# **Civil Engineering and Development Department**

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

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

Monthly EM&A Report September 2016 (Version 1.0)

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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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## **EXECUTIVE SUMMARY**

#### Introduction

- This is the 34<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) 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 (DP) Road D2 & Sewage Pumping Station PS2 and PS NPS which forms a part of the works under two Environmental Permits (EP), EP-337/2009 and EP-344/2009. The title of the designated projects under Environmental Permit No.: EP-344/2009 is "New sewage pumping stations serving Kai Tak Development" and under Environmental Permit No.: EP-337/2009 is "New distributor roads serving the planned Kai Tak Development". This report documents the findings of EM&A Works conducted from 1 to 30 September 2016.
- 2. The major site activities undertaken in the reporting month included:
  - Installation of hand-railing & ladder inside Box Culvert B5;
  - Construction of staircase and landing and E&M Works at PS2;
  - Chamber construction, backfill and sheet pile removal at 7A;
  - Chamber construction. segment tunneling, corrugated steel pipe installation at 7B;
  - Outfall construction at Box Culvert B6;
  - Road widening works (excavation and UU works) at Sung Wong Toi Road;
  - Maintenance & Servicing Engineer's Office at Portion 9;
  - Lay HDPE pipe at Pit 1;
  - Pipe jacking at Pit 4 and 9;
  - Chamber construction at Pit 5;
  - Installation of drainage, UU laying works and Road works at Road D2;
  - Finishing works and E&M works at NPS;
  - UU works and Road works at Road L19 & Bailey St; and

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• Storage of excavated material at Portion 6.

## **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 breaches of action and limit levels in the reporting month for the Project is tabulated in **Table I**.

Table 1 Directions of Action and Emili Devels for the Troject in the Reporting Month				
Parameter	No. of Project-rela	Action Taken		
I al ameter	Action Level	Limit Level	Action Taken	
1-hr TSP	0	0	N/A	
24-hr TSP	0	0	N/A	

0

 Table I
 Breaches of Action and Limit Levels for the Project in the Reporting Month

Noise

N/A

1-hour & 24-hour TSP Monitoring

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

Construction Noise Monitoring

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

## **Environmental Licenses and Permits**

- 8. 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.
- 9. Registration of Chemical Waste Producer (Waste Producer Number: 5213-286-K2958-05).
- 10. Water Discharge License (WT00020971-2015).
- 11. Construction Noise Permit (GW-RE0964-16).

#### **Key Information in the Reporting Month**

12. Summary of complaint received, reporting changes and notifications of any summons and successful prosecutions in the reporting month is tabulated in Table II.

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**

13. 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. Schedule 2 DPs in this Project include new distributor roads serving the planned KTD and new sewage pumping stations serving the planned KTD. The general layout of the Project is shown in **Figure 1**.
- 1.2 Two Environmental Permits (EPs) No. EP-344/2009 and EP-337/2009 were also issued to the Permit Holder Civil Engineering and Development Department on 23 April 2009 for new sewage pumping stations serving the planned KTD and new distributor roads serving the planned KTD respectively.
- 1.3 A study of environmental impact assessment (EIA) was undertaken to identify the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and recommend possible mitigation measures associated with the works. The 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) is 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<sup>st</sup> December 2013 for Road D2, Sewage Pumping Station PS2 and PS NPS. This is the 34<sup>th</sup> Monthly EM&A report summarizing the EM&A works for the Project from 1 to 30 September 2016.

## **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 Consulting Limited. (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. C. K. Choi	Senior Engineer	2301 1174	2301 1277
AECOM	Engineer's	Mr. John Yam	SRE	2798 0771	3013 8864
AECONI	Representative	Mr. Ivan Yim	RE	2/98 0//1	3013 8804
	Environmental	Dr. Priscilla Choy	Environmental Team Leader	2151 2089	
Cinotech	Team	Ms. Ivy Tam	Project Coordinator and Audit Team Leader	2151 2090	3107 1388
Hyder	Independent Environmental Checker	Mr. Wong Fu Nam	Independent Environmental Checker	2911 2744	2805 5028
			Site Agent	3689 7752	3689 7726
Kwan On	Contractor	Mr. Albert Ng		6146 676 telephone nur	

## **Construction Activities undertaken during the Reporting Month**

- 1.8 The site activities undertaken in the reporting month included:
  - Installation of hand-railing & ladder inside Box Culvert B5;
  - Construction of staircase and landing and E&M Works at PS2;
  - Chamber construction, backfill and sheet pile removal at 7A;
  - Chamber construction. segment tunneling, corrugated steel pipe installation at 7B;
  - Outfall construction at Box Culvert B6;
  - Road widening works (excavation and UU works) at Sung Wong Toi Road;
  - Maintenance & Servicing Engineer's Office at Portion 9;
  - Lay HDPE pipe at Pit 1;
  - Pipe jacking at Pit 4 and 9;
  - Chamber construction at Pit 5;
  - Installation of drainage, UU laying works and Road works at Road D2;
  - Finishing works and E&M works at NPS;
  - UU works and Road works at Road L19 & Bailey St; and
  - Storage of excavated material at Portion 6.
- 1.9 The construction programme showing the inter-relationship with environmental protection/mitigation measures is presented in **Table 1.2**.

Protection/Mit		
Construction Works	Generated Major Environmental Impact	Control Measures
Construction of superstructure of Pumping Station PS2 and NPS;	Dust, Water Quality, Waste Management	<ul> <li>Sufficient watering of the works site with active dust emitting activities;</li> <li>Properly cover the stockpiles;</li> <li>Appropriate desilting/sedimentation devices provided on site for treatment before discharge;</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall; and</li> <li>On-site waste sorting and implementation of trip ticket system.</li> </ul>
Backfilling between sewerage manholes 1K1_1 and FMH10_340 and construction of manhole FMH10_370a at L6;	Dust, Noise	<ul> <li>Use of quiet plant and well-maintained construction plant; and</li> <li>Properly cover the stockpiles;</li> </ul>
Installation of precast unit and construction of in-situ portions of Box Culvert B6; Construction of jacking pits nos. 1 and 2; Installation of gas pipe at pit no. 10; Construction of washout chamber at pit no. 11;	Noise, Waste Management	<ul> <li>Use of quiet plant and well-maintained construction plant; and</li> <li>Provide hoarding.</li> <li>Good management and control on construction waste reduction</li> </ul>
Construction of sewerage manhole FMH 10 at Bailey Street; Widening works of Sung Wong Toi Road.	Noise	<ul> <li>Use of quiet plant and well-maintained construction plant; and</li> <li>Provide hoarding.</li> </ul>
Pipe laying from manhole SMH2204 to Box Culvert B6; Laying of rising mains from PS2 to chainage CHA-18; Pipe laying from stormwater manholes SMH1962 to SMH1963 and construction of manholes SMH1953 and SMH1963 at L6; Installation of DCS;	Noise, Water Quality	<ul> <li>Use of quiet plant and well-maintained construction plant; and</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall.</li> </ul>

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

## 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 implementation of the EM&A programme for the Project from 1 to 30 September 2016.

1.13 Air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in **Table 1.3** (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) – EMSD 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	No	M6(A) – Oblate Primary School
M7 – CCC Kei To Secondary School	Yes	N/A
M8 – Po Leung Kuk Ngan Po Ling College	Yes	N/A
M9 – Tak Long Estate	Yes	N/A
M10 – Site 1B4 (Planned)		N/A

Remarks:

> "Yes" - Monitoring station is the same as that stated in EM&A Manual

No - Monitoring station is not the same as that stated in EM&A Manual. Request for carrying monitoring works at the monitoring stations stated in EM&A Manual was rejected by owner of premise. Alternative monitoring stations were proposed by the ET of Schedule 3 EIA and approved by the EPD.

> N/A - No alternative monitoring station is required.

1.14 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, has 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 is summarized in the **Table 1.4** and **Table 1.5** respectively:

Table 1.4	Summary Table for	or Required Su	bmission under EP No	<b>D. EP-337/2009</b>
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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	Four hard copies and one electronic copy of the Monthly EM&A Report No. 33 (August 2016)	19 September 2016	Monthly EM&A Report for Contract No. KL/2012/03

# 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 PS 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 PS NPS
2.11	Landscape Mitigation Plan(s) for sewage pumping station(s)	7 January 2014	For Pumping Station PS2 and PS 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	Four hard copies and one electronic copy of the Monthly EM&A Report No.33 (August 2016)	19 September 2016	Monthly EM&A Report for Contract No. KL/2012/03

# 2. AIR QUALITY

## **Monitoring Requirements**

2.1 According to EM&A Manual under the EPs, 1-hour and 24-hour Total Suspended Particulates (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 the sensitive receivers at the building are resided.

# **Monitoring Equipment**

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

Equipment	Model and Make	Quantity
Calibrator	G25A	1
1-hour TSP Dust Meter	Laser Dust Monitor – Model LD-3, LD-3B/ Met One Instruments – AEROCET-531	6
HVS Sampler	GMWS 2310 c/w of TSP sampling inlet	4
Wind Anemometer	Davis Weather Monitor II, Model no. 7440	1

 Table 2.2
 Air Quality Monitoring Equipment

## 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	At least three times every 6 days	
24-hr TSP	At least once every 6 days	

Monitoring Methodology and Quality Assurance and Quality Control (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 High-Volume Sampler (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 samplers (HVS) (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 24-hour TSP sampling, the flow rate of the high volume sampler was properly set (between 1.1 m<sup>3</sup>/min. and 1.4 m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- 2.10 For 24-hour TSP sampling, fiberglass filters having a collection efficiency of  $\ge 99\%$  for particles of 0.3µm (DOP) 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 so that the TSP will be sampled for 24 hours. 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 completion of sampling, the filter was removed and sent to Wellab Ltd., which is accredited under HOKLAS for laboratory analysis. The elapsed time was also recorded.
- 2.17 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning temperature should be between 25°C and 30°C and not vary by more than  $\pm 3^{\circ}$ 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.
  - Orifice Transfer Standards were calibrated at yearly intervals 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 were 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 the reporting month is shown in **Appendix H**. No exceedance in Action/Limit Levels of 1-hour and 24-hour TSP 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 is as follows:

Table 2.4	Major dust source identified at the designated air quality monitoring
stations	

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	Site vehicle movement
AM5(A) – Po Leung Kuk Ngan Po	Road Traffic Dust
Ling College	Excavation works at the site (Contract No.:
	1/WSD/14(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 to 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 four designated monitoring stations (M6, M7, M8 and M9). **Figure 3** shows the locations of these stations.
- 3.3 Construction noise monitoring at Station M6 Holy Carpenter Primary School was rejected by the premise owner on 6<sup>th</sup> October 2014. The monitoring station has been relocated at a proposed alternative noise monitoring station M6(A) Oblate Primary School since 10<sup>th</sup> October 2014 to carry out the monitoring works.

Monitoring Stations	Locations	Location of Measurement
*M6(A)	Oblate Primary School	Rooftop (about 7/F) Area
M7	CCC Kei To Secondary School	Rooftop (about 8/F) Area
M8	Po Leung Kuk Ngan Po Ling College	Staircase Area (about 9/F)
M9	Tak Long Estate	Car Park Building (about 2/F)
#M10	Site 1B4 (Planned)	-

#### Table 3.1Noise Monitoring Stations

Remarks:

\* Alternative noise monitoring station for M6 – Holy Carpenter Primary School from 10<sup>th</sup> October 2014 onwards

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

## **Monitoring Equipment**

3.4 **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	5
Calibrator	SVAN 30A	1
	B&K4231	2

#### Monitoring Parameters, Frequency and Duration

3.5 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	Type of Measurement
M7 M8 M9	L <sub>10</sub> (30 min.) dB(A) L <sub>90</sub> (30 min.) dB(A) L <sub>eq</sub> (30 min.) dB(A)	0700-1900 hrs on normal weekdays	Once per week	Façade <sup>(*)</sup>
M6(A)	L <sub>10</sub> (30 min.) dB(A) L <sub>90</sub> (30 min.) dB(A) L <sub>eq</sub> (30 min.) dB(A)	0700-1900 hrs on normal weekdays	Once per week	Free Field <sup>(*)</sup>

(\*) Refer to bullet point 1 and 2 in the following section.

#### Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was set on a tripod at a point 1m from the exterior of the sensitive receivers building façade and be at a position 1.2m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels was adjusted with a correction of +3 dB(A).
- 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

- 3.6 The microphone head of the sound level meter and calibrator was cleaned with a soft cloth at quarterly intervals.
- 3.7 The sound level meter and calibrator were checked and calibrated at yearly intervals.
- 3.8 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**

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

Monitoring Stations	Locations	Major Noise Source
M6(A)	<b>Oblate Primary School</b>	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/14(K)) facing Po Leung Kuk Ngan Po Ling College
M9	Tak Long Estate	Road paving and asphalt paving works

#### Table 3.4 Major noise source identified at the designated noise monitoring stations

#### Table 3.5Baseline noise level and noise limit level for monitoring stations

Monitoring Stations	Baseline Noise Level, dB (A)	Noise Limit Level, dB (A)
M6(A)	63.9 (at 0700 – 1900 hrs on normal weekdays)	
М7	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)	
M9	59.0 (at 0700 – 1900 hrs on normal weekdays)	75 (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 According to Section 16.1.6 (vi) of the EM&A Manual, the EM&A data were compared with the EIA predictions as summarized in **Table 4.1** to **4.3** below.

Station	Predicted 1-hr TSP conc.			
	Scenario1 (Mid 2009 to	Scenario2 (Mid 2013 to	Reporting Month (September 2016), μg/m3	
	Mid 2013), µg/m3	Late 2016), µg/m3	Average	Range
AM2 – Lee Kau Yan Memorial School	290	312	97.3	46.9-177.3
AM3(A) - Holy Trinity Bradbury Centre (Alternative station for Sky Tower)	217	247	100.8	42.9-197.2
AM4(A) – EMSD Workshops (Alternative station for Grand Waterfront)	246	258	91.7	37.6-172.8
AM5(A) – Po Leung Kuk Ngan Po Ling College (Alternative station for CCC Kei To Secondary School)	159	221	95.4	36.6-187.1

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

## 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	Reporting Month (September 2016), μg/m3	
	Mid 2013), µg/m3	Late 2016), µg/m3	Average	Range
AM2 – Lee Kau Yan Memorial School	145	169	62.2	24.4-122.3
AM3(A) - Holy Trinity Bradbury Centre (Alternative station for Sky Tower)	106	138	53.3	22.0-99.8
AM4(A) – EMSD Workshops (Alternative station for Grand Waterfront)	143	152	36.9	11.9-77.2
AM5(A) – Po Leung Kuk Ngan Po Ling College (Alternative station for CCC Kei To Secondary School)	103	128	41.7	18.2-81.8

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Table 4.3         Comparison of Noise Monitoring Data with EIA predictions			
Stations	Predicted Mitigated Construction Noise Levels during Normal Working Hour (Leq (30min) dB(A))	Reporting Month (September 2016), L <sub>eq (30min)</sub> dB(A)	
M6(A) - Oblate Primary School ^	N/A	61.4 - 67.5	
M7 - CCC Kei To Secondary School	45 - 68	66.3 - 68.5	
M8 - Po Leung Kuk Ngan Po Ling College	44 - 70	55.5 - 63.0	
M9 – Tak Long Estate	Not predicted in EIA Report	57.0 - 59.9	

 Table 4.3
 Comparison of Noise Monitoring Data with EIA predictions

(^) Alternative noise monitoring station for M6 – Holy Carpenter Primary School from 10<sup>th</sup> October 2014 onwards.

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

# 5. LANDSCAPE AND VISUAL

#### **Monitoring Requirements**

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

#### **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 In accordance with the Action Plan presented in **Appendix J**, no corrective actions were required in the reporting month.

## 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**.
- 6.2 Site audits were conducted on 2<sup>nd</sup>, 9<sup>th</sup>, 14<sup>th</sup>, 21<sup>st</sup> and 30<sup>th</sup> September 2016 in the reporting month. IEC site inspection was conducted on 21<sup>st</sup> September 2016. No non-compliance was observed during the site audits.

## Status of Environmental Licensing and Permitting

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

Donmit No.	Permit No. Valid Period Details		Details	Status
remit no.			Details	Status
<b>Environmental Permi</b>	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	Construction of a new sewage pumping station serving the planned Kai Tak development with installed capacity of more than 2,000 m <sup>3</sup> per day and a boundary of which is less than 150m from an existing or planned residential area or educational institution.	Valid
Effluent Discharge Li	cense	1	1	
WT00020971-2015	22/04/15	N/A	Discharge Licence for the discharge of wastewater from the construction site including contaminated surface run-off to the communal storm water drain	Valid
Registration of Chemical Waste Producer				
5213-286-K2958-05			Registration of chemical waste producer for chemical waste produced during construction of Stage 4 at former North Apron Area Infrastructure.	
Construction Noise Permit				
GW-RE0964-16	30/09/16	29/03/17	Location: Heading 7A & 7B	Valid

#### Table 6.1Summary of Environmental Licensing and Permit Status

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

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

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

6.6 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	<b>Observations and Recommendations</b>	Follow-up
Water Quality	2 September 2016	Observation: Muddy sand water at the entrance near Road L6 should be cleared to prevent muddy runoff outside site boundary.	Muddy sand water was cleared.
	30 September 2016	Observation: Silt and sediment inside sediment tank should be cleared regularly.	No silt and sediment was observed in the tank.
Air Quality	14 September 2016	r <u>Observation:</u> Stockpile of dusty material should be covered by impervious material near PS2. Stockpile of dusty material was covered.	
Noise			
Waste/Chemical Management	2 September 2016	Observation: Chemical/ Oil container should be disposed properly.	Chemical/ Oil container was removed.
Landscape and Visual			
Permits /Licences			

 Table 6.2
 Observations and Recommendations of Site Inspections for EP-337/2009

1 able 6.5	Observations and Recommendations of Site Inspections for EP-344/2009		
Parameters	Date	<b>Observations and Recommendations</b>	Follow-up
Water Quality	9 September 2016	<u>Reminder:</u> Properly clear the broken sandbags and replace the new ones near the drainage at L19.	New sandbags were placed.
Air Quality	9 September 2016	<u>Reminder:</u> The stockpiles of dusty material should be covered by impervious material to prevent the dust emission at L19.	Stockpile of dusty material was covered.
Noise			
Waste/Chemical Management	21 September 2016	Reminder: Contractor was reminded to dispose general refuse in the container regularly near NPS.	General refuse was disposed.
Landscape and Visual			
Permits /Licences			

## Table 6.3Observations and Recommendations of Site Inspections for EP-344/2009

## **Summary of Mitigation Measures Implemented**

6.7 The monthly IEC audit was carried out on 21<sup>st</sup> September 2016, the observations were recorded and they are presented as follows:

Follow up of last monthly audit:

• Nil

Observation(s) in the reporting month:

- NPS Site: Excessive waste was observed in the waste container. Regular clearance of the waste is reminded to avoid excessive accumulation.
- 6.8 An updated summary of the EMIS is provided in **Appendix K**.

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

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

1-hr TSP Monitoring

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

24-hr TSP Monitoring

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

Construction Noise

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

Landscape and visual

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

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

6.14 No environmental complaints and environmental prosecution were received in the reporting month. The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project are presented in **Appendix L**.

# 7. FUTURE KEY ISSUES

- 7.1 Major site activities undertaken for the coming two months include:
  - Installation of hand-railing & ladder inside Box Culvert B5;
  - Construction of staircase and landing and E&M Works at PS2;
  - Chamber construction, backfill and sheet pile removal at 7A;
  - Chamber construction. segment tunneling, corrugated steel pipe installation at 7B;
  - Outfall construction at Box Culvert B6;
  - Road widening works (excavation and UU works) at Sung Wong Toi Road;
  - Maintenance & Servicing Engineer's Office at Portion 9;
  - Lay HDPE pipe at Pit 1;
  - Pipe jacking at Pit 4 and 9;
  - Chamber construction at Pit 5;
  - Installation of drainage, UU laying works and Road works at Road D2;
  - Finishing works and E&M works at NPS;
  - UU works and Road works at Road L19 & Bailey St; and
  - Storage of excavated material at Portion 6.
- 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 environmental mitigation measures for the coming two months, i.e. October and November 2016 are summarized as follows:

Table 7.1	Summary of the tentative program of major site activities, the impact prediction	
	and control measures for October and November 2016	

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.
As mentioned in Section 7.1	Water quality impact (surface run-off)	<ul> <li>d) Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;</li> <li>e) Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>f) Provision of site boundary bund 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.</li> </ul>
	Noise Impact	<ul><li>h) Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li><li>i) Controlling the number of plants use on site;</li></ul>
		j) Regular maintenance of machines; and
		<ul><li>k) Use of acoustic barriers if necessary.</li></ul>

# 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 required under the EM&A Manual were performed in the reporting month and all monitoring results were checked and reviewed.

