 1	Que 11/0/14	T		
34	Construct the leakage detection system for DCS chilled water pipes	150 days	Sun 11/9/14	Tue 4/7/15		
35	Construct the cable ducts and associated draw pits for the	150 days	Wed 11/26/14	Fri 4/24/15		
55	communication system	150 days		111 112 1113		
36	Interfacing works with EMSD 1020EM12A Contractor for	300 days	Wed 1/1/14	Mon 10/27/14	1/1	
	connection of the proposed four seawater pipes and three chilled water pipes in Section C to their construction of seawater pipes					
	and chilled water pipes					
37	Testing and commissioning of the works	100 days	Fri 3/6/15	Sat 6/13/15		
38	Install FWM and SWM and chambers	200 days	Sat 12/27/14	Tue 7/14/15		
39	Pressure test, swabbing, sterilization and connection	70 days	Thu 6/25/15	Wed 9/2/15		
40	Construct valve, fire hydrant, air-valve and wash-out chambers f	80 days	Sun 6/28/15	Tue 9/15/15		
41 42	Install stormwater drain, sewerage drain and construct manhole Construct road gully and gully pipe	200 days 150 days	Fri 1/9/15 Fri 5/29/15	Mon 7/27/15 Sun 10/25/15		
42	Construct road guily and guily pipe Construct road kerb	150 days	Thu 7/23/15	Fri 10/25/15		
44	Construct flexible carriageway	100 days	Mon 8/10/15	Tue 11/17/15		
45	Road marking	10 days	Wed 11/18/15	Fri 11/27/15		
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