#### 1-hr TSP Monitoring

8.2 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. 1-hour TSP concentrations in all stations in the reporting month were below the prediction in the approved Environmental Impact Assessment (EIA) Report.

#### 24-hr TSP Monitoring

8.3 All 24-hr TSP monitoring required under the EM&A Manual was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. 24-hour TSP concentrations in all stations in the reporting month were below the prediction in the approved Environmental Impact Assessment (EIA) Report.

#### Construction Noise Monitoring

8.4 All construction noise monitoring was conducted as scheduled in the reporting month. No Action and Limit Level exceedance was recorded. The construction noise levels in all stations in the reporting month were within the range of predicted mitigated construction noise levels in the approved Environmental Impact Assessment (EIA) report.

Complaints, Notification of any Summons and Prosecution Received

8.5 No environmental complaints and environmental prosecution were received in the reporting month. The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project are presented in **Appendix L**.

#### 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 disperse the locations of noisy equipments and position the equipments 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.

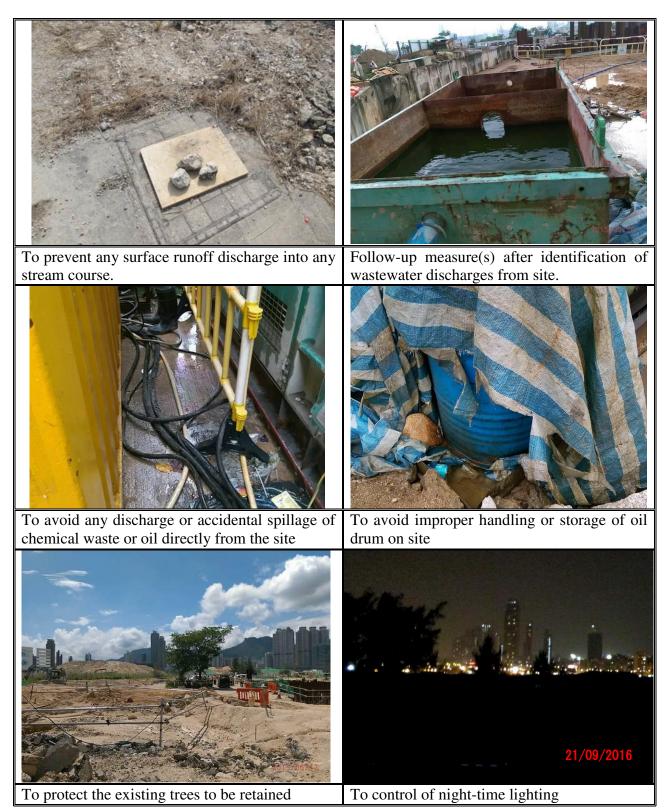
#### Landscape and Visual

- 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.

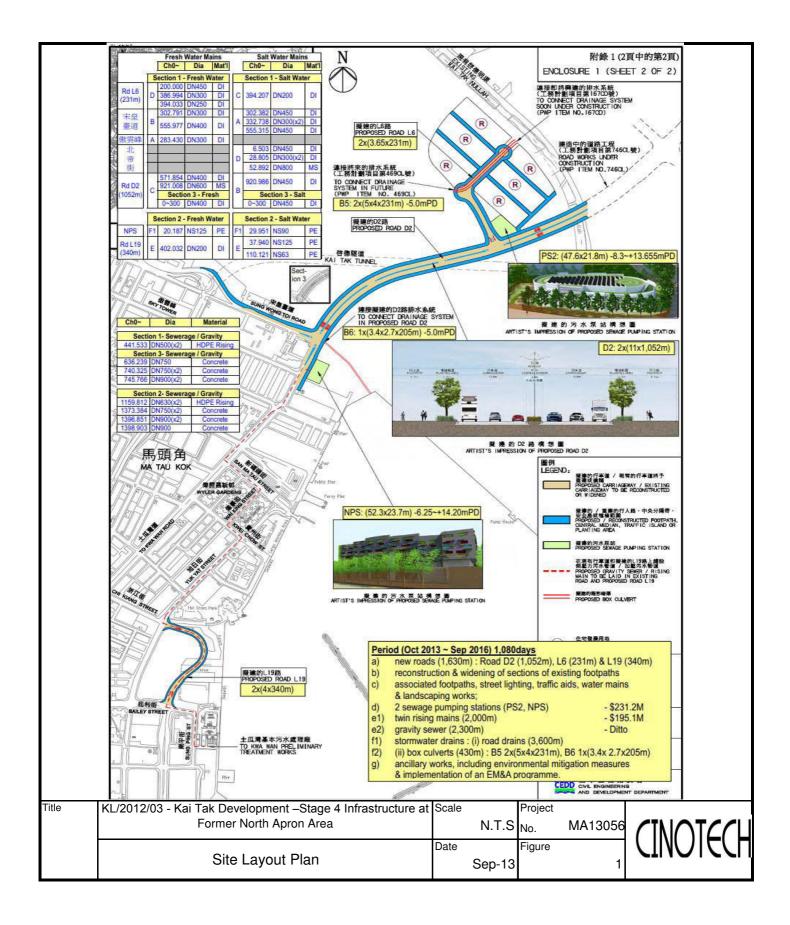
#### **Effectiveness of Environmental Management**

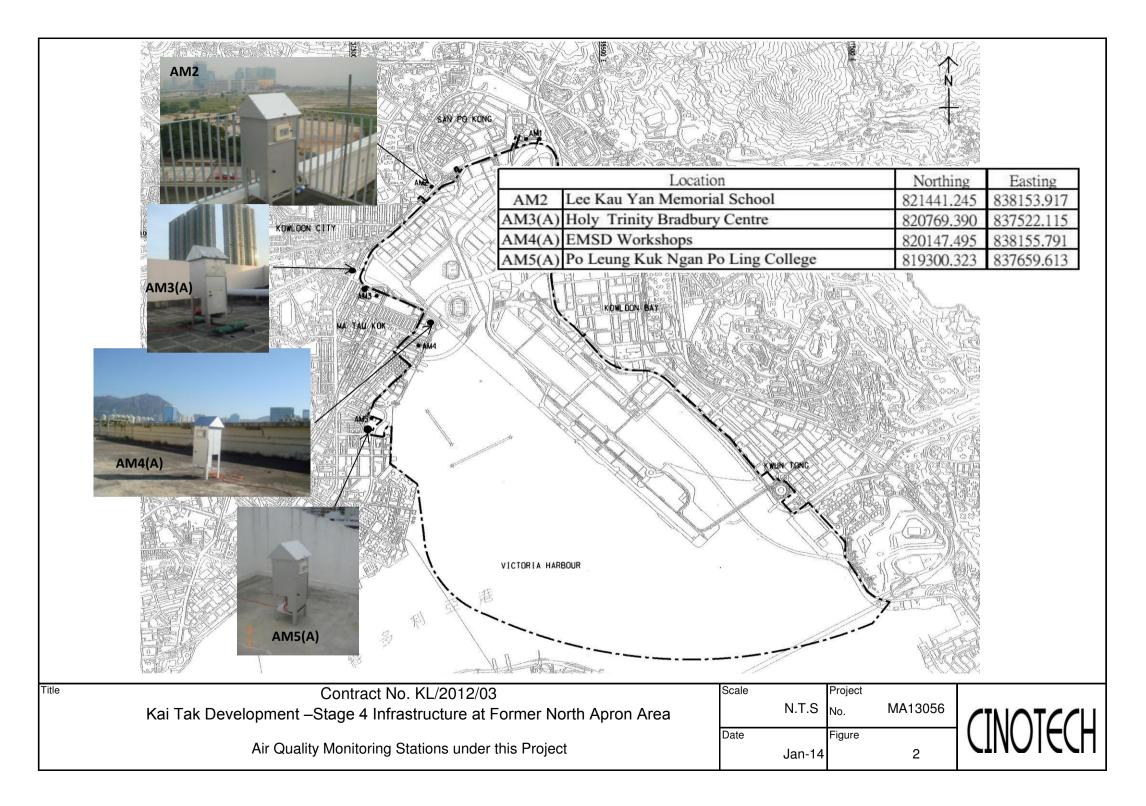
- 8.7 The above recommendations and the recommended mitigation measures in the EM&A Manual were carried out by the Contractor during construction. No non-compliance was recorded during the environmental site inspections as shown in **Appendix I**.
- 8.8 The effectiveness of environmental management is satisfactory as the above recommendations are met. Some of the examples of mitigation measures for the following recommendations are given in **Table 8.1** below.
  - Surface runoff discharge into any stream course is prevented;
  - Provision of sedimentation facilities after identification of wastewater discharges from site;
  - Discharge or accidental spillage of chemical waste or oil directly from the site is avoided;
  - Improper handling or storage of oil drum on site is avoided;
  - The existing trees to be retained are protected; and
  - Night-time lighting is controlled.

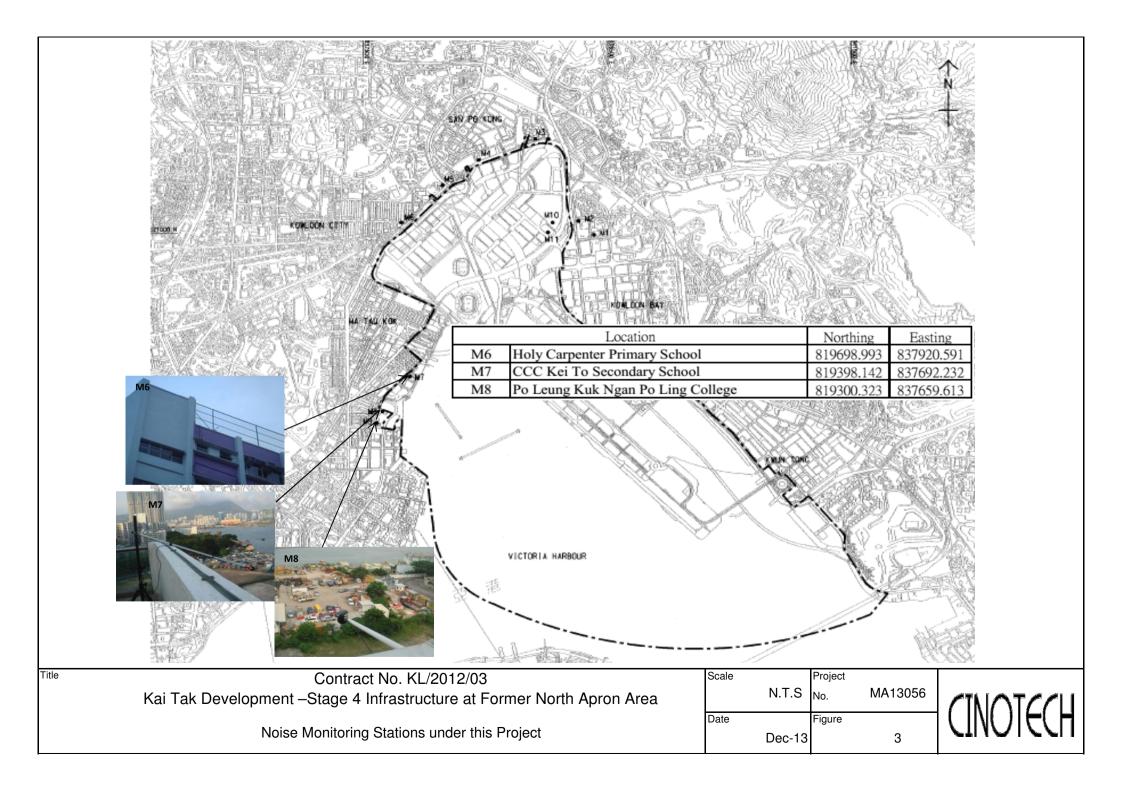
## **Table 8.1 Examples of Mitigation Measures for Environmental Recommendations**

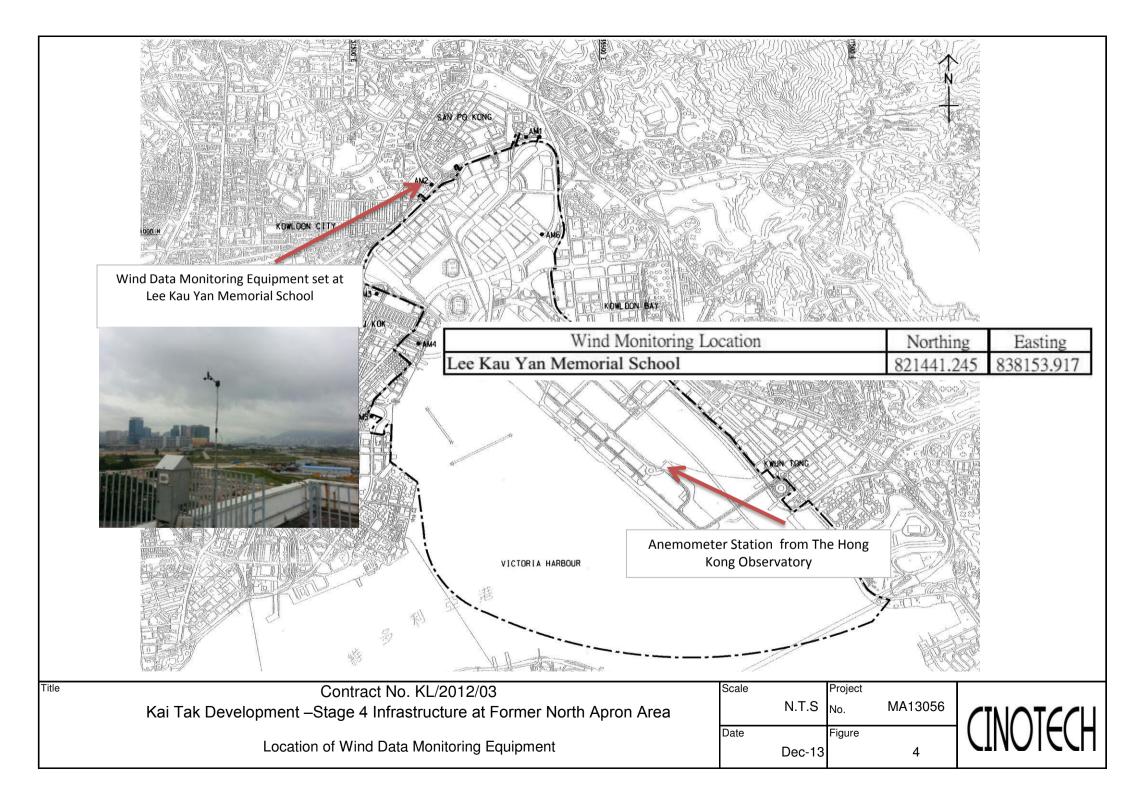


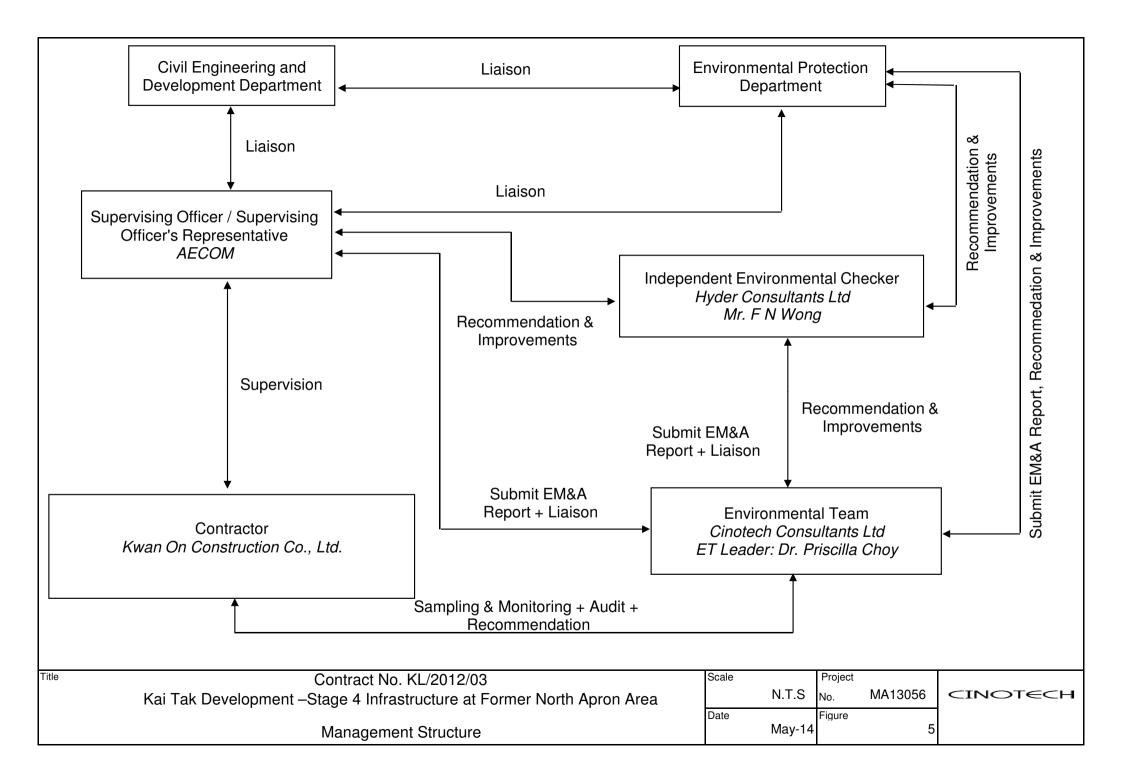
FIGURES











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	MA14008/59/0037
Station	AM2 - Lee Kau	Yan Memorial S	School	Operator:	WK		
Date:	22-Jul-16		_ 1	Next Due Date:		-16	
Equipment No.:	A-01-59		_	Serial No.	2354		
			Ambient	Condition			
Temperatu	re, Ta (K)	301.4	Pressure, Pa			761.5	
L			1 11000010,10	. (	<b>!</b>		
		0	rifice Transfer St:	andard Inform	ation		
Serial	No.:	2896	Slope, mc (CFM)	1	Intercep	t, bc	-0.05079
Last Calibra	ation Date:	4-Mar-16		mc x Qstd + I	$bc = [\Delta H \times (Pa/76)]$	50) x (298/Ta)	
Next Calibr	ation Date:	3-Mar-17		Qstd = $\{[\Delta H]$	x (Pa/760) x (298	/Ta)] <sup>1/2</sup> -bc} /	mc
		•					
			Calibration of	<b>TSP Sampler</b>			
Calibration		Or	fice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	60) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	[∆W x (Pa/76	50) x (298/Ta)] <sup>1/2</sup> Y- axis
1	11.8		3.42	58.03	7.9		2.80
2	9.4		3.05	51.89	6.6		2.56
3	7.3		2.69	45.83	4.9		2.20
4	4.9		2.20	37.70	3.3		1.81
5	3.3		1.81	31.09	2.2		1.48
By Linear Regr Slope , mw =				Intercept, bw =	0.070	10	
Correlation co		A G	990	intercept, bw -	0.069	<u>'a</u>	
*If Correlation C							
	••••	.,					
			Set Point C	alculation			
From the TSP Fig	eld Calibration Cu	urve, take Qstd =	= 43 CFM				
From the Regress	sion Equation, the	e "Y" value acco	rding to				
					oo m 1/2		
		mw x C	$Qstd + bw = [\Delta W]$	x (Pa/760) x (2	98/Ta)]***		
Therefore, Se	et Point; W = ( my	w x Qstd + bw ) <sup>2</sup>	<sup>2</sup> x ( 760 / Pa ) x ( 1	°a / 298 ) =	4,34		
							<b>-</b>
Remarks:							
-							
Conducted by: _ Checked by: _		Signature:	Kin	ni)		Date: Date:	22/7/16 De July doib
			U	•			

						File No.	MA14008/59/0038
Station		Yan Memorial S	School	_ Operator:	WK	<u> </u>	
Date:	21-Sep-16	Next Due Date: 20-Nov-16			v-16		
Equipment No.: _	A-01-59		_	Serial No.	2354		
			Ambient	Condition			
Temperatur	e, Ta (K)	301.3	Pressure, Pr			756.2	
	<u></u>		11000010,11	. (	I	730,2	
		0	rifice Transfer St	andard Inform	ation		
Serial 1	No.:	2896	Slope, mc (CFM	1	Intercep	instead of the later	-0.05079
Last Calibrat		4-Mar-16			$Dc = [\Delta H \times (Pa/7)]$		
Next Calibrat		3-Mar-17	-		x (Pa/760) x (298	, , ,	
				<u></u>	<u> (, , , , , , , , , , , , , , , , , , ,</u>		inc
			Calibration of	TSP Sampler			
Calibration		Or	fice			HVS	
Point	$\Delta H$ (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	∆W (HVS), in. of water		60) x (298/Ta)] <sup>1/2</sup> Y- axis
1	11.6		3.38	57.36	7.8		2.77
2	9.7		3.09	52.52	6.4		2.51
3	7.4		2.70	45.98	5.0		2.22
4	4.7		2.15	36.82	3.2		1.77
5	3.2		1.77	30.53	2.1		1.44
Correlation co	0.0490 efficient* = pefficient < 0.99	0.9 0, check and rec	9996 alibrate. Set Point C	-	-0.044		
From the TSP Fiel		, ,					
From the Regressi	on Equation, the	e "Y" value acco	rding to				
		mw x (	$Qstd + bw = [\Delta W]$	x (Pa/760) x (2	98/Ta)] <sup>1/2</sup>		
Therefore, Set	Point; W = ( my	w x Qstd + bw ) <sup>2</sup>	<sup>2</sup> x ( 760 / Pa ) x ( 7	(a / 298 ) =	4.32		
Remarks:							
Conducted by: _{ Checked by: _	wk Jang	Signature: Signature:	hn (	evi		Date: Date:	21/9/16 21 September 2dk

		54 01		ION DATA		File No. <u>MA14008/49/0035</u>
Station	AM3(A) - Holy	Trinity Bradbu	ry Centre	Operator:	WK	·
Date:	22-Jul-16		נ	Next Due Date:	21-Sep	-16
Equipment No.:	A-01-49		_	Serial No.	1793	
			Ambient (	Condition		
Temperatu	re, Ta (K)	302.8	Pressure, Pa			760.4
F						
		<u> </u>	ifice Transfer Sta	ndard Inform	ation	
Serial	No.:	2896	Slope, mc (CFM)		Intercept	
Last Calibra	ation Date:	4-Mar-16			с = [ΔH x (Pa/760	
Next Calibr	ation Date:	3-Mar-17		$Qstd = \{ [\Delta H x ]$	(Pa/760) x (298/	Γa)] <sup>1/2</sup> -bc} / mc
Referire and some and a				An an transformer an		
	u dagigita en a cur I		Calibration of	TSP Sampler	si Rigi Baki sa I	
Calibration		0	rfice	0.110000		HVS
Point	ΔH (orifice), in. of water	[ΔH x (Pa/7	60) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)] <sup>1/2</sup> <b>Y-axis</b>
1	11.6		3.38	57.38	7.9	2.79
2	9.8		3.11	52.81	6.8	2.59
3	7.5		2.72	46.30	5.2	2.26
4	5.3		2.28	39.06	3.4	1.83
5	3.3		1.80	31.00	2.1	1.44
By Linear Regr				<u>.</u>		
Slope, mw =		-		Intercept, bw :	-0.181	<u>6</u>
Correlation co	—		9991	-		
*II Correlation C	Coefficient < 0.99	0, check and re	callbrate.			
			Set Point C	alculation		
From the TSP Fi						n presidente de la construcción de
From the Regres						
	1 ,		-			
		mw x (	$\Delta w = [\Delta W x]$	(Pa/760) x (29	98/Ta)] <sup>1/2</sup>	
Therefore Se	t Point W = (m)	w x Ostd + hw`	) <sup>2</sup> x ( 760 / Pa ) x ( '	Ta / 298 ) =	4.31	
		n n Quid - Din j	, x(100710)X(	14/2003	4,51	
Remarks:						
	1		).	1		
Conducted by:	WK. Jang	Signature:	Nu	<u>ai /</u>		Date: 72/7/16 Date: 22 July dolb
Checked by:	-12 U	Signature:		Xn_		Date: de July dolb
			$\mathcal{U}$			0

						File No.	. MA14008/49/0036
Station	AM3(A) - Holy	Trinity Bradbu	ry Centre	Operator	: WК		_
Date:	21-Sep-16			Next Due Date:	20-Nov	/-16	
Equipment No.:	A-01-49		-	Serial No.	1793		-
			Ambient (	Condition			
Temperatu	re, Ta (K)	300.5	Pressure, Pa	a (mmHg)		754.1	<u> </u>
		Or	ifice Transfer Sta	ndard Inform	ation		
Serial	No.:	2896	Slope, mc (CFM)	0.0598	Intercep	t, bc	-0.05079
Last Calibra	tion Date:	4-Mar-16	-	mc x Qstd + b	с = [ <b>ΔH x (Pa</b> /766	D) x (298/Ta)	)] <sup>1/2</sup>
Next Calibra	ation Date:	3-Mar-17		Qstd = {[∆H x	(Pa/760) x (298/	$[Ta)]^{1/2} - bc\} /$	me
		•					
			Calibration of	TSP Sampler			
Calibration		0	rfice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	60) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	[ΔW x (Pa	/760) x (298/Ta)] <sup>1/2</sup> Y-axis
1	11.8		3.41	57.84	8.0		2.81
2	9.9		3.12	53.05	6.7		2.57
3	7.7		2.75	46.89	5.1		2.24
4	5.3		2.28	39.04	3.3		1.80
5	3.4		1.83	31.44	2.2		1.47
By Linear Regro Slope , mw = Correlation co	0.0514	-	9992	Intercept, bw :	-0.167	7	
*If Correlation C	oefficient < 0.99	0, check and re	calibrate.				
			Set Point C	alculation			
From the TSP Fie							a ponto en el composito de la c
From the Regress							
	1 2		-				
		mw x Q	std + bw = $\Delta W x$	(Pa/760) x (29	98/Ta)] <sup>1/2</sup>		
Therefore Set	Point: $W = (m)$	$\mathbf{v} = \mathbf{v} \mathbf{v}$	<sup>2</sup> x ( 760 / Pa ) x ( 1	Fe ( 208 )	1.07		
1100000, 50	10m, w - (m)	w x Qsiu ± 0₩ J	x(7007 ra)x(	$(a/290)^{-1}$	4.23		
				• 10			·
Remarks:							
-						• • • • • • • • • • • • • • • • • • •	
-							
Conducted by:	Wk. Jana	Signature:	Kw	pri 1		Date:	2/19/16
Checked by:	la o	Signature:	/ (30/			Date: -	)1 September Not
<u> </u>		<u> </u>	(	/			Court of Court
			, t				

						File No. MA14008/62/0036
Station	AM4(A) - EMS	D Workshops		Operator:	WK	· · · · · · · · · · · · · · · · · · ·
Date:	22-Jul-16		_	Next Due Date:		-16
Equipment No.:	A-01-62		-	Serial No.	2351	
			1	Condition		
Temperatu	re, 1a (K.)	303.5	Pressure, P	a (mmHg)		761.7
		Oı	ifice Transfer Sta	ndard Inform	ation	
Serial	No.:	2896	Slope, mc (CFM		Intercep	
Last Calibra	ation Date:	4-Mar-16			c = [ΔH x (Pa/760	
Next Calibra	ation Date:	3-Mar-17		Qstd = $\{   \Delta H x \}$	(Pa/760) x (298/	$[\Gamma a)]^{1/2} - bc\} / mc$
		•				
			Calibration of	TSP Sampler		
Calibration		0	rfice			HVS
Point	ΔH (orifice), in. of water	[ΔH x (Pa/7	50) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	ΔW (HVS), in. of water	$[\Delta W \ge (Pa/760) \ge (298/Ta)]^{1/2}$ Y-axis
1	11.2		3.32	56.38	7.2	2.66
2	9.7		3.09	52.52	6.5	2.53
3	7.6		2.73	46.59	5.0	2.22
4	5.2		2.26	38.68	3.4	1.83
5	3.3		1.80	30.99	2.1	1.44
By Linear Regr	ession of Y on X					
Slope, mw =				Intercept, bw =	-0.069	6
Correlation co			9991	-		
*If Correlation C	Coefficient < 0.99	0, check and re	calibrate.			
			Set Point C	alculation		
From the TSP Fi	eld Calibration C	urve, take Qstd				
From the Regress	sion Equation, th	e "Y" value acc	ording to			
					1.0	
		mw x Q	$bstd + bw = [\Delta W x]$	x (Pa/760) x (29	98/Ta)] <sup>1/2</sup>	
Therefore, Se	t Point; W = ( my	w x Qstd + bw )	<sup>2</sup> x ( 760 / Pa ) x ( <sup>7</sup>	Ta / 298 ) =	4.21	
L						
Remarks:						
-						
-			1	1		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Conducted by:	WK. Jang	Signature:	hur	-		Date: 22/7/16
Checked by:	-lor U	Signature:		$\overline{\chi}$		Date: 22/7/16 Date: <u>IX July Idb</u>
	,	_	( )	/		
			$\sim$			

						File No.	MA14008/62/0037
Station	AM4(A) - EM	SD Workshops		Operator	WК	- 	<del>.</del>
Date:	21-Sep-16	21-Sep-16 Next Due Dat		Next Due Date:	: 20-Nov-16		
Equipment No.:	A-01-62		_	Serial No.	2351		
			Ambient (	Condition			
Temperatu	re, Ta (K)	301.9	Pressure, Pa	a (mmHg)		755.4	
	ne orano de tra erañ.				a tanan kina ing kepadah ing ang ang ang ang		
			rifice Transfer Sta	T	T		
Serial		2896	Slope, mc (CFM)		Intercep		-0.05079
Last Calibra		4-Mar-16			с = [ <b>ΔH</b> x (Pa/76)		
Next Calibra	ation Date:	3-Mar-17		$Qstd = \{ [\Delta H x ]$	(Pa/760) x (298/	Ta)] <sup>112</sup> -bc} /	me
			Calthered as af	TOD C 1			
and a second	en en aller en filmer de la solarie. La sectore de la s	<u>A Constantino de China</u> A	Calibration of	a or sampler		HVS	ener and a succession of the same of the
Calibration Point	ΔH (orifice), in. of water		60) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	[ΔW x (Pa/	(760) x (298/Ta)] <sup>1/2</sup> Y-axis
1	10.9		3.27	55.54	7.2		2.66
2	9.6		3.07	52.18	6.4		2.51
3	7.4		2.69	45.92	5.1		2.24
4	5.2		2,26	38.63	3.4		1.83
5	3.4		1.83	31.40	2.2		1.47
Slope , mw = Correlation co		0.	9990	Intercept, bw <sup>.</sup>	-0.080	7	
*If Correlation C	oefficient < 0.9	90, check and re	ecalibrate.				
			Set Point C	alculation			
From the TSP Fie							
From the Regress							
-	· · ·		_		10		
		mw x (	$\Delta w = [\Delta W x]$	: (Pa/760) x (29	98/Ta)] <sup>1/2</sup>		
Therefore, Set	t Point; W = ( m	w x Qstd + bw	) <sup>2</sup> x ( 760 / Pa ) x ( '	Ta / 298 ) =	4.30		
<b>D</b> 1							
Remarks:							
-						<b>-</b> ······,	
Conducted by:	1.1.70.0	Clanater	V.	nil		<b>D</b> :	n.1all
Conducted by: Checked by:	IN IL INNY	Signature: Signature:	/ <u>//w</u>	<u>~·/</u>		Date:	21/9/10
Checked by:	1/32	signature:		Xr		Date:	Li September (
			$\sim$				



						File No.	MA14008/60/0037
Station	AM5(A) - Po Le	ung Kuk Ngan	Po Ling College	Operator:	WK		
Date:	22-Jul-16		_ ]	Next Due Date:	21-Sep	-16	
Equipment No.:	A-01-60		_	Serial No.	2358		
			Ambient				
Temperatu	re, Ta (K)	303.3	Pressure, Pa	ı (mmHg)		760.1	
			rifice Transfer Sta				
Serial	No	2896	Slope, mc (CFM)	1	[	t ha	0.05070
Last Calibra		4-Mar-16	510pc, mc (CFW)		$\frac{1}{10000000000000000000000000000000000$		-0.05079
Next Calibra		3-Mar-17	-		x (Pa/760) x (298		
Ttokt Callor	anon Dute,		<b>I</b>	<u></u>	x (1 // 100) x (290	riaj -begri	
			Calibration of	TSP Sampler			
Calibration		01	fice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	60) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	[ΔW x (Pa/76	0) x (298/Ta)] <sup>1/2</sup> Y- axis
1	11.6		3.38	57.32	7.4		2.70
2	9.8		3.10	52.75	6.5		2.53
3	7.7		2.75	46.86	5.1		2.24
4	5.1		2.24	38.29	3.2		1.77
5	3.4		1.83	31.42	2.2		1.47
Slope , mw = Correlation c	ession of Y on X 0.0486 oefficient* = Coefficient < 0.99	0.9	988	Intercept, bw =	-0.062	.6	
			Set Point C	alculation			
From the TSP Fi	eld Calibration C	urve, take Qstd -	= 43 CFM				
From the Regress	sion Equation, the	e "Y" value acco	rding to				
		mw x (	$Qstd + bw = [\Delta W]$	x (Pa/760) x (2	98/Ta)] <sup>1/2</sup>		
Therefore, Se	et Point; W = ( my	w x Qstd + bw )	² x ( 760 / Pa ) x ( 1	°a / 298 ) =	4.19		
Remarks:					<b>.</b>		
Conducted by: Checked by:	<u> </u>	Signature: Signature:	Ku	min		Date: Date:	2217116 22 July dab

						File No.	MA14008/60/0038
	AM5(A) - Po Le	ung Kuk Ngan I			WK		
Date:				e Date: 20-Nov-16			
Equipment No.:	A-01-60		-	Serial No.	2358		
			Ambient	Condition			
Temperatu	re, Ta (K)	302.8	Pressure, Pa	ı (mmHg)		755.4	
		0	rifice Transfer St	andard Inform	ation		
Serial	Serial No.: 2896 Slope, mc (CFM) 0.0598 Intercept, bc						-0.05079
Last Calibra		4-Mar-16			oc = [ΔH x (Pa/76		
Next Calibra	ation Date:	3-Mar-17			x (Pa/760) x (298		
		•	••••••••••••••••••••••••••••••••••••••				
			Calibration of	<b>TSP Sampler</b>			
Calibration		01	fice			HVS	
Point	ΔH (orifice), in. of water	[ <b>Δ</b> Н x (Ра/76	0) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	[ΔW x (Pa/7	60) x (298/Ta)] <sup>1/2</sup> Y- axis
1	11.3		3.32	56.46	7.6		2.73
2	9.9		3.11	52.90	6.8		2.58
3	7.6		2.73	46.45	5.0		2.21
4	5.2		2.26	38.57	3.3		1.80
5	3.4		1.82	31.35	2.1		1.43
Slope , mw = Correlation c	0.0523 oefficient* =		9996	Intercept, bw :	-0.212	:0	
	Coefficient < 0.99			-			
			Set Point C	alculation			
From the TSP Fi	eld Calibration C	urve, take Qstd :	= 43 CFM		· · , ·	·····	
From the Regres	sion Equation, the	e "Y" value acco	rding to				
					a a /m 1/2		
		mw x (	$Qstd + bw = [\Delta W]$	x (Pa//60) x (2	98/Ta)]**		
Therefore, Se	et Point; W = ( m	w x Qstd + bw )	<sup>2</sup> x ( 760 / Pa ) x ( 7	Γa / 298) =	4.24		
Remarks:							
	1-7	~	1/	1		_	- 1011
Conducted by:	WK lang	Signature:	/[v	joi j		Date:	21/4/16
Checked by:	lav"	Signature:		$( \ \ \ )$		Date:	21 September de
				~			-



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

# ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Ma Operator		6 Rootsmeter Orifice I.I		438320 2896	Ta (K) - Pa (mm) -	295 - 755.65
PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1 2 3 4 5	NA NA NA NA NA	NA NA NA NA NA	1.00 1.00 1.00 1.00 1.00	1.4340 1.0250 0.9150 0.8770 0.7210	3.2 6.4 7.9 8.7 12.7	2.00 4.00 5.00 5.50 8.00

### DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0001 0.9959 0.9938 0.9928 0.9875	0.6974 0.9716 1.0861 1.1320 1.3696	$1.4173 \\ 2.0044 \\ 2.2410 \\ 2.3503 \\ 2.8346$		0.9957 0.9915 0.9894 0.9885 0.9831	0.6944 0.9674 1.0814 1.1271 1.3636	0.8836 1.2496 1.3971 1.4653 1.7672
Qstd slope (m) = 2.11176 intercept (b) = -0.05079 coefficient (r) = 0.99982			Qa slope intercept coefficie	: (b) =	1.32235 -0.03166 0.99982	
y = SQRT[H2O(Pa/760)(298/Ta)]			[a)]	y axis =	SQRT [H20 ('I	[a/Pa)]

### CALCULATIONS

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

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

For subsequent flow rate calculations:

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



#### **TEST REPORT Cinotech Consultants Limited** Test Report No .: **APPLICANT:** C/W/160408 Room 1710, Technology Park, Date of Issue: 2016-04-09 18 On Lai Street, Date Received: 2016-04-08 Shatin, NT, Hong Kong Date Tested: 2016-04-08 Date Completed: 2016-04-09 Next Due Date: 2016-10-08 ATTN: Mr. W.K. Tang Page: 1 of 2 **Certificate of Calibration** Item for calibration: Description : Weather Monitor II Manufacturer : Davis Instruments Model No. : 7440 Serial No. : MC20813A11 **Test conditions:** Room Temperature : 23 degree Celsius Relative Humidity : 55 %

### **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)

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**PATRICK TSE** Laboratory Manager



# **TEST REPORT**

Test Report No.:	C/W/160408
Date of Issue:	2016-04-09
Date Received:	2016-04-08
Date Tested:	2016-04-08
Date Completed:	2016-04-09
Next Due Date:	2016-10-08
Page:	2 of 2

# **Results:**

1. Performance check of anemometer

Air Velo	Difference D (m/s)	
Instrument Reading (V1) Reference Value (V1)		D = V1 - V2
2.00	2.00	0.00

# 2. Performance check of wind direction sensor

Wind Dire	Difference D (°)	
Instrument Reading (W1)	Reference Value (W2)	D = W1 - W2
0	. 0	0
45.2	45	0.2
90.1	90	0.1
135.2	135	0.2
180.3	180	0.3
225	225	0
270.1	270	0.1
315.2	315	0.2
360	360	0



# **TEST REPORT**

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

Test Report No .:	C/160903/A
Date of Issue:	2016-09-05
Date Received:	2016-09-03
Date Tested:	2016-09-03
Date Completed:	2016-09-05
Next Due Date:	2016-11-04
Page:	1 of 1

ATTN:

Mr. W. K. Tang

Certificate of Calibration				
Item for Calibration:				
Description	: Laser Dust Monitor			
Manufacturer	: Sibata			
Model No.	: LD-3			
Serial No.	: 251634			
Sensitivity (K) 1 CPM	$: 0.001 \text{ mg/m}^3$			
Sen. Adjustment Scale Setting	: 550 CPM			
Equipment No.	: A-02-01			
Test Conditions:				
Room Temperature	: 23 degree Celsius			
Relative Humidity	: 54 %			

# 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.

<b>Results:</b>	
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Correlation Factor (CF)	0.0035
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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/160903/B
Date of Issue:	2016-09-05
Date Received:	2016-09-03
Date Tested:	2016-09-03
Date Completed:	2016-09-05
Next Due Date:	2016-11-04
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	$: 0.001 \text{ mg/m}^3$			
Sen. Adjustment Scale Setting	: 685 CPM			
Equipment No.	: A-02-04			
Test Conditions:				
Room Temperature	: 23 degree Celsius			
Relative Humidity	: 54 %			

### **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.

Resu	lts	:
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Correlation Factor (CF) 0.0035	Correlation Factor (CF)	0.0035
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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/160903/C
Date of Issue:	2016-09-05
Date Received:	2016-09-03
Date Tested:	2016-09-03
Date Completed:	2016-09-05
Next Due Date:	2016-11-04
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.	: 014750	
Sensitivity (K) 1 CPM	$: 0.001 \text{ mg/m}^3$	
Sen. Adjustment Scale Setting	: 790 CPM	
Equipment No.	: A-02-06	
Test Conditions:		
Room Temperature	: 23 degree Celsius	
Relative Humidity	: 54 %	

# **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

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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/160903/D
Date of Issue:	2016-09-05
Date Received:	2016-09-03
Date Tested:	2016-09-03
Date Completed:	2016-09-05
Next Due Date:	2016-11-04
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.	: 541146	
Sensitivity (K) 1 CPM	$: 0.001 \text{ mg/m}^3$	
Sen. Adjustment Scale Setting	: 625 CPM	
Equipment No.	: A-02-07	
Test Conditions:		
Room Temperature	: 23 degree Celsius	
Relative Humidity	: 54 %	

### **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.

|--|

Correlation Factor (CF)	0.0033

\*\*\*\*\*\*\*

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/160826D
Date of Issue:	2016-08-29
Date Received:	2016-08-26
Date Tested:	2016-08-26
Date Completed:	2016-08-29
Next Due Date:	2016-10-28
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.	: 095029	
Sensitivity (K) 1 CPM	$: 0.001 \text{ mg/m}^3$	
Sen. Adjustment Scale Setting	: 551 CPM	
Equipment No.	: A-02-10	
Test Conditions:		
Room Temperature	: 23 degree Celsius	
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:**

Convelotion Footon (CE)	0.0029
Correlation Factor (CF)	0.0038
	<u>.</u>

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/160826E
Date of Issue:	2016-08-29
Date Received:	2016-08-26
Date Tested:	2016-08-26
Date Completed:	2016-08-29
Next Due Date:	2016-10-28
Page:	1 of 1

ATTN:

Mr. W. K. Tang

# **Certificate of Calibration**

Item for Calibration:	
Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-531
Serial No.	: N6734
Flow rate	:0.1 cfm
Zero Count Test	:0 mg (The result of the 2-minute sample)
Equipment No.	: A-02-13
Test Conditions:	
Room Temperature	: 23 degree Celsius
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 Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Res	sults:

Correlation Factor (CF)	1.200
**********	*****

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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

C/N/150918/2
2015-09-21
2015-09-18
2015-09-18
2015-09-21
2016-09-20
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
18:	

### **Test conditions:**

Room Temperatre Relative Humidity : 25 degree Celsius : 58%

### **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

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# **TEST REPORT**

# APPLICANT:Cinotech Consultants Limited<br/>Room 1710, Technology Park,<br/>18 On Lai Street,<br/>Shatin, NT, Hong KongTest<br/>Da<br/>Da

Test Report No.:	C/N/151231
Date of Issue:	2016-01-04
Date Received:	2015-12-31
Date Tested:	2015-12-31
Date Completed:	2016-01-04
Next Due Date:	2017-01-03
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

# **Test conditions:**

Room Temperatre Relative Humidity : 22 degree Celsius : 53%

## **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.

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**ATRICK TSE** Laboratory Manager



### TEST REPORT Test Report No .: **Cinotech Consultants Limited APPLICANT:** C/N/160826A Date of Issue: Room 1710, Technology Park, 2016-08-29 18 On Lai Street, Date Received: 2016-08-26 Date Tested: Shatin, NT, Hong Kong 2016-08-26 Date Completed: 2016-08-29 Next Due Date: 2017-08-28 ATTN: Page: 1 of 1 Mr. W.K. Tang **Certificate of Calibration** Item for calibration: Description : 'SVANTEK' Integrating Sound Level Meter Manufacturer : SVANTEK Model No. : SVAN 957 Serial No. : 21455 Microphone No. : 43730 Equipment No. :N-08-07 **Test conditions:** Room Temperatre : 25 degree Celsius **Relative Humidity** : 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

PATRICK TSE Laboratory Manager



1 of 1

# **TEST REPORT**

#### Test Report No.: C/N/160819B **APPLICANT: Cinotech Consultants Limited** 2016-08-22 Date of Issue: Room 1710, Technology Park, Date Received: 2016-08-19 18 On Lai Street, Date Tested: 2016-08-19 Shatin, NT, Hong Kong Date Completed: 2016-08-22 Next Due Date: 2017-08-21

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
I I	

Page:

### **Test conditions:**

Room Temperatre Relative Humidity : 24 degree Celsius : 58%

### **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** Test Report No.: C/N/151127/3 **Cinotech Consultants Limited APPLICANT:** Room 1710, Technology Park, Date of Issue: 2015-11-30 Date Received: 2015-11-27 18 On Lai Street, Date Tested: 2015-11-27 Shatin, NT, Hong Kong Date Completed: 2015-11-30 Next Due Date: 2016-11-29 1 of 1 Page: **ATTN:** Mr. W.K. Tang **Certificate of Calibration** Item for calibration: : 'SVANTEK' Integrating Sound Level Meter Description Manufacturer : SVANTEK : SVAN 957 Model No. Serial No. :23851 Microphone No. : 48532 Equipment No. : N-08-12 **Test conditions:** : 24 degree Celsius Room Temperatre **Relative Humidity** : 62% **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 L Room 1710, Technology 18 On Lai Street, Shatin, NT, Hong Kong	y Park,	Test Report No.: Date of Issue: Date Received: Date Tested:	C/N/151003/3 2015-10-04 2015-10-03 2015-10-03
			Date Completed: Next Due Date:	2015-10-04 2016-10-03
ATTN:	Mr. W.K. Tang		Page:	1 of 1
Item for calibra	ation:			
	Description Manufacturer Model No. Serial No. Equipment No.	: Acoustic : SVANTI : SV30A : 24791 : N-09-04	al Calibrator EK	
Test conditions	:			
	Room Temperatre Relative Humidity	: 23 degree : 57%	e Celsius	

# 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 ± 0.1 dB

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PATRICK TSE Laboratory Manager

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	TES	T REPOR	<u>çı</u>	
<b>APPLICANT:</b>	<b>Cinotech Consultants</b>	Limited	Test Report No .:	C/N/151106/1
	Room 1710, Technolo	gy Park,	Date of Issue:	2015-11-07
	18 On Lai Street,		Date Received:	2015-11-06
	Shatin, NT, Hong Ko	ng	Date Tested:	2015-11-06
			Date Completed:	2015-11-07
			Next Due Date:	2016-11-06
ATTN:	Mr. W.K. Tang		Page:	1 of 1
Item for calibra	ation:			
-	Description	: Acoustic	al Calibrator	
	Manufacturer	: Brüel &	Kjær	
	Model No.	: 4231	-	
	Serial No.	: 2326353		
1				

# **Test conditions:**

Room Temperatre Relative Humidity : 23 degree Celsius : 56 %

### **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 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

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**PATRICK TSE** Laboratory Manager

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# **TEST REPORT**

# APPLICANT:Cinotech Consultants Limited<br/>Room 1710, Technology Park,<br/>18 On Lai Street,<br/>Shatin, NT, Hong KongT

Test Report No .:	C/N/160819D
Date of Issue:	2016-08-22
Date Received:	2016-08-19
Date Tested:	2016-08-19
Date Completed:	2016-08-22
Next Due Date:	2017-08-21
Page:	1 of 1

ATTN:

Mr. W.K. Tang

# **Certificate of Calibration**

### Item for calibration:

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

### **Test conditions:**

Room Temperatre Relative Humidity : 24 degree Celsius : 58%

### **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 ± 0.1 dB

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**PATRICK TSE** Laboratory Manager

APPENDIX C WEATHER INFORMATION

# I. General Information

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 September 2016	25.2 - 30.0	80 - 97	68.9
2 September 2016	27.5 - 31.0	75 – 92	6.1
3 September 2016	25.7 - 31.2	74 – 98	7.0
4 September 2016	27.0 - 30.1	77 – 90	Trace
5 September 2016	25.8 - 29.2	80 - 98	75.3
6 September 2016	25.7 – 27.7	82 - 98	10.8
7 September 2016	25.4 - 28.0	86 - 96	20.4
8 September 2016	25.5 - 28.4	82 - 97	2.8
9 September 2016	25.5 – 29.4	81 - 95	16.3
10 September 2016	24.5 – 27.7	88 - 98	53.2
11 September 2016	25.9 - 31.6	73 – 96	6.6
12 September 2016	26.0 - 32.7	68 – 95	0
13 September 2016	26.0 - 30.9	73 – 96	8.5
14 September 2016	26.9 - 32.6	55 - 90	0
15 September 2016	28.0 - 31.9	62 – 74	0.7
16 September 2016	27.3 - 31.3	62 - 81	0
17 September 2016	27.3 - 31.6	56 - 78	0
18 September 2016	26.3 - 31.5	58 – 74	Trace
19 September 2016	25.5 - 32.6	57 – 90	3.8

# I. General Information

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
20 September 2016	22.8 - 29.5	70 – 97	39.6
21 September 2016	24.7 - 30.6	59 – 96	2.4
22 September 2016	26.1 – 28.9	66 - 82	0
23 September 2016	26.5 – 29.9	68 - 85	Trace
24 September 2016	26. – 30.5	68 - 83	Trace
25 September 2016	26.9 - 30.5	70 - 85	0
26 September 2016	27.0 - 31.1	71 – 89	Trace
27 September 2016	27.7 – 34.9	48 - 93	0
28 September 2016	28.9 - 32.2	52 - 65	0
29 September 2016	24.9 - 28.9	63 – 78	0.7
30 September 2016	24.1 - 26.4	73 – 83	0

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

Date	Time	Wind Speed m/s	Direction
1-Sep-2016	0:00	2.3	ENE
1-Sep-2016	1:00	2.3	ENE
1-Sep-2016	2:00	2.1	SSE
1-Sep-2016	3:00	2.2	SSE
1-Sep-2016	4:00	2.1	NE
1-Sep-2016	5:00	2.1	NE
1-Sep-2016	6:00	1.8	NE
1-Sep-2016	7:00	2.3	ENE
1-Sep-2016	8:00	1.9	NE
1-Sep-2016	9:00	1.9	NE
1-Sep-2016	10:00	2	ENE
1-Sep-2016	11:00	2	SW
1-Sep-2016	12:00	2	SW
1-Sep-2016	13:00	2.3	SW
1-Sep-2016	14:00	2.2	WSW
1-Sep-2016	15:00	2.5	S
1-Sep-2016	16:00	2.1	WSW
1-Sep-2016	17:00	2.2	SW
1-Sep-2016	18:00	1.8	S
1-Sep-2016	19:00	1.8	W
1-Sep-2016	20:00	1.6	W
1-Sep-2016	21:00	1.6	NE
1-Sep-2016	22:00	1.9	ESE
1-Sep-2016	23:00	1.8	WSW
2-Sep-2016	0:00	1.5	WNW
2-Sep-2016	1:00	1.4	NNE
2-Sep-2016	2:00	1.6	ENE
2-Sep-2016	3:00	1.5	W
2-Sep-2016	4:00	1.5	SW
2-Sep-2016	5:00	1.5	W
2-Sep-2016	6:00	1.4	ESE
2-Sep-2016	7:00	1.5	SSE
2-Sep-2016	8:00	1.8	SW
2-Sep-2016	9:00	1.8	ESE
2-Sep-2016	10:00	2.2	ESE
2-Sep-2016	11:00	2.2	ENE

2-Sep-2016	12:00	2.4	NNE
2-Sep-2016	13:00	2.1	NE
2-Sep-2016	14:00	2.3	SW
2-Sep-2016	15:00	2.5	WSW
2-Sep-2016	16:00	2.3	WSW
2-Sep-2016	17:00	2.1	SSE
2-Sep-2016	18:00	2.1	W
2-Sep-2016	19:00	2	NE
2-Sep-2016	20:00	2	NE
2-Sep-2016	21:00	2	S
2-Sep-2016	22:00	2.1	SE
2-Sep-2016	23:00	1.9	E
3-Sep-2016	0:00	1.9	SSE
3-Sep-2016	1:00	1.9	NE
3-Sep-2016	2:00	1.8	SE
3-Sep-2016	3:00	1.8	WNW
3-Sep-2016	4:00	1.6	WNW
3-Sep-2016	5:00	1.7	ENE
3-Sep-2016	6:00	1.3	ENE
3-Sep-2016	7:00	1.5	SE
3-Sep-2016	8:00	1.7	SE
3-Sep-2016	9:00	2.2	SSE
3-Sep-2016	10:00	2.5	ESE
3-Sep-2016	11:00	2.3	ESE
3-Sep-2016	12:00	2.4	NW
3-Sep-2016	13:00	2.1	Ν
3-Sep-2016	14:00	2	SSE
3-Sep-2016	15:00	2.3	NNE
3-Sep-2016	16:00	2.1	NE
3-Sep-2016	17:00	2	NNE
3-Sep-2016	18:00	2	NNE
3-Sep-2016	19:00	1.8	ENE
3-Sep-2016	20:00	1.8	NE
3-Sep-2016	21:00	1.9	NNE
3-Sep-2016	22:00	1.8	E
3-Sep-2016	23:00	1.9	SE
4-Sep-2016	0:00	1.7	E

4-Sep-2016	1:00	2	ENE
4-Sep-2016	2:00	2	ESE
4-Sep-2016	3:00	1.9	ENE
4-Sep-2016	4:00	2.1	ENE
4-Sep-2016	5:00	2	ENE
4-Sep-2016	6:00	2	SSE
4-Sep-2016	7:00	2.1	SSE
4-Sep-2016	8:00	2.2	ENE
4-Sep-2016	9:00	2.4	ENE
4-Sep-2016	10:00	2.8	ENE
4-Sep-2016	11:00	3	E
4-Sep-2016	12:00	2.7	ENE
4-Sep-2016	13:00	2.9	NNE
4-Sep-2016	14:00	2.7	NNE
4-Sep-2016	15:00	2.7	NNE
4-Sep-2016	16:00	2.6	NE
4-Sep-2016	17:00	2.6	NE
4-Sep-2016	18:00	2.2	NE
4-Sep-2016	19:00	2.2	ENE
4-Sep-2016	20:00	2.1	NE
4-Sep-2016	21:00	2	NE
4-Sep-2016	22:00	2.1	ENE
4-Sep-2016	23:00	2.5	E
5-Sep-2016	0:00	2	ESE
5-Sep-2016	1:00	2.1	NE
5-Sep-2016	2:00	2.2	NE
5-Sep-2016	3:00	2.4	NE
5-Sep-2016	4:00	2.5	ENE
5-Sep-2016	5:00	2.3	NE
5-Sep-2016	6:00	2.2	E
5-Sep-2016	7:00	2	ENE
5-Sep-2016	8:00	2.5	ENE
5-Sep-2016	9:00	2.6	ENE
5-Sep-2016	10:00	2.7	NW
5-Sep-2016	11:00	2.3	NNE
5-Sep-2016	12:00	3	ENE
5-Sep-2016	13:00	3.4	SE
·	•		

5-Sep-2016	14:00	3.2	SW
5-Sep-2016	15:00	3.4	WSW
5-Sep-2016	16:00	3.3	W
5-Sep-2016	17:00	3.1	W
5-Sep-2016	18:00	2.9	SSW
5-Sep-2016	19:00	2.7	NE
5-Sep-2016	20:00	2.6	WSW
5-Sep-2016	21:00	2.7	NE
5-Sep-2016	22:00	2.8	N
5-Sep-2016	23:00	2.7	N
6-Sep-2016	0:00	2.6	SW
6-Sep-2016	1:00	2.5	WSW
6-Sep-2016	2:00	2.3	SW
6-Sep-2016	3:00	2.3	SSW
6-Sep-2016	4:00	2.3	SW
6-Sep-2016	5:00	2.2	SW
6-Sep-2016	6:00	2.1	W
6-Sep-2016	7:00	2.2	W
6-Sep-2016	8:00	2.1	E
6-Sep-2016	9:00	2.3	W
6-Sep-2016	10:00	2.3	SW
6-Sep-2016	11:00	2.7	W
6-Sep-2016	12:00	2.4	ESE
6-Sep-2016	13:00	2.7	WSW
6-Sep-2016	14:00	2.7	SSW
6-Sep-2016	15:00	2.7	W
6-Sep-2016	16:00	2.8	W
6-Sep-2016	17:00	2.6	ENE
6-Sep-2016	18:00	2.5	N
6-Sep-2016	19:00	2.3	W
6-Sep-2016	20:00	2.3	WSW
6-Sep-2016	21:00	2	WSW
6-Sep-2016	22:00	1.8	NE
6-Sep-2016	23:00	1.6	NE
7-Sep-2016	0:00	1.7	SSE
7-Sep-2016	1:00	1.7	E
7-Sep-2016	2:00	1.6	N

7-Sep-2016         3:00         1.6         ENE           7-Sep-2016         4:00         1.6         NE           7-Sep-2016         5:00         1.8         ENE           7-Sep-2016         6:00         1.7         ENE           7-Sep-2016         7:00         1.8         ENE           7-Sep-2016         8:00         1.7         ENE           7-Sep-2016         9:00         1.8         E           7-Sep-2016         10:00         2.1         E           7-Sep-2016         11:00         2.3         ESE           7-Sep-2016         13:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         19:00         1.3         SSE           7-Sep-2016         19:00         1.3         WNW           7-Sep-2016         20:00         1.1         NW           7-Sep-2016 <t< th=""><th></th><th>r</th><th>T</th><th></th></t<>		r	T	
7-Sep-2016         5:00         1.8         ENE           7-Sep-2016         6:00         1.7         ENE           7-Sep-2016         7:00         1.8         ENE           7-Sep-2016         8:00         1.7         ENE           7-Sep-2016         9:00         1.8         E           7-Sep-2016         10:00         2.1         E           7-Sep-2016         11:00         2.3         ESE           7-Sep-2016         12:00         2.4         SE           7-Sep-2016         13:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         15:00         2.2         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         1.3         ENE           7-Sep-2016         17:00         1.8         SSE           7-Sep-2016         12:00         1.1         W           7-Sep-2016         20:00         1.1         W           7-Sep-2016         21:00         1.2         W           7-Sep-2016	7-Sep-2016	3:00	1.6	ENE
7.5ep.2016         6:00         1.7         ENE           7.5ep.2016         7:00         1.8         ENE           7.5ep.2016         8:00         1.7         ENE           7.5ep.2016         9:00         1.8         E           7.5ep.2016         10:00         2.1         E           7.5ep.2016         11:00         2.3         ESE           7.5ep.2016         12:00         2.4         SE           7.5ep.2016         13:00         2.1         NE           7.5ep.2016         14:00         2.1         NE           7.5ep.2016         16:00         2.1         NE           7.5ep.2016         16:00         2.1         NE           7.5ep.2016         16:00         2.1         NE           7.5ep.2016         16:00         2.1         NE           7.5ep.2016         19:00         1.3         ENE           7.5ep.2016         20:00         1.1         W           7.5ep.2016         21:00         1.2         W           7.5ep.2016         20:00         1.3         WNW           8.5ep.2016         0:00         1.3         NNE           8.5ep.2016 <td< td=""><td>7-Sep-2016</td><td>4:00</td><td>1.6</td><td>NE</td></td<>	7-Sep-2016	4:00	1.6	NE
7-Sep-2016         7:00         1.8         ENE           7-Sep-2016         8:00         1.7         ENE           7-Sep-2016         9:00         1.8         E           7-Sep-2016         10:00         2.1         E           7-Sep-2016         11:00         2.3         ESE           7-Sep-2016         12:00         2.4         SE           7-Sep-2016         13:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         15:00         2.2         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         1.3         ENE           7-Sep-2016         19:00         1.3         ENE           7-Sep-2016         20:00         1.1         W           7-Sep-2016         20:00         1.1         W           7-Sep-2016         20:00         1.1         NW           7-Sep-2016         20:00         1.3         WNW           8-Sep-2016         0:00         1.3         NNE           8-Sep-2016 <t< td=""><td>7-Sep-2016</td><td>5:00</td><td>1.8</td><td>ENE</td></t<>	7-Sep-2016	5:00	1.8	ENE
7-Sep-2016         8:00         1.7         ENE           7-Sep-2016         9:00         1.8         E           7-Sep-2016         10:00         2.1         E           7-Sep-2016         11:00         2.3         ESE           7-Sep-2016         12:00         2.4         SE           7-Sep-2016         13:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         17:00         1.8         SSE           7-Sep-2016         18:00         1.5         NNE           7-Sep-2016         19:00         1.3         ENE           7-Sep-2016         20:00         1.1         W           7-Sep-2016         21:00         1.2         W           7-Sep-2016         21:00         1.3         WNW           8-Sep-2016         0:00         1.3         NNE           8-Sep-2016         0:00         1.4         WNW           8-Sep-2016         <	7-Sep-2016	6:00	1.7	ENE
7-Sep-2016         9:00         1.8         E           7-Sep-2016         10:00         2.1         E           7-Sep-2016         11:00         2.3         ESE           7-Sep-2016         12:00         2.4         SE           7-Sep-2016         13:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         17:00         1.8         SSE           7-Sep-2016         19:00         1.3         ENE           7-Sep-2016         20:00         1.1         W           7-Sep-2016         20:00         1.1         W           7-Sep-2016         20:00         1.1         NW           7-Sep-2016         21:00         1.3         WNW           8-Sep-2016         0:00         1.3         WNW           8-Sep-2016         0:00         1.4         WNW           8-Sep-2016 <t< td=""><td>7-Sep-2016</td><td>7:00</td><td>1.8</td><td>ENE</td></t<>	7-Sep-2016	7:00	1.8	ENE
7-Sep-2016         10:00         2.1         E           7-Sep-2016         11:00         2.3         ESE           7-Sep-2016         12:00         2.4         SE           7-Sep-2016         13:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         15:00         2.2         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         17:00         1.8         SSE           7-Sep-2016         19:00         1.3         ENE           7-Sep-2016         20:00         1.1         W           7-Sep-2016         21:00         1.2         W           7-Sep-2016         23:00         1.3         WNW           8-Sep-2016         0:00         1.3         WNW           8-Sep-2016         0:00         1.4         WNW           8-Sep-2016         1:00         1.4         WNW           8-Sep-2016         5:00         1.2         SSE           8-Sep-2016	7-Sep-2016	8:00	1.7	ENE
7-Sep-2016         11:00         2.3         ESE           7-Sep-2016         12:00         2.4         SE           7-Sep-2016         13:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         15:00         2.2         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         17:00         1.8         SSE           7-Sep-2016         18:00         1.5         NNE           7-Sep-2016         20:00         1.1         W           7-Sep-2016         20:00         1.1         W           7-Sep-2016         21:00         1.2         W           7-Sep-2016         23:00         1.3         WNW           8-Sep-2016         0:00         1.3         WNW           8-Sep-2016         1:00         1.4         WNW           8-Sep-2016         3:00         1.2         NNE           8-Sep-2016         5:00         1.2         SSE           8-Sep-2016	7-Sep-2016	9:00	1.8	E
7-Sep-2016         12:00         2.4         SE           7-Sep-2016         13:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         15:00         2.2         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         17:00         1.8         SSE           7-Sep-2016         18:00         1.5         NNE           7-Sep-2016         19:00         1.3         ENE           7-Sep-2016         20:00         1.1         W           7-Sep-2016         21:00         1.2         W           7-Sep-2016         22:00         1.1         NW           7-Sep-2016         23:00         1.3         WNW           8-Sep-2016         0:00         1.3         NNE           8-Sep-2016         1:00         1.4         WNW           8-Sep-2016         3:00         1.2         NE           8-Sep-2016         5:00         1.2         SSE           8-Sep-2016         5:00         1.2         SSE           8-Sep-2016	7-Sep-2016	10:00	2.1	E
7-Sep-2016         13:00         2.1         NE           7-Sep-2016         14:00         2.1         NE           7-Sep-2016         15:00         2.2         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         17:00         1.8         SSE           7-Sep-2016         18:00         1.5         NNE           7-Sep-2016         19:00         1.3         ENE           7-Sep-2016         21:00         1.1         W           7-Sep-2016         21:00         1.1         NW           7-Sep-2016         21:00         1.1         NW           7-Sep-2016         22:00         1.1         NW           7-Sep-2016         23:00         1.3         WNW           8-Sep-2016         0:00         1.3         NNE           8-Sep-2016         1:00         1.4         WNW           8-Sep-2016         3:00         1.2         NNE           8-Sep-2016         5:00         1.2         SSE           8-Sep-2016         5:00         1.1         SSE           8-Sep-2016	7-Sep-2016	11:00	2.3	ESE
7-Sep-2016         14:00         2.1         NE           7-Sep-2016         15:00         2.2         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         17:00         1.8         SSE           7-Sep-2016         18:00         1.5         NNE           7-Sep-2016         19:00         1.3         ENE           7-Sep-2016         20:00         1.1         W           7-Sep-2016         21:00         1.2         W           7-Sep-2016         22:00         1.1         NW           7-Sep-2016         23:00         1.3         WNW           8-Sep-2016         23:00         1.3         WNW           8-Sep-2016         0:00         1.3         NNE           8-Sep-2016         0:00         1.3         NNW           8-Sep-2016         1:00         1.4         WNW           8-Sep-2016         3:00         1.2         NNE           8-Sep-2016         5:00         1.2         SSE           8-Sep-2016         5:00         1.1         SSE           8-Sep-2016         5:00         1.1         ESE           8-Sep-2016	7-Sep-2016	12:00	2.4	SE
7-Sep-2016         15:00         2.2         NE           7-Sep-2016         16:00         2.1         NE           7-Sep-2016         17:00         1.8         SSE           7-Sep-2016         18:00         1.5         NNE           7-Sep-2016         19:00         1.3         ENE           7-Sep-2016         20:00         1.1         W           7-Sep-2016         21:00         1.2         W           7-Sep-2016         22:00         1.1         NW           7-Sep-2016         22:00         1.1         NW           7-Sep-2016         22:00         1.3         WNW           8-Sep-2016         0:00         1.3         WNW           8-Sep-2016         0:00         1.3         NNE           8-Sep-2016         1:00         1.4         WNW           8-Sep-2016         3:00         1.2         NNE           8-Sep-2016         5:00         1.2         SSE           8-Sep-2016         5:00         1.2         SSE           8-Sep-2016         6:00         1.1         SSE           8-Sep-2016         7:00         1.1         ESE           8-Sep-2016	7-Sep-2016	13:00	2.1	NE
7-Sep-2016         16:00         2.1         NE           7-Sep-2016         17:00         1.8         SSE           7-Sep-2016         18:00         1.5         NNE           7-Sep-2016         19:00         1.3         ENE           7-Sep-2016         20:00         1.1         W           7-Sep-2016         21:00         1.2         W           7-Sep-2016         22:00         1.1         NW           7-Sep-2016         23:00         1.3         WNW           8-Sep-2016         23:00         1.3         WNW           8-Sep-2016         0:00         1.3         WNW           8-Sep-2016         1:00         1.4         WNW           8-Sep-2016         1:00         1.4         WNW           8-Sep-2016         2:00         1.3         NNE           8-Sep-2016         3:00         1.2         NNE           8-Sep-2016         5:00         1.2         SSE           8-Sep-2016         6:00         1.1         SSE           8-Sep-2016         6:00         1.1         ESE           8-Sep-2016         7:00         1.1         ESE           8-Sep-2016	7-Sep-2016	14:00	2.1	NE
7-Sep-201617:001.8SSE7-Sep-201618:001.5NNE7-Sep-201619:001.3ENE7-Sep-201620:001.1W7-Sep-201621:001.2W7-Sep-201622:001.1NW7-Sep-201623:001.3WNW8-Sep-20160:001.3WNW8-Sep-20160:001.3NNE8-Sep-20161:001.4WNW8-Sep-20162:001.3NNE8-Sep-20165:001.2SSE8-Sep-20165:001.2SSE8-Sep-20165:001.1SSE8-Sep-20165:001.1SSE8-Sep-20166:001.1SSE8-Sep-20167:001.1ESE8-Sep-20167:001.1ESE8-Sep-201610:001.8NE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201611:001.9NE8-Sep-201611:002.2SE8-Sep-201612:002.1ESE8-Sep-201612:002.2SE	7-Sep-2016	15:00	2.2	NE
7-Sep-2016         18:00         1.5         NNE           7-Sep-2016         19:00         1.3         ENE           7-Sep-2016         20:00         1.1         W           7-Sep-2016         21:00         1.2         W           7-Sep-2016         22:00         1.1         NW           7-Sep-2016         22:00         1.1         NW           7-Sep-2016         23:00         1.3         WNW           8-Sep-2016         0:00         1.3         WNW           8-Sep-2016         0:00         1.3         NNE           8-Sep-2016         1:00         1.4         WNW           8-Sep-2016         2:00         1.3         NNE           8-Sep-2016         3:00         1.2         NNE           8-Sep-2016         5:00         1.2         ESE           8-Sep-2016         5:00         1.2         SSE           8-Sep-2016         6:00         1.1         SSE           8-Sep-2016         7:00         1.1         ESE           8-Sep-2016         7:00         1.6         NE           8-Sep-2016         10:00         1.8         NE           8-Sep-2016         <	7-Sep-2016	16:00	2.1	NE
7-Sep-201619:001.3ENE7-Sep-201620:001.1W7-Sep-201621:001.2W7-Sep-201622:001.1NW7-Sep-201623:001.3WNW8-Sep-20160:001.3WNW8-Sep-20161:001.4WNW8-Sep-20162:001.3NNE8-Sep-20161:001.4WNW8-Sep-20162:001.3NNE8-Sep-20163:001.2NNE8-Sep-20165:001.2SSE8-Sep-20166:001.1SSE8-Sep-20166:001.1ESE8-Sep-20167:001.1ESE8-Sep-20167:001.1ESE8-Sep-20169:001.6NE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201611:002.1ESE8-Sep-201612:002.1ESE8-Sep-201614:002.2SE	7-Sep-2016	17:00	1.8	SSE
7-Sep-201620:001.1W7-Sep-201621:001.2W7-Sep-201622:001.1NW7-Sep-201623:001.3WNW8-Sep-20160:001.3WNW8-Sep-20161:001.4WNW8-Sep-20162:001.3NNE8-Sep-20162:001.3NNE8-Sep-20163:001.2NNE8-Sep-20165:001.2SSE8-Sep-20165:001.1SSE8-Sep-20166:001.1SSE8-Sep-20166:001.1ESE8-Sep-20167:001.1ESE8-Sep-20167:001.1ESE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201611:001.9NE8-Sep-201611:002.1ESE8-Sep-201613:002.2NE8-Sep-201614:002.2SE	7-Sep-2016	18:00	1.5	NNE
7-Sep-201621:001.2W7-Sep-201622:001.1NW7-Sep-201623:001.3WNW8-Sep-20160:001.3WNW8-Sep-20161:001.4WNW8-Sep-20162:001.3NNE8-Sep-20162:001.3NNE8-Sep-20163:001.2NNE8-Sep-20165:001.2ESE8-Sep-20165:001.1SSE8-Sep-20166:001.1SSE8-Sep-20166:001.1ESE8-Sep-20167:001.1ESE8-Sep-20168:001.2ESE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201611:001.9NE8-Sep-201611:002.2NE8-Sep-201612:002.1ESE8-Sep-201613:002.2SE	7-Sep-2016	19:00	1.3	ENE
7-Sep-201622:001.1NW7-Sep-201623:001.3WNW8-Sep-20160:001.3WNW8-Sep-20161:001.4WNW8-Sep-20162:001.3NNE8-Sep-20162:001.3NNE8-Sep-20163:001.2NNE8-Sep-20164:001.2ESE8-Sep-20165:001.2SSE8-Sep-20166:001.1SSE8-Sep-20167:001.1ESE8-Sep-20167:001.1ESE8-Sep-20168:001.2ESE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201611:002.1ESE8-Sep-201613:002.2NE8-Sep-201614:002.2SE	7-Sep-2016	20:00	1.1	W
7-Sep-201623:001.3WNW8-Sep-20160:001.3WNW8-Sep-20161:001.4WNW8-Sep-20162:001.3NNE8-Sep-20163:001.2NNE8-Sep-20164:001.2ESE8-Sep-20165:001.2SSE8-Sep-20165:001.1SSE8-Sep-20166:001.1SSE8-Sep-20167:001.1ESE8-Sep-20167:001.6NE8-Sep-20169:001.6NE8-Sep-201611:001.9NE8-Sep-201612:002.1ESE8-Sep-201613:002.2SE	7-Sep-2016	21:00	1.2	W
8-Sep-20160:001.3WNW8-Sep-20161:001.4WNW8-Sep-20162:001.3NNE8-Sep-20163:001.2NNE8-Sep-20164:001.2ESE8-Sep-20165:001.2SSE8-Sep-20166:001.1SSE8-Sep-20166:001.1ESE8-Sep-20167:001.1ESE8-Sep-20168:001.2ESE8-Sep-20169:001.6NE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201612:002.1ESE8-Sep-201613:002.2NE8-Sep-201614:002.2SE	7-Sep-2016	22:00	1.1	NW
8-Sep-20161:001.4WNW8-Sep-20162:001.3NNE8-Sep-20163:001.2NNE8-Sep-20164:001.2ESE8-Sep-20165:001.2SSE8-Sep-20166:001.1SSE8-Sep-20167:001.1ESE8-Sep-20167:001.1ESE8-Sep-20169:001.6NE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201611:002.1ESE8-Sep-201613:002.2NE8-Sep-201614:002.2SE	7-Sep-2016	23:00	1.3	WNW
8-Sep-20162:001.3NNE8-Sep-20163:001.2NNE8-Sep-20164:001.2ESE8-Sep-20165:001.2SSE8-Sep-20166:001.1SSE8-Sep-20166:001.1ESE8-Sep-20167:001.1ESE8-Sep-20168:001.2ESE8-Sep-20169:001.6NE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201612:002.1ESE8-Sep-201613:002.2NE8-Sep-201614:002.2SE	8-Sep-2016	0:00	1.3	WNW
8-Sep-20163:001.2NNE8-Sep-20164:001.2ESE8-Sep-20165:001.2SSE8-Sep-20166:001.1SSE8-Sep-20167:001.1ESE8-Sep-20168:001.2ESE8-Sep-20169:001.6NE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201612:002.1ESE8-Sep-201613:002.2NE8-Sep-201614:002.2SE	8-Sep-2016	1:00	1.4	WNW
8-Sep-20164:001.2ESE8-Sep-20165:001.2SSE8-Sep-20166:001.1SSE8-Sep-20167:001.1ESE8-Sep-20168:001.2ESE8-Sep-20169:001.6NE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201611:002.1ESE8-Sep-201613:002.2NE8-Sep-201614:002.2SE	8-Sep-2016	2:00	1.3	NNE
8-Sep-20165:001.2SSE8-Sep-20166:001.1SSE8-Sep-20167:001.1ESE8-Sep-20168:001.2ESE8-Sep-20169:001.6NE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201612:002.1ESE8-Sep-201613:002.2NE8-Sep-201614:002.2SE	8-Sep-2016	3:00	1.2	NNE
8-Sep-20166:001.1SSE8-Sep-20167:001.1ESE8-Sep-20168:001.2ESE8-Sep-20169:001.6NE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201612:002.1ESE8-Sep-201613:002.2NE8-Sep-201614:002.2SE	8-Sep-2016	4:00	1.2	ESE
8-Sep-20167:001.1ESE8-Sep-20168:001.2ESE8-Sep-20169:001.6NE8-Sep-201610:001.8NE8-Sep-201611:001.9NE8-Sep-201612:002.1ESE8-Sep-201613:002.2NE8-Sep-201614:002.2SE	8-Sep-2016	5:00	1.2	SSE
8-Sep-2016         8:00         1.2         ESE           8-Sep-2016         9:00         1.6         NE           8-Sep-2016         10:00         1.8         NE           8-Sep-2016         11:00         1.9         NE           8-Sep-2016         12:00         2.1         ESE           8-Sep-2016         13:00         2.2         NE           8-Sep-2016         14:00         2.2         SE	8-Sep-2016	6:00	1.1	SSE
8-Sep-2016         9:00         1.6         NE           8-Sep-2016         10:00         1.8         NE           8-Sep-2016         11:00         1.9         NE           8-Sep-2016         12:00         2.1         ESE           8-Sep-2016         13:00         2.2         NE           8-Sep-2016         14:00         2.2         SE	8-Sep-2016	7:00	1.1	ESE
8-Sep-2016         10:00         1.8         NE           8-Sep-2016         11:00         1.9         NE           8-Sep-2016         12:00         2.1         ESE           8-Sep-2016         13:00         2.2         NE           8-Sep-2016         14:00         2.2         SE	8-Sep-2016	8:00	1.2	ESE
8-Sep-2016         11:00         1.9         NE           8-Sep-2016         12:00         2.1         ESE           8-Sep-2016         13:00         2.2         NE           8-Sep-2016         14:00         2.2         SE	8-Sep-2016	9:00	1.6	NE
8-Sep-2016         12:00         2.1         ESE           8-Sep-2016         13:00         2.2         NE           8-Sep-2016         14:00         2.2         SE	8-Sep-2016	10:00	1.8	NE
8-Sep-2016         13:00         2.2         NE           8-Sep-2016         14:00         2.2         SE	8-Sep-2016	11:00	1.9	NE
8-Sep-2016 14:00 2.2 SE	8-Sep-2016	12:00	2.1	ESE
	8-Sep-2016	13:00	2.2	NE
8-Sep-2016 15:00 2.5 SF	8-Sep-2016	14:00	2.2	SE
	8-Sep-2016	15:00	2.5	SE

8-Sep-2016	16:00	2	ESE
8-Sep-2016	17:00	2	NNE
8-Sep-2016	18:00	1.8	NE
8-Sep-2016	19:00	1.5	NNE
8-Sep-2016	20:00	1.3	ENE
8-Sep-2016	21:00	1.4	ENE
8-Sep-2016	22:00	1.3	ESE
8-Sep-2016	23:00	1.4	W
9-Sep-2016	0:00	1.3	W
9-Sep-2016	1:00	1.2	W
9-Sep-2016	2:00	1.2	W
9-Sep-2016	3:00	1.6	WSW
9-Sep-2016	4:00	1.4	WNW
9-Sep-2016	5:00	1.1	W
9-Sep-2016	6:00	1.2	WSW
9-Sep-2016	7:00	1.2	W
9-Sep-2016	8:00	1.3	SSE
9-Sep-2016	9:00	1.6	ENE
9-Sep-2016	10:00	1.8	ENE
9-Sep-2016	11:00	2.1	ESE
9-Sep-2016	12:00	2.2	ESE
9-Sep-2016	13:00	1.9	SE
9-Sep-2016	14:00	1.8	SE
9-Sep-2016	15:00	2	SSE
9-Sep-2016	16:00	1.9	SSW
9-Sep-2016	17:00	1.9	SSE
9-Sep-2016	18:00	1.5	SSE
9-Sep-2016	19:00	1.3	ESE
9-Sep-2016	20:00	1.3	ENE
9-Sep-2016	21:00	1.3	NNE
9-Sep-2016	22:00	1.5	NNE
9-Sep-2016	23:00	1.2	ENE
10-Sep-2016	0:00	1.3	ESE
10-Sep-2016	1:00	1.3	ESE
10-Sep-2016	2:00	1.3	ESE
10-Sep-2016	3:00	1.3	ESE
10-Sep-2016	4:00	1.1	E
	1	1	1

10-Sep-2016         6:00         1.1         NNE           10-Sep-2016         7:00         1.1         ENE           10-Sep-2016         9:00         1.6         NE           10-Sep-2016         10:00         1.6         NE           10-Sep-2016         10:00         1.6         SW           10-Sep-2016         11:00         1.8         ENE           10-Sep-2016         12:00         1.9         ENE           10-Sep-2016         13:00         2.2         NNE           10-Sep-2016         14:00         2.2         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         16:00         1.9         NNE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         20:00         1.4         N           10-Sep-2016         20:00         1.4         NE           11-Sep-2016         20:00         1.4         NE           11-Sep-2016         0:00         1.5         NE           11-	[]			1
10-Sep-2016         7:00         1.1         ENE           10-Sep-2016         8:00         1.3         SSE           10-Sep-2016         10:00         1.6         NE           10-Sep-2016         11:00         1.8         ENE           10-Sep-2016         12:00         1.9         ENE           10-Sep-2016         13:00         2.2         NNE           10-Sep-2016         14:00         2.2         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         16:00         1.9         NNE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         20:00         1.4         N           10-Sep-2016         20:00         1.4         NE           11-Sep-2016         20:00         1.4         NE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         0:00         1.6         NE           11	10-Sep-2016	5:00	1	ENE
10-Sep-2016         8:00         1.3         SSE           10-Sep-2016         9:00         1.6         NE           10-Sep-2016         10:00         1.6         SW           10-Sep-2016         11:00         1.8         ENE           10-Sep-2016         12:00         1.9         ENE           10-Sep-2016         13:00         2.2         NNE           10-Sep-2016         14:00         2.2         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         20:00         1.4         N           10-Sep-2016         20:00         1.4         N           10-Sep-2016         20:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         1:00         1.6         ENE	10-Sep-2016	6:00	1.1	NNE
10-Sep-2016         9:00         1.6         NE           10-Sep-2016         10:00         1.6         SW           10-Sep-2016         11:00         1.8         ENE           10-Sep-2016         12:00         1.9         ENE           10-Sep-2016         13:00         2.2         NNE           10-Sep-2016         14:00         2.2         ENE           10-Sep-2016         15:00         2         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.4         N           10-Sep-2016         23:00         1.4         N           10-Sep-2016         2:00         1.4         NE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         0:00         1.6         NE           11-Sep-2016         3:00         1.6         ENE           11-Sep-	10-Sep-2016	7:00	1.1	ENE
10-Sep-2016         10:00         1.6         SW           10-Sep-2016         11:00         1.8         ENE           10-Sep-2016         12:00         1.9         ENE           10-Sep-2016         13:00         2.2         NNE           10-Sep-2016         14:00         2.2         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.4         N           10-Sep-2016         20:00         1.4         N           10-Sep-2016         20:00         1.4         N           10-Sep-2016         2:00         1.4         N           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         3:00         1.6         ENE           11-S	10-Sep-2016	8:00	1.3	SSE
10-Sep-2016         11:00         1.8         ENE           10-Sep-2016         12:00         1.9         ENE           10-Sep-2016         13:00         2.2         NNE           10-Sep-2016         14:00         2.2         ENE           10-Sep-2016         15:00         2         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         22:00         1.4         N           10-Sep-2016         23:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         0:00         1.6         NE           11-Sep-2016         1:00         1.6         ENE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         5:00         1.5         NE           11-Se	10-Sep-2016	9:00	1.6	NE
10-Sep-2016         12:00         1.9         ENE           10-Sep-2016         13:00         2.2         NNE           10-Sep-2016         14:00         2.2         ENE           10-Sep-2016         15:00         2         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         21:00         1.4         N           10-Sep-2016         21:00         1.4         N           10-Sep-2016         23:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         1:00         1.6         ENE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         5:00         1.5         ENE           11-Se	10-Sep-2016	10:00	1.6	SW
10-Sep-2016         13:00         2.2         NNE           10-Sep-2016         14:00         2.2         ENE           10-Sep-2016         15:00         2         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         21:00         1.4         N           10-Sep-2016         21:00         1.4         ENE           11-Sep-2016         23:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         1:00         1.6         ENE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         7:00         1.5         ENE           11-	10-Sep-2016	11:00	1.8	ENE
10-Sep-2016         14:00         2.2         ENE           10-Sep-2016         15:00         2         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         21:00         1.4         N           10-Sep-2016         23:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         1:00         1.6         NE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         5:00         1.5         ENE           11-Sep-2016         7:00         1.5         ENE           11-Sep-2016         9:00         1.6         ENE           11-Sep-	10-Sep-2016	12:00	1.9	ENE
10-Sep-2016         15:00         2         ENE           10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         21:00         1.4         N           10-Sep-2016         23:00         1.4         ENE           11-Sep-2016         2:00         1.4         NE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         1:00         1.6         ENE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         6:00         1.6         N           11-Sep-2016         7:00         1.5         ENE           11-Sep-2016         7:00         1.5         ENE           11-Sep-201	10-Sep-2016	13:00	2.2	NNE
10-Sep-2016         16:00         1.9         ENE           10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         21:00         1.4         N           10-Sep-2016         23:00         1.4         ENE           11-Sep-2016         23:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         1:00         1.6         ENE           11-Sep-2016         2:00         1.8         NNE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         3:00         1.5         NE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         6:00         1.6         N           11-Sep-2016         7:00         1.5         ENE           11-Sep-2016         7:00         1.6         ENE           11-Sep-2	10-Sep-2016	14:00	2.2	ENE
10-Sep-2016         17:00         1.9         NNE           10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         22:00         1.4         N           10-Sep-2016         23:00         1.4         ENE           11-Sep-2016         23:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         0:00         1.6         NE           11-Sep-2016         1:00         1.6         ENE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         3:00         1.5         NE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         7:00         1.5         ENE           11-Sep-2016         9:00         1.6         ENE           11-Sep-2016         10:00         1.8         ENE           11-Sep-2	10-Sep-2016	15:00	2	ENE
10-Sep-2016         18:00         1.6         NNE           10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         22:00         1.4         N           10-Sep-2016         23:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         0:00         1.6         NE           11-Sep-2016         1:00         1.6         ENE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         6:00         1.6         ENE           11-Sep-2016         9:00         1.6         ENE           11-Sep-2016         10:00         1.8         ENE           11-Sep-2016         10:00         1.8         ENE           11-Sep-2	10-Sep-2016	16:00	1.9	ENE
10-Sep-2016         19:00         1.5         S           10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         22:00         1.4         N           10-Sep-2016         23:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         0:00         1.6         NE           11-Sep-2016         2:00         1.8         NNE           11-Sep-2016         2:00         1.8         NNE           11-Sep-2016         2:00         1.8         NNE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         6:00         1.6         N           11-Sep-2016         7:00         1.5         ENE           11-Sep-2016         10:00         1.4         E           11-Sep-2016         10:00         1.8         ENE           11-Sep-2016         10:00         1.8         ENE           11-Sep-2016<	10-Sep-2016	17:00	1.9	NNE
10-Sep-2016         20:00         1.8         SSW           10-Sep-2016         21:00         1.5         NE           10-Sep-2016         22:00         1.4         N           10-Sep-2016         23:00         1.4         ENE           11-Sep-2016         23:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         1:00         1.6         NE           11-Sep-2016         2:00         1.8         NNE           11-Sep-2016         2:00         1.8         NNE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         3:00         1.5         NE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         6:00         1.6         N           11-Sep-2016         7:00         1.5         ENE           11-Sep-2016         9:00         1.6         ENE           11-Sep-2016         10:00         1.8         ENE           11-Sep-2016         10:00         1.9         E           11-Sep-2016         12:00         2.2         NNE           11-Sep-201	10-Sep-2016	18:00	1.6	NNE
10-Sep-2016         21:00         1.5         NE           10-Sep-2016         22:00         1.4         N           10-Sep-2016         23:00         1.4         ENE           11-Sep-2016         0:00         1.7         NE           11-Sep-2016         1:00         1.6         NE           11-Sep-2016         2:00         1.8         NNE           11-Sep-2016         2:00         1.8         NNE           11-Sep-2016         3:00         1.6         ENE           11-Sep-2016         3:00         1.5         NE           11-Sep-2016         5:00         1.5         NE           11-Sep-2016         6:00         1.6         ENE           11-Sep-2016         6:00         1.6         N           11-Sep-2016         6:00         1.6         NE           11-Sep-2016         7:00         1.5         ENE           11-Sep-2016         9:00         1.6         ENE           11-Sep-2016         10:00         1.8         ENE           11-Sep-2016         10:00         1.8         ENE           11-Sep-2016         12:00         2.2         NNE           11-Sep-2016	10-Sep-2016	19:00	1.5	S
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11-Sep-201611:001.9E11-Sep-201612:002.2NNE11-Sep-201613:002.1NE11-Sep-201614:002.2NE11-Sep-201615:002.1ENE11-Sep-201615:001.9NE	11-Sep-2016	9:00	1.6	ENE
11-Sep-2016         12:00         2.2         NNE           11-Sep-2016         13:00         2.1         NE           11-Sep-2016         14:00         2.2         NE           11-Sep-2016         15:00         2.1         ENE           11-Sep-2016         15:00         2.1         ENE           11-Sep-2016         16:00         1.9         NE	11-Sep-2016	10:00	1.8	ENE
11-Sep-2016         13:00         2.1         NE           11-Sep-2016         14:00         2.2         NE           11-Sep-2016         15:00         2.1         ENE           11-Sep-2016         15:00         1.9         NE	11-Sep-2016	11:00	1.9	E
11-Sep-2016         14:00         2.2         NE           11-Sep-2016         15:00         2.1         ENE           11-Sep-2016         16:00         1.9         NE	11-Sep-2016	12:00	2.2	NNE
11-Sep-2016         15:00         2.1         ENE           11-Sep-2016         16:00         1.9         NE	11-Sep-2016	13:00	2.1	NE
11-Sep-2016 16:00 1.9 NE	11-Sep-2016	14:00	2.2	NE
	11-Sep-2016	15:00	2.1	ENE
	11-Sep-2016	16:00	1.9	NE
11-Sep-2016 17:00 2 ENE	11-Sep-2016	17:00	2	ENE

11-Sep-2016         18:00         2         ENE           11-Sep-2016         19:00         1.8         ENE           11-Sep-2016         20:00         1.9         ENE           11-Sep-2016         21:00         1.7         ENE           11-Sep-2016         22:00         1.7         ENE           11-Sep-2016         23:00         1.8         ENE           11-Sep-2016         23:00         1.8         ENE           12-Sep-2016         0:00         1.7         N           12-Sep-2016         1:00         1.6         N           12-Sep-2016         3:00         1.9         NNE           12-Sep-2016         3:00         1.9         SW           12-Sep-2016         3:00         1.9         WSW           12-Sep-2016         5:00         2         W           12-Sep-2016         5:00         2         W           12-Sep-2016         6:00         1.8         S           12-Sep-2016         7:00         1.7         W           12-Sep-2016         9:00         1.9         N           12-Sep-2016         9:00         1.9         N           12-Sep-2016	
11-Sep-201620:001.9ENE11-Sep-201621:001.7ENE11-Sep-201622:001.7ENE11-Sep-201623:001.8ENE12-Sep-20160:001.7N12-Sep-20161:001.6N12-Sep-20162:001.9NNE12-Sep-20163:001.9SW12-Sep-20165:002W12-Sep-20165:002W12-Sep-20165:001.8S12-Sep-20165:001.8NNE12-Sep-20166:001.8S12-Sep-20167:001.7W12-Sep-20167:001.7W12-Sep-20167:001.7W12-Sep-201610:002.3WSW12-Sep-201611:002.7W12-Sep-201611:002.7W12-Sep-201611:002.7SSW	
11-Sep-201621:001.7ENE11-Sep-201622:001.7ENE11-Sep-201623:001.8ENE12-Sep-20160:001.7N12-Sep-20161:001.6N12-Sep-20162:001.9NNE12-Sep-20163:001.9SW12-Sep-20164:001.9SW12-Sep-20165:002W12-Sep-20165:001.8S12-Sep-20166:001.8S12-Sep-20167:001.7W12-Sep-20166:001.8S12-Sep-20167:001.7W12-Sep-20161:002.3WSW12-Sep-201610:002.3WSW12-Sep-201611:002.7W12-Sep-201611:002.7W12-Sep-201611:002.7W12-Sep-201611:002.7SSW	
11-Sep-201622:001.7ENE11-Sep-201623:001.8ENE12-Sep-20160:001.7N12-Sep-20161:001.6N12-Sep-20162:001.9NNE12-Sep-20163:001.9WSW12-Sep-20163:001.9SW12-Sep-20165:002W12-Sep-20165:002W12-Sep-20166:001.8S12-Sep-20167:001.7W12-Sep-20167:001.7W12-Sep-20167:001.7W12-Sep-201610:002.3WSW12-Sep-201610:002.3WSW12-Sep-201611:002.7W12-Sep-201611:002.7W12-Sep-201611:002.9SSW	
11-Sep-201623:001.8ENE12-Sep-20160:001.7N12-Sep-20161:001.6N12-Sep-20162:001.9NNE12-Sep-20163:001.9WSW12-Sep-20164:001.9SW12-Sep-20165:002W12-Sep-20166:001.8S12-Sep-20166:001.7W12-Sep-20167:001.7W12-Sep-20167:001.7W12-Sep-20168:001.8NNE12-Sep-20169:001.9N12-Sep-201610:002.3WSW12-Sep-201611:002.7W12-Sep-201611:002.7W12-Sep-201611:002.9SSW	
12-Sep-2016         0:00         1.7         N           12-Sep-2016         1:00         1.6         N           12-Sep-2016         2:00         1.9         NNE           12-Sep-2016         3:00         1.9         WSW           12-Sep-2016         3:00         1.9         WSW           12-Sep-2016         4:00         1.9         SW           12-Sep-2016         6:00         1.8         S           12-Sep-2016         6:00         1.8         S           12-Sep-2016         6:00         1.8         S           12-Sep-2016         6:00         1.8         NNE           12-Sep-2016         7:00         1.7         W           12-Sep-2016         7:00         1.7         W           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016         1:00         1.6         N           12-Sep-2016         2:00         1.9         NNE           12-Sep-2016         3:00         1.9         WSW           12-Sep-2016         4:00         1.9         WSW           12-Sep-2016         4:00         1.9         SW           12-Sep-2016         5:00         2         W           12-Sep-2016         5:00         1.8         S           12-Sep-2016         6:00         1.8         S           12-Sep-2016         7:00         1.7         W           12-Sep-2016         8:00         1.8         NNE           12-Sep-2016         9:00         1.9         N           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016         2:00         1.9         NNE           12-Sep-2016         3:00         1.9         WSW           12-Sep-2016         4:00         1.9         SW           12-Sep-2016         5:00         2         W           12-Sep-2016         6:00         1.8         S           12-Sep-2016         6:00         1.8         S           12-Sep-2016         6:00         1.8         S           12-Sep-2016         7:00         1.7         W           12-Sep-2016         8:00         1.8         NNE           12-Sep-2016         8:00         1.8         NNE           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         11:00         2.9         SSW	
12-Sep-2016         3:00         1.9         WSW           12-Sep-2016         4:00         1.9         SW           12-Sep-2016         5:00         2         W           12-Sep-2016         6:00         1.8         S           12-Sep-2016         6:00         1.8         S           12-Sep-2016         7:00         1.7         W           12-Sep-2016         8:00         1.8         NNE           12-Sep-2016         8:00         1.8         NWE           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016         4:00         1.9         SW           12-Sep-2016         5:00         2         W           12-Sep-2016         6:00         1.8         S           12-Sep-2016         7:00         1.7         W           12-Sep-2016         8:00         1.8         NNE           12-Sep-2016         8:00         1.8         NNE           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016         5:00         2         W           12-Sep-2016         6:00         1.8         S           12-Sep-2016         7:00         1.7         W           12-Sep-2016         8:00         1.8         NNE           12-Sep-2016         9:00         1.9         N           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016         6:00         1.8         S           12-Sep-2016         7:00         1.7         W           12-Sep-2016         8:00         1.8         NNE           12-Sep-2016         9:00         1.9         N           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016         7:00         1.7         W           12-Sep-2016         8:00         1.8         NNE           12-Sep-2016         9:00         1.9         N           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016         8:00         1.8         NNE           12-Sep-2016         9:00         1.9         N           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016         9:00         1.9         N           12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016         10:00         2.3         WSW           12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016         11:00         2.7         W           12-Sep-2016         12:00         2.9         SSW	
12-Sep-2016 12:00 2.9 SSW	
12-Sep-2016 13:00 3.2 SW	
12-Sep-2016 14:00 2.9 SSW	
12-Sep-2016 15:00 2.6 W	
12-Sep-2016 16:00 2.5 NNE	
12-Sep-2016 17:00 2.5 SSW	
12-Sep-2016 18:00 2.7 W	
12-Sep-2016 19:00 2.4 W	
12-Sep-2016 20:00 2.2 W	
12-Sep-2016 21:00 2 W	
12-Sep-2016 22:00 2 WSW	
12-Sep-2016 23:00 2.3 W	
13-Sep-2016 0:00 1.9 W	
13-Sep-2016 1:00 1.9 W	
13-Sep-2016 2:00 1.8 SW	
13-Sep-2016 3:00 1.8 N	
13-Sep-2016 4:00 1.4 N	
13-Sep-2016 5:00 1.6 SW	_
13-Sep-2016 6:00 1.6 WNW	

13-Sep-2016	7:00	1.6	W
13-Sep-2016	8:00	2	W
13-Sep-2016	9:00	2.2	SW
•		2.2	SW
13-Sep-2016	10:00		
13-Sep-2016	11:00	2.3	WNW
13-Sep-2016	12:00	2.7	SSW
13-Sep-2016	13:00	2.5	W
13-Sep-2016	14:00	2.5	SW
13-Sep-2016	15:00	2.4	SSW
13-Sep-2016	16:00	2.3	SSW
13-Sep-2016	17:00	2.4	SW
13-Sep-2016	18:00	2	ENE
13-Sep-2016	19:00	2	ENE
13-Sep-2016	20:00	1.8	NE
13-Sep-2016	21:00	1.8	ENE
13-Sep-2016	22:00	1.7	ENE
13-Sep-2016	23:00	1.7	ENE
14-Sep-2016	0:00	1.8	NE
14-Sep-2016	1:00	1.8	NE
14-Sep-2016	2:00	1.8	NE
14-Sep-2016	3:00	1.9	E
14-Sep-2016	4:00	1.9	NE
14-Sep-2016	5:00	1.8	ENE
14-Sep-2016	6:00	1.8	NE
14-Sep-2016	7:00	1.8	N
14-Sep-2016	8:00	2	SE
14-Sep-2016	9:00	2.4	SE
14-Sep-2016	10:00	2.3	SE
14-Sep-2016	11:00	2.4	ENE
14-Sep-2016	12:00	2.4	WNW
14-Sep-2016	13:00	2.5	WNW
14-Sep-2016	14:00	2.5	ENE
14-Sep-2016	15:00	2.4	WNW
14-Sep-2016	16:00	2.3	SSE
14-Sep-2016	17:00	2.1	SE
14-Sep-2016	18:00	2	SE
14-Sep-2016	19:00	1.8	SE

14-Sep-2016	20:00	1.8	S
14-Sep-2016	21:00	2	S
14-Sep-2016	22:00	1.9	NE
14-Sep-2016	23:00	1.5	SW
15-Sep-2016	0:00	1.6	NE
15-Sep-2016	1:00	1.7	WNW
15-Sep-2016	2:00	1.7	SW
15-Sep-2016	3:00	1.9	WSW
15-Sep-2016	4:00	1.7	WNW
15-Sep-2016	5:00	1.7	NNW
15-Sep-2016	6:00	1.5	WNW
15-Sep-2016	7:00	1.5	N
15-Sep-2016	8:00	1.6	SW
15-Sep-2016	9:00	1.7	NE
15-Sep-2016	10:00	1.9	SSW
15-Sep-2016	11:00	2	SW
15-Sep-2016	12:00	2.1	W
15-Sep-2016	13:00	2.1	NE
15-Sep-2016	14:00	2.1	N
15-Sep-2016	15:00	2.1	E
15-Sep-2016	16:00	2.1	NNE
15-Sep-2016	17:00	2	SE
15-Sep-2016	18:00	1.7	W
15-Sep-2016	19:00	1.5	NE
15-Sep-2016	20:00	1.5	NE
15-Sep-2016	21:00	1.5	NE
15-Sep-2016	22:00	1.4	NE
15-Sep-2016	23:00	1.5	SW
16-Sep-2016	0:00	1.5	SSE
16-Sep-2016	1:00	1.5	SSE
16-Sep-2016	2:00	1.6	SSE
16-Sep-2016	3:00	1.7	SW
16-Sep-2016	4:00	1.8	WSW
16-Sep-2016	5:00	1.7	WSW
16-Sep-2016	6:00	1.5	WSW
16-Sep-2016	7:00	1.6	ESE
16-Sep-2016	8:00	1.7	ESE

16-Sep-2016	9:00	2	ESE
16-Sep-2016	10:00	2.1	ESE
16-Sep-2016	11:00	2.2	ESE
16-Sep-2016	12:00	2.5	NE
16-Sep-2016	13:00	2.7	SE
16-Sep-2016	14:00	2.7	SE
16-Sep-2016	15:00	2.7	SE
16-Sep-2016	16:00	2.4	NE
16-Sep-2016	17:00	2.2	NNE
16-Sep-2016	18:00	1.9	NNE
16-Sep-2016	19:00	1.9	NNE
16-Sep-2016	20:00	1.6	NNE
16-Sep-2016	21:00	1.4	NNE
16-Sep-2016	22:00	1.4	NNE
16-Sep-2016	23:00	1.4	ENE
17-Sep-2016	0:00	1.8	SE
17-Sep-2016	1:00	1.8	SE
17-Sep-2016	2:00	1.8	S
17-Sep-2016	3:00	1.9	SE
17-Sep-2016	4:00	1.7	SSE
17-Sep-2016	5:00	1.7	SE
17-Sep-2016	6:00	1.7	SSE
17-Sep-2016	7:00	1.8	ESE
17-Sep-2016	8:00	2.1	ESE
17-Sep-2016	9:00	2.3	ESE
17-Sep-2016	10:00	2.5	ESE
17-Sep-2016	11:00	2.7	SSE
17-Sep-2016	12:00	2.8	ESE
17-Sep-2016	13:00	2.7	E
17-Sep-2016	14:00	2.7	NNE
17-Sep-2016	15:00	2.9	NNE
17-Sep-2016	16:00	2.8	NE
17-Sep-2016	17:00	2.4	NNE
17-Sep-2016	18:00	2.2	NNE
17-Sep-2016	19:00	2	NNE
17-Sep-2016	20:00	1.9	NNE
17-Sep-2016	21:00	2	NE
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17.0 0010	00.00		
17-Sep-2016	22:00	2	NNE
17-Sep-2016	23:00	1.9	NNE
18-Sep-2016	0:00	1.8	E
18-Sep-2016	1:00	2	E
18-Sep-2016	2:00	1.5	N
18-Sep-2016	3:00	1.7	E
18-Sep-2016	4:00	1.7	NE
18-Sep-2016	5:00	1.8	ESE
18-Sep-2016	6:00	1.7	NE
18-Sep-2016	7:00	1.6	NE
18-Sep-2016	8:00	1.7	NNE
18-Sep-2016	9:00	2.1	ENE
18-Sep-2016	10:00	2.1	E
18-Sep-2016	11:00	2.4	NNE
18-Sep-2016	12:00	2.6	ESE
18-Sep-2016	13:00	2.4	SSE
18-Sep-2016	14:00	2.4	NNE
18-Sep-2016	15:00	2.5	NNE
18-Sep-2016	16:00	2.4	NE
18-Sep-2016	17:00	2	NE
18-Sep-2016	18:00	2	ENE
18-Sep-2016	19:00	1.7	ENE
18-Sep-2016	20:00	1.7	E
18-Sep-2016	21:00	1.6	ENE
18-Sep-2016	22:00	1.7	ENE
18-Sep-2016	23:00	1.6	E
19-Sep-2016	0:00	1.6	SW
19-Sep-2016	1:00	1.5	W
19-Sep-2016	2:00	1.6	NE
19-Sep-2016	3:00	1.4	NE
19-Sep-2016	4:00	1.5	ENE
19-Sep-2016	5:00	1.5	WNW
19-Sep-2016	6:00	1.5	WNW
19-Sep-2016	7:00	1.7	ENE
19-Sep-2016	8:00	1.9	NE
19-Sep-2016	9:00	2.4	N
19-Sep-2016	10:00	2.5	N

19-Sep-2016         11:00         2.5         NE           19-Sep-2016         12:00         2.1         ENE           19-Sep-2016         13:00         2.1         SSE           19-Sep-2016         14:00         2         ENE           19-Sep-2016         15:00         2.1         ENE           19-Sep-2016         16:00         2.1         WNW           19-Sep-2016         17:00         1.9         W           19-Sep-2016         19:00         1.8         WNW           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         20:00         1.6         WNW           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         5:00         1.4         SW           20-Sep-2016         5:00         1.4         SW           20-Sep-			r	1
19-Sep-2016         13:00         2.1         SSE           19-Sep-2016         14:00         2         ENE           19-Sep-2016         15:00         2.1         ENE           19-Sep-2016         16:00         2.1         WNW           19-Sep-2016         17:00         1.9         W           19-Sep-2016         18:00         1.9         W           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         21:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         23:00         1.6         WNW           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         WSW           20-Sep-2016         1:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         5:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-20	19-Sep-2016	11:00	2.5	NE
19-Sep-2016         14:00         2         ENE           19-Sep-2016         15:00         2.1         ENE           19-Sep-2016         16:00         2.1         WNW           19-Sep-2016         17:00         1.9         W           19-Sep-2016         18:00         1.9         W           19-Sep-2016         19:00         1.8         WNW           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         21:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         23:00         1.6         WNW           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2	19-Sep-2016	12:00	2.1	ENE
19-Sep-2016         15:00         2.1         ENE           19-Sep-2016         16:00         2.1         WNW           19-Sep-2016         17:00         1.9         W           19-Sep-2016         18:00         1.9         W           19-Sep-2016         19:00         1.8         WNW           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         21:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         23:00         1.6         WNW           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         WSW           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-	19-Sep-2016	13:00	2.1	SSE
19-Sep-2016         16:00         2.1         WNW           19-Sep-2016         17:00         1.9         W           19-Sep-2016         18:00         1.9         W           19-Sep-2016         19:00         1.8         WNW           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         21:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         23:00         1.6         W           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         W           20-Sep-2016         1:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         10:00         2.4         ESE           20-Sep-2016         10:00         2.4         ESE           20-Sep-2016	19-Sep-2016	14:00	2	ENE
19-Sep-2016         17:00         1.9         W           19-Sep-2016         18:00         1.9         W           19-Sep-2016         19:00         1.8         WNW           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         21:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         23:00         1.6         W           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         W           20-Sep-2016         1:00         1.6         WSW           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         10:00         2.2         E           20-Sep-2016         10:00         2.4         ESE           20-Sep-2016 <td>19-Sep-2016</td> <td>15:00</td> <td>2.1</td> <td>ENE</td>	19-Sep-2016	15:00	2.1	ENE
19-Sep-2016         18:00         1.9         W           19-Sep-2016         19:00         1.8         WNW           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         21:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         23:00         1.6         WNW           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         WSW           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         10:00         2.2         E           20-Sep-2016         10:00         2.2         E           20-Sep-2016         11:00         2.4         ESE           20-Sep-201	19-Sep-2016	16:00	2.1	WNW
19-Sep-2016         19:00         1.8         WNW           19-Sep-2016         20:00         1.6         SW           19-Sep-2016         21:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         23:00         1.6         WWW           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         W           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         10:00         2.2         E           20-Sep-2016         10:00         2.4         ESE           20-Sep-2016         13:00         2.5         E           20-Sep-2016	19-Sep-2016	17:00	1.9	W
19-Sep-2016         20:00         1.6         SW           19-Sep-2016         21:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         23:00         1.6         SW           19-Sep-2016         23:00         1.6         WNW           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         WSW           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         10:00         2.2         E           20-Sep-2016         10:00         2.2         E           20-Sep-2016         11:00         2.4         ESE           20-Sep-201	19-Sep-2016	18:00	1.9	W
19-Sep-2016         21:00         1.6         SW           19-Sep-2016         22:00         1.6         SW           19-Sep-2016         23:00         1.6         WNW           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         W           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         10:00         2.2         E           20-Sep-2016         10:00         2.4         ESE           20-Sep-2016         12:00         2.4         S           20-Sep-2016         15:00         2.2         SW           20-Sep-2016<	19-Sep-2016	19:00	1.8	WNW
19-Sep-2016         22:00         1.6         SW           19-Sep-2016         23:00         1.6         WNW           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         W           20-Sep-2016         1:00         1.6         W           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         10:00         2.2         E           20-Sep-2016         10:00         2.2         E           20-Sep-2016         11:00         2.4         ESE           20-Sep-2016         13:00         2.5         E           20-Sep-2016         15:00         2.2         SW           20-Sep-2016 <td>19-Sep-2016</td> <td>20:00</td> <td>1.6</td> <td>SW</td>	19-Sep-2016	20:00	1.6	SW
19-Sep-2016         23:00         1.6         WNW           20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         W           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         4:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         8:00         1.9         WNW           20-Sep-2016         10:00         2.2         E           20-Sep-2016         11:00         2.4         ESE           20-Sep-2016         13:00         2.5         E           20-Sep-2016         13:00         2.5         E           20-Sep-2016         14:00         2.4         S           20-Sep-2016         15:00         2.2         SSW           20-Sep-2016 </td <td>19-Sep-2016</td> <td>21:00</td> <td>1.6</td> <td>SW</td>	19-Sep-2016	21:00	1.6	SW
20-Sep-2016         0:00         1.6         W           20-Sep-2016         1:00         1.6         W           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         10:00         2.2         E           20-Sep-2016         10:00         2.2         E           20-Sep-2016         11:00         2.4         ESE           20-Sep-2016         13:00         2.5         E           20-Sep-2016         15:00         2.2         SSW           20-Sep-2016         16:00         2.2         W           20-Sep-2016         16:00         2.2         W           20-Sep-2016	19-Sep-2016	22:00	1.6	SW
20-Sep-2016         1:00         1.6         W           20-Sep-2016         2:00         1.6         WSW           20-Sep-2016         3:00         1.6         WSW           20-Sep-2016         4:00         1.6         WSW           20-Sep-2016         5:00         1.3         WSW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         6:00         1.4         SW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         7:00         1.6         WNW           20-Sep-2016         10:00         2.2         E           20-Sep-2016         10:00         2.2         E           20-Sep-2016         11:00         2.4         ESE           20-Sep-2016         13:00         2.5         E           20-Sep-2016         15:00         2.2         SSW           20-Sep-2016         15:00         2.2         W           20-Sep-2016         16:00         2.2         W           20-Sep-2016 <td>19-Sep-2016</td> <td>23:00</td> <td>1.6</td> <td>WNW</td>	19-Sep-2016	23:00	1.6	WNW
20-Sep-20162:001.6WSW20-Sep-20163:001.6WSW20-Sep-20164:001.6WSW20-Sep-20165:001.3WSW20-Sep-20166:001.4SW20-Sep-20167:001.6WNW20-Sep-20167:001.6WNW20-Sep-20168:001.9WNW20-Sep-201610:002.2E20-Sep-201611:002.4ESE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201613:002.5W20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201615:002.2SSW20-Sep-201615:002.2SSW20-Sep-201616:001.7SSW20-Sep-201618:001.7SSW20-Sep-201619:001.4W	20-Sep-2016	0:00	1.6	W
20-Sep-20163:001.6WSW20-Sep-20164:001.6WSW20-Sep-20165:001.3WSW20-Sep-20166:001.4SW20-Sep-20167:001.6WNW20-Sep-20168:001.9WNW20-Sep-20169:001.9ENE20-Sep-201610:002.2E20-Sep-201611:002.4ESE20-Sep-201612:002.4ENE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201615:002.2SSW20-Sep-201615:001.9W20-Sep-201615:002.2SSW20-Sep-201616:001.9W20-Sep-201615:002.2SSW20-Sep-201616:001.9W20-Sep-201616:001.7SSW20-Sep-201618:001.7SSW20-Sep-201620:001.4W	20-Sep-2016	1:00	1.6	W
20-Sep-20164:001.6WSW20-Sep-20165:001.3WSW20-Sep-20166:001.4SW20-Sep-20167:001.6WNW20-Sep-20168:001.9WNW20-Sep-20169:001.9ENE20-Sep-201610:002.2E20-Sep-201611:002.4ESE20-Sep-201612:002.4ENE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201615:002.2W20-Sep-201616:002.2W20-Sep-201616:001.9W20-Sep-201619:001.4W	20-Sep-2016	2:00	1.6	WSW
20-Sep-20165:001.3WSW20-Sep-20166:001.4SW20-Sep-20167:001.6WNW20-Sep-20168:001.9WNW20-Sep-20169:001.9ENE20-Sep-201610:002.2E20-Sep-201611:002.4ESE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201615:002.2SSW20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201615:002.2SSW20-Sep-201616:002.2W20-Sep-201615:001.9W20-Sep-201616:003.9SSW20-Sep-201619:001.7SSW20-Sep-201619:001.5SSW20-Sep-201619:001.4W	20-Sep-2016	3:00	1.6	WSW
20-Sep-20166:001.4SW20-Sep-20167:001.6WNW20-Sep-20168:001.9WNW20-Sep-20169:001.9ENE20-Sep-201610:002.2E20-Sep-201611:002.4ESE20-Sep-201612:002.4ENE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201615:002.2W20-Sep-201616:002.2W20-Sep-201616:001.9W20-Sep-201617:001.9W20-Sep-201618:001.7SSW20-Sep-201619:001.5SSW20-Sep-201620:001.4W	20-Sep-2016	4:00	1.6	WSW
20-Sep-20167:001.6WNW20-Sep-20168:001.9WNW20-Sep-20169:001.9ENE20-Sep-201610:002.2E20-Sep-201611:002.4ESE20-Sep-201612:002.4ENE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201615:002.2SSW20-Sep-201616:002.2W20-Sep-201616:002.2SSW20-Sep-201617:001.9W20-Sep-201618:001.7SSW20-Sep-201619:001.5SSW20-Sep-201619:001.4W	20-Sep-2016	5:00	1.3	WSW
20-Sep-20168:001.9WNW20-Sep-20169:001.9ENE20-Sep-201610:002.2E20-Sep-201611:002.4ESE20-Sep-201612:002.4ENE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201615:002.2W20-Sep-201616:002.2W20-Sep-201616:001.9W20-Sep-201617:001.9W20-Sep-201619:001.5SSW20-Sep-201619:001.4W	20-Sep-2016	6:00	1.4	SW
20-Sep-20169:001.9ENE20-Sep-201610:002.2E20-Sep-201611:002.4ESE20-Sep-201612:002.4ENE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201614:002.4S20-Sep-201615:002.2SSW20-Sep-201616:002.2W20-Sep-201616:001.9W20-Sep-201617:001.9W20-Sep-201618:001.7SSW20-Sep-201619:001.5SSW20-Sep-201619:001.4W	20-Sep-2016	7:00	1.6	WNW
20-Sep-201610:002.2E20-Sep-201611:002.4ESE20-Sep-201612:002.4ENE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201615:002.2SSW20-Sep-201616:002.2W20-Sep-201616:001.9W20-Sep-201617:001.9S20-Sep-201618:001.7SSW20-Sep-201619:001.5SSW	20-Sep-2016	8:00	1.9	WNW
20-Sep-201611:002.4ESE20-Sep-201612:002.4ENE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201615:002.2SSW20-Sep-201616:002.2W20-Sep-201616:001.9W20-Sep-201617:001.9S20-Sep-201618:001.7SSW20-Sep-201619:001.5SSW	20-Sep-2016	9:00	1.9	ENE
20-Sep-201612:002.4ENE20-Sep-201613:002.5E20-Sep-201614:002.4S20-Sep-201615:002.2SSW20-Sep-201616:002.2W20-Sep-201617:001.9W20-Sep-201618:001.7SSW20-Sep-201619:001.5SSW	20-Sep-2016	10:00	2.2	E
20-Sep-2016         13:00         2.5         E           20-Sep-2016         14:00         2.4         S           20-Sep-2016         15:00         2.2         SSW           20-Sep-2016         16:00         2.2         W           20-Sep-2016         16:00         2.2         W           20-Sep-2016         16:00         1.9         W           20-Sep-2016         17:00         1.9         W           20-Sep-2016         18:00         1.7         SSW           20-Sep-2016         19:00         1.5         SSW           20-Sep-2016         19:00         1.4         W	20-Sep-2016	11:00	2.4	ESE
20-Sep-2016         14:00         2.4         S           20-Sep-2016         15:00         2.2         SSW           20-Sep-2016         16:00         2.2         W           20-Sep-2016         16:00         2.2         W           20-Sep-2016         17:00         1.9         W           20-Sep-2016         18:00         1.7         SSW           20-Sep-2016         19:00         1.5         SSW           20-Sep-2016         19:00         1.4         W	20-Sep-2016	12:00	2.4	ENE
20-Sep-2016         15:00         2.2         SSW           20-Sep-2016         16:00         2.2         W           20-Sep-2016         17:00         1.9         W           20-Sep-2016         18:00         1.7         SSW           20-Sep-2016         19:00         1.5         SSW           20-Sep-2016         19:00         1.4         W	20-Sep-2016	13:00	2.5	E
20-Sep-2016         16:00         2.2         W           20-Sep-2016         17:00         1.9         W           20-Sep-2016         18:00         1.7         SSW           20-Sep-2016         19:00         1.5         SSW           20-Sep-2016         20:00         1.4         W	20-Sep-2016	14:00	2.4	S
20-Sep-2016         17:00         1.9         W           20-Sep-2016         18:00         1.7         SSW           20-Sep-2016         19:00         1.5         SSW           20-Sep-2016         20:00         1.4         W	20-Sep-2016	15:00	2.2	SSW
20-Sep-2016         18:00         1.7         SSW           20-Sep-2016         19:00         1.5         SSW           20-Sep-2016         20:00         1.4         W	20-Sep-2016	16:00	2.2	W
20-Sep-2016         19:00         1.5         SSW           20-Sep-2016         20:00         1.4         W	20-Sep-2016	17:00	1.9	W
20-Sep-2016 20:00 1.4 W	20-Sep-2016	18:00	1.7	SSW
	20-Sep-2016	19:00	1.5	SSW
	20-Sep-2016	20:00	1.4	W
20-Sep-2016 21:00 1.5 W	20-Sep-2016	21:00	1.5	W
20-Sep-2016 22:00 1.5 W	20-Sep-2016	22:00	1.5	W
20-Sep-2016 23:00 1.6 W	20-Sep-2016	23:00	1.6	W

21-Sep-2016	0:00	1.5	W
21-Sep-2016	1:00	1.3	W
21-Sep-2016	2:00	1.3	SW
21-Sep-2016	3:00	1.6	SSW
21-Sep-2016	4:00	1.6	SW
21-Sep-2016	5:00	1.5	WNW
21-Sep-2016	6:00	1.2	WNW
21-Sep-2016	7:00	1.2	ENE
21-Sep-2016	8:00	1.3	ENE
21-Sep-2016	9:00	1.7	ENE
21-Sep-2016	10:00	1.7	E
21-Sep-2016	11:00	1.9	E
21-Sep-2016	12:00	2.2	ENE
21-Sep-2016	13:00	2.2	NE
21-Sep-2016	14:00	2.1	NE
21-Sep-2016	15:00	2	ENE
21-Sep-2016	16:00	1.9	NE
21-Sep-2016	17:00	2	ENE
21-Sep-2016	18:00	1.6	NE
21-Sep-2016	19:00	1.6	ENE
21-Sep-2016	20:00	1.4	NNE
21-Sep-2016	21:00	1.5	NNE
21-Sep-2016	22:00	1.4	S
21-Sep-2016	23:00	1.5	NW
22-Sep-2016	0:00	1.7	NNE
22-Sep-2016	1:00	1.6	N
22-Sep-2016	2:00	1.5	N
22-Sep-2016	3:00	1.4	SSE
22-Sep-2016	4:00	1.4	SSW
22-Sep-2016	5:00	1.6	SW
22-Sep-2016	6:00	1.5	WSW
22-Sep-2016	7:00	1.7	ENE
22-Sep-2016	8:00	1.8	ENE
22-Sep-2016	9:00	1.8	WSW
22-Sep-2016	10:00	2	SW
22-Sep-2016	11:00	1.9	SW
22-Sep-2016	12:00	2.2	SE

22-Sep-2016	13:00	2.1	ENE
22-Sep-2016	14:00	2.3	SE
22-Sep-2016	15:00	2.1	S
22-Sep-2016	16:00	2.2	SW
22-Sep-2016	17:00	2	NE
22-Sep-2016	18:00	1.7	NE
22-Sep-2016	19:00	1.7	SW
22-Sep-2016	20:00	1.7	SW
22-Sep-2016	21:00	1.6	SSE
22-Sep-2016	22:00	1.5	SE
22-Sep-2016	23:00	1.6	SE
23-Sep-2016	0:00	1.5	SSE
23-Sep-2016	1:00	1.4	E
23-Sep-2016	2:00	1.3	ENE
23-Sep-2016	3:00	1.3	NNE
23-Sep-2016	4:00	1.3	SE
23-Sep-2016	5:00	1.3	ENE
23-Sep-2016	6:00	1.4	ESE
23-Sep-2016	7:00	2.1	SE
23-Sep-2016	8:00	2.3	ESE
23-Sep-2016	9:00	2.5	NE
23-Sep-2016	10:00	2.9	NNE
23-Sep-2016	11:00	2.5	NNE
23-Sep-2016	12:00	2.5	SE
23-Sep-2016	13:00	3	ENE
23-Sep-2016	14:00	2.7	E
23-Sep-2016	15:00	2.7	NE
23-Sep-2016	16:00	2.9	NE
23-Sep-2016	17:00	2.7	E
23-Sep-2016	18:00	2.5	ESE
23-Sep-2016	19:00	2.3	ESE
23-Sep-2016	20:00	2.4	ENE
23-Sep-2016	21:00	2.5	E
23-Sep-2016	22:00	2.6	E
23-Sep-2016	23:00	2.5	N
24-Sep-2016	0:00	2.6	ENE
24-Sep-2016	1:00	2.6	NE
		•	

	7		
24-Sep-2016	2:00	2.3	ENE
24-Sep-2016	3:00	2.4	NNE
24-Sep-2016	4:00	2.3	NE
24-Sep-2016	5:00	2.8	NE
24-Sep-2016	6:00	2.6	N
24-Sep-2016	7:00	2.6	ENE
24-Sep-2016	8:00	2.5	NE
24-Sep-2016	9:00	2.7	NE
24-Sep-2016	10:00	2.2	ENE
24-Sep-2016	11:00	2.4	ENE
24-Sep-2016	12:00	2.6	ENE
24-Sep-2016	13:00	3	ENE
24-Sep-2016	14:00	3	NNE
24-Sep-2016	15:00	2.4	NE
24-Sep-2016	16:00	2.3	N
24-Sep-2016	17:00	2.1	ENE
24-Sep-2016	18:00	1.9	ENE
24-Sep-2016	19:00	1.9	ENE
24-Sep-2016	20:00	1.6	E
24-Sep-2016	21:00	1.9	SSE
24-Sep-2016	22:00	1.8	ESE
24-Sep-2016	23:00	2.2	ESE
25-Sep-2016	0:00	2.2	ENE
25-Sep-2016	1:00	1.8	ENE
25-Sep-2016	2:00	1.8	NE
25-Sep-2016	3:00	1.7	NNE
25-Sep-2016	4:00	1.7	N
25-Sep-2016	5:00	1.9	N
25-Sep-2016	6:00	1.8	ENE
25-Sep-2016	7:00	1.4	ENE
25-Sep-2016	8:00	1.5	NNE
25-Sep-2016	9:00	1.9	NNE
25-Sep-2016	10:00	2.6	ENE
25-Sep-2016	11:00	2.8	ENE
25-Sep-2016	12:00	2.7	SSE
25-Sep-2016	13:00	2.8	NNE
25-Sep-2016	14:00	2.8	NNE

25-Sep-2016	15:00	2.7	NNE
25-Sep-2016	16:00	2.5	N
25-Sep-2016	17:00	2	ENE
25-Sep-2016	18:00	1.7	ENE
25-Sep-2016	19:00	1.4	ENE
25-Sep-2016	20:00	1.4	ENE
25-Sep-2016	21:00	1.3	ENE
25-Sep-2016	22:00	1.3	NE
25-Sep-2016	23:00	1.3	NE
26-Sep-2016	0:00	1.3	E
26-Sep-2016	1:00	1.3	E
26-Sep-2016	2:00	1.3	NE
26-Sep-2016	3:00	1.4	WSW
26-Sep-2016	4:00	1.4	SSW
26-Sep-2016	5:00	1.3	SSW
26-Sep-2016	6:00	1.1	WNW
26-Sep-2016	7:00	1.1	WNW
26-Sep-2016	8:00	1.4	ENE
26-Sep-2016	9:00	1.6	ENE
26-Sep-2016	10:00	1.6	ENE
26-Sep-2016	11:00	1.9	NNE
26-Sep-2016	12:00	2.2	NNE
26-Sep-2016	13:00	2.4	N
26-Sep-2016	14:00	2	NE
26-Sep-2016	15:00	2	ENE
26-Sep-2016	16:00	2.3	ENE
26-Sep-2016	17:00	2.1	NE
26-Sep-2016	18:00	1.6	NE
26-Sep-2016	19:00	1.3	SSE
26-Sep-2016	20:00	1.2	SSW
26-Sep-2016	21:00	1.4	WNW
26-Sep-2016	22:00	1.3	W
26-Sep-2016	23:00	1.4	W
27-Sep-2016	0:00	1.3	W
27-Sep-2016	1:00	1.2	W
27-Sep-2016	2:00	1.1	WNW
27-Sep-2016	3:00	1.2	W

27-Sep-2016	4:00	1.2	SW
27-Sep-2016	5:00	1.1	W
27-Sep-2016	6:00	1.2	WNW
27-Sep-2016	7:00	1.1	WSW
27-Sep-2016	8:00	1.5	WSW
27-Sep-2016	9:00	1.9	W
27-Sep-2016	10:00	1.9	NNW
27-Sep-2016	11:00	2.2	WSW
27-Sep-2016	12:00	2.4	SW
27-Sep-2016	13:00	2.5	NNE
27-Sep-2016	14:00	2.4	NE
27-Sep-2016	15:00	2.4	NE
27-Sep-2016	16:00	2.3	NE
27-Sep-2016	17:00	2	NE
27-Sep-2016	18:00	2	ENE
27-Sep-2016	19:00	1.8	E
27-Sep-2016	20:00	1.8	WSW
27-Sep-2016	21:00	2	ESE
27-Sep-2016	22:00	1.9	ESE
27-Sep-2016	23:00	1.9	E
28-Sep-2016	0:00	1.9	N
28-Sep-2016	1:00	1.7	ESE
28-Sep-2016	2:00	1.6	ESE
28-Sep-2016	3:00	1.8	ESE
28-Sep-2016	4:00	1.7	NE
28-Sep-2016	5:00	1.7	W
28-Sep-2016	6:00	1.6	W
28-Sep-2016	7:00	1.7	WNW
28-Sep-2016	8:00	2	W
28-Sep-2016	9:00	2	NE
28-Sep-2016	10:00	2.4	W
28-Sep-2016	11:00	2.5	W
28-Sep-2016	12:00	2.8	NE
28-Sep-2016	13:00	2.6	WNW
28-Sep-2016	14:00	2.6	WNW
28-Sep-2016	15:00	2.4	WNW
28-Sep-2016	16:00	2.2	ENE

28-Sep-2016 28-Sep-2016	17:00	2.4	SE
28-Sen-2016			
20-0ep-2010	18:00	2.1	S
28-Sep-2016	19:00	1.8	SSW
28-Sep-2016	20:00	1.6	SSW
28-Sep-2016	21:00	1.6	SE
28-Sep-2016	22:00	1.7	NE
28-Sep-2016	23:00	1.7	NE
29-Sep-2016	0:00	1.7	NE
29-Sep-2016	1:00	2	NE
29-Sep-2016	2:00	2.3	ESE
29-Sep-2016	3:00	2.2	NE
29-Sep-2016	4:00	2.3	E
29-Sep-2016	5:00	2.4	ESE
29-Sep-2016	6:00	2.4	W
29-Sep-2016	7:00	2.3	SE
29-Sep-2016	8:00	2.5	E
29-Sep-2016	9:00	2.4	E
29-Sep-2016	10:00	2.8	ESE
29-Sep-2016	11:00	2.9	ESE
29-Sep-2016	12:00	3	N
29-Sep-2016	13:00	3	NNE
29-Sep-2016	14:00	2.9	NE
29-Sep-2016	15:00	2.9	ESE
29-Sep-2016	16:00	2.7	SE
29-Sep-2016	17:00	2.5	E
29-Sep-2016	18:00	2	ENE
29-Sep-2016	19:00	2	NE
29-Sep-2016	20:00	2.2	NE
29-Sep-2016	21:00	1.9	NE
29-Sep-2016	22:00	2	S
29-Sep-2016	23:00	2.1	S
30-Sep-2016	0:00	2	NW
30-Sep-2016	1:00	1.7	N
30-Sep-2016	2:00	1.8	N
30-Sep-2016	3:00	1.6	ESE
30-Sep-2016	4:00	1.5	E
30-Sep-2016	5:00	1.5	NNE

6:00	1.5	NE
7:00	1.5	NE
8:00	1.7	NE
9:00	2	Ν
10:00	2.2	WNW
11:00	2.5	WNW
12:00	2.6	Ν
13:00	2.5	E
14:00	2.6	SE
15:00	2.6	ESE
16:00	2.2	E
17:00	1.9	E
18:00	1.7	NE
19:00	1.6	NNE
20:00	1.8	SSE
21:00	1.5	SE
22:00	1.5	SE
23:00	1.9	SE
	7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00	7:001.58:001.79:00210:002.211:002.512:002.613:002.514:002.615:002.616:002.217:001.918:001.719:001.620:001.821:001.522:001.5

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 September 2016

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Č.		ž	ž	1-Sep	2-Sep	3-Sep
				Noise		
				(M6(A) and M7)		
4-Sep	5-Sep	6-Sep	7-Sep	8-Sep	9-Sep	10-Sep
	Noise (M9) 24 hr TSP	1 hr TSP X3 AM2, AM3(A), AM4(A) & AM5(A) Noise (M8)	Noise (M6(A) and M7)		24 hr TSP	
11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep
	1 hr TSP X3 AM2, AM3(A), AM4(A) & AM5(A) Noise (M8)	Noise (M6(A) and M7)	Noise (M9)	1 hr TSP X3 AM2, AM3(A), AM4(A) & AM5(A)		
	19-Sep	20-Sep	24 hr TSP 21-Sep	22-Sep	23-Sep	24-Sep
1050	1750	Noise (M9) 24 hr TSP	1 hr TSP X3 AM2, AM3(A), AM4(A) & AM5(A) Noise (M8)	22.500	Noise (M6(A) and M7)	24.04
25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep	
	Noise (M9) 24 hr TSP	1 hr TSP X3 AM2, AM3(A), AM4(A) & AM5(A) Noise (M8)	Noise (M6(A) 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(A) - Oblate Primary School M7 - CCC Kei To Secondary School M8 - Po Leung Kuk Ngan Po Ling College M9 - Tak Long Estate

#### Contract No. KL/2012/03 Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area Tentative Impact Air and Noise Monitoring Schedule for October 2016

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Sunday	Monday	i uestuty	Weallesduy	Thursday	Thuy	1-Oct
2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	8-Oct
	1 hr TSP X3				1 hr TSP X3	
					AM2, AM3(A), AM4(A) &	
	AM2, AM3(A), AM4(A) & AM5(A)		Noise		AM5(A)	
	Noise		(M6(A),			
	(M8)		M7, M9)			
	()			24 hr TSP		
9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct
			Noise	1 hr TSP X3		
			(M6(A), M7)	AM2, AM3(A), AM4(A) &		
				AM5(A)		
		Noise		Noise		
		(M9)	24 h. TSD	(M8)		
	17-Oct	18-Oct	24 hr TSP 19-Oct	20-Oct	21-Oct	22-Oct
10 000	17 000	10 000	17 000	20 000	21 000	
		Noise	1 hr TSP X3			
			AM2, AM3(A), AM4(A) &			
		(M6(A) and M7)	AM5(A)			
			Noise	Noise		
			(M8)	(M9)		
	21.0	24 hr TSP		27.0		22.0
23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct
		1 hr TSP X3			Noise	
		AM2, AM3(A), AM4(A) &			10150	
		AM5(A)			(M6(A) and M7)	
		Noise	Noise			
		(M8)	(M9)			
	24 hr TSP				24 hr TSP	
30-Oct	31-Oct					
	1 hr TSP X3					
	AM2, AM3(A), AM4(A) & AM5(A)					
	Noise					
	(M8)					
	()					

The schedule may be changed due to unforeseen circumstances (adverse weather, etc) \*Remarks: Noise monitoring at station M6(A) on 23 September 2016 was cancelled due to closure of the facility.

#### 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(A) - Oblate Primary School M7 - CCC Kei To Secondary School M8 - Po Leung Kuk Ngan Po Ling College M9 - Tak Long Estate

APPENDIX E 1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

# Appendix E - 1-hour TSP Monitoring Results

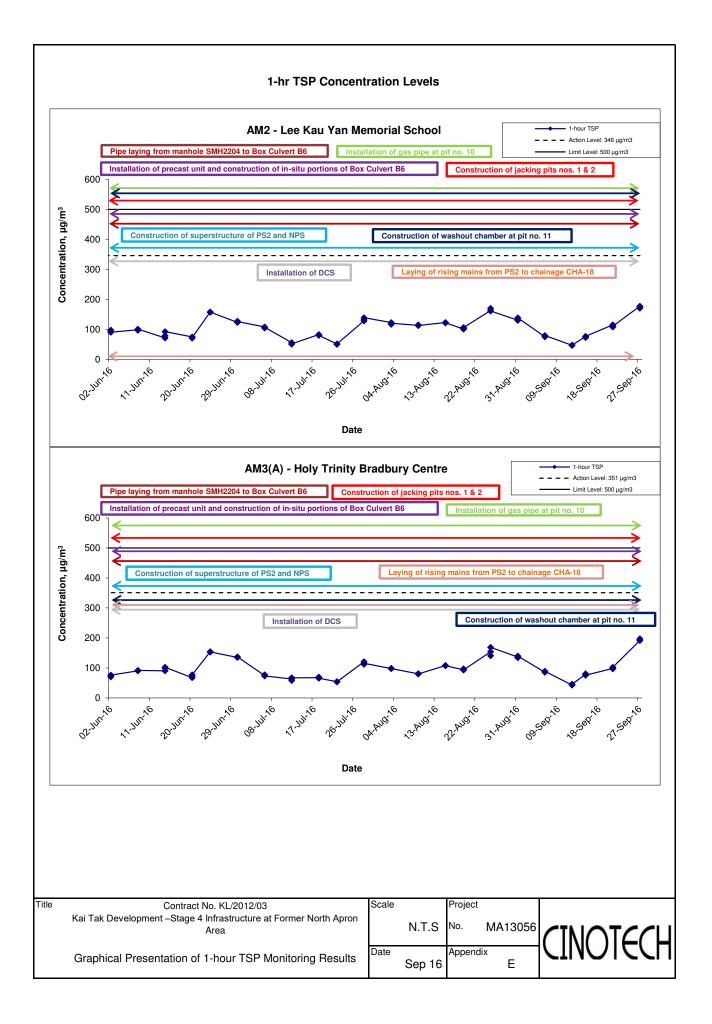
Date	Time	Weather	Particulate Concentration ( µg/m3)
6-Sep-16	13:00	Cloudy	75.6
6-Sep-16	14:00	Cloudy	78.5
6-Sep-16	15:00	Cloudy	79.9
12-Sep-16	13:00	Sunny	46.9
12-Sep-16	14:00	Sunny	47.6
12-Sep-16	15:00	Sunny	48.0
15-Sep-16	9:00	Cloudy	75.7
15-Sep-16	10:00	Cloudy	73.2
15-Sep-16	11:00	Cloudy	77.0
21-Sep-16	8:30	Sunny	115.1
21-Sep-16	9:30	Sunny	108.0
21-Sep-16	10:30	Sunny	110.7
27-Sep-16	13:00	Sunny	177.3
27-Sep-16	14:00	Sunny	170.9
27-Sep-16	15:00	Sunny	175.7
	_	Average	97.3
		Maximum	177.3
		Minimum	46.9

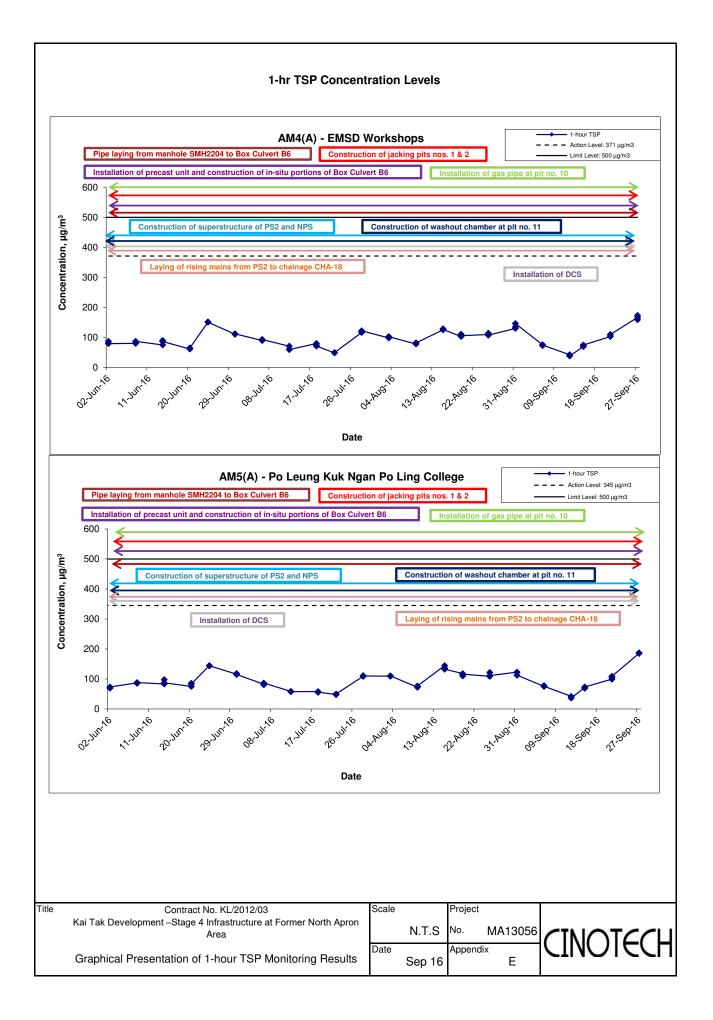
Location AM3(A)	Location AM3(A) - Holy Trinity Bradbury Centre											
Date	Time	Weather	Particulate Concentration ( µg/m3)									
6-Sep-16	9:00	Rainy	85.6									
6-Sep-16	10:00	Rainy	87.7									
6-Sep-16	11:00	Rainy	88.9									
12-Sep-16	8:30	Sunny	42.9									
12-Sep-16	9:30	Sunny	44.1									
12-Sep-16	10:30	Sunny	45.7									
15-Sep-16	13:00	Cloudy	78.8									
15-Sep-16	14:00	Cloudy	80.6									
15-Sep-16	15:00	Cloudy	75.5									
21-Sep-16	8:00	Sunny	98.6									
21-Sep-16	9:00	Sunny	96.8									
21-Sep-16	10:00	Sunny	102.0									
27-Sep-16	9:00	Sunny	191.6									
27-Sep-16	10:00	Sunny	197.2									
27-Sep-16	11:00	Sunny	196.0									
		Average	100.8									
		Maximum	197.2									
		Minimum	42.9									

# Appendix E - 1-hour TSP Monitoring Results

Date	Time	Weather	Particulate Concentration ( µg/m3)
6-Sep-16	13:00	Cloudy	75.0
6-Sep-16	14:00	Cloudy	72.2
6-Sep-16	15:00	Cloudy	74.0
12-Sep-16	9:00	Sunny	41.9
12-Sep-16	10:00	Sunny	40.7
12-Sep-16	11:00	Sunny	37.6
15-Sep-16	13:00	Cloudy	69.1
15-Sep-16	14:00	Cloudy	73.4
15-Sep-16	15:00	Cloudy	74.2
21-Sep-16	13:00	Sunny	102.8
21-Sep-16	14:00	Sunny	107.7
21-Sep-16	15:00	Sunny	109.1
27-Sep-16	13:00	Sunny	166.4
27-Sep-16	14:00	Sunny	172.8
27-Sep-16	15:00	Sunny	158.4
		Average	91.7
		Maximum	172.8
		Minimum	37.6

Location AM5(A	l) - Po Leung	g Kuk Ngan Po Lii	ng College
Date	Time	Weather	Particulate Concentration ( $\mu$ g/m3)
6-Sep-16	13:15	Cloudy	75.1
6-Sep-16	14:15	Cloudy	78.0
6-Sep-16	15:15	Cloudy	75.8
12-Sep-16	13:00	Sunny	42.1
12-Sep-16	14:00	Sunny	37.0
12-Sep-16	15:00	Sunny	36.6
15-Sep-16	9:00	Cloudy	71.6
15-Sep-16	10:00	Cloudy	69.1
15-Sep-16	11:00	Cloudy	73.2
21-Sep-16	8:30	Sunny	99.5
21-Sep-16	9:30	Sunny	106.1
21-Sep-16	10:30	Sunny	108.8
27-Sep-16	14:00	Sunny	185.3
27-Sep-16	15:00	Sunny	186.0
27-Sep-16	16:00	Sunny	187.1
		Average	95.4
		Maximum	187.1
		Minimum	36.6





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.
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> )
5-Sep-16	Cloudy	301.4	757.1	3.5937	3.6393	0.0456	16963.1	16987.1	24.0	1.21	1.21	1.21	1741.2	26.2
9-Sep-16	Cloudy	301.4	758.5	3.6111	3.6537	0.0426	16987.1	17011.1	24.0	1.21	1.21	1.21	1742.7	24.4
14-Sep-16	Cloudy	302.2	756.3	3.5671	3.6535	0.0864	17011.1	17035.1	24.0	1.21	1.21	1.21	1738.1	49.7
20-Sep-16	Cloudy	302.7	756.6	3.6430	3.7464	0.1034	17035.1	17059.1	24.0	1.21	1.21	1.21	1737.0	59.5
26-Sep-16	Cloudy	302.5	758.5	3.3217	3.5354	0.2137	17059.1	17083.1	24.0	1.21	1.21	1.21	1747.4	122.3
30-Sep-16	Sunny	300.5	757.3	3.2474	3.4070	0.1596	17090.0	17114.0	24.0	1.22	1.22	1.22	1751.7	91.1
													Min	24.4
													Max	122.3
													Average	62.2

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

Start Date	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m <sup>3</sup> /min.)	Av. flow	Total vol.	Conc.
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> )	$(\mu g/m^3)$
5-Sep-16	Cloudy	300.4	756.8	3.5493	3.5879	0.0386	9566.9	9590.9	24.0	1.22	1.22	1.22	1750.8	22.0
9-Sep-16	Cloudy	300.4	759.6	3.5797	3.6658	0.0861	9590.9	9614.9	24.0	1.22	1.22	1.22	1753.7	49.1
14-Sep-16	Cloudy	303.4	757.1	3.5786	3.6350	0.0564	9614.9	9638.9	24.0	1.21	1.21	1.21	1743.1	32.4
20-Sep-16	Cloudy	302.0	756.5	3.6285	3.7198	0.0913	9638.9	9662.9	24.0	1.21	1.21	1.21	1746.2	52.3
26-Sep-16	Cloudy	302.8	758.0	3.2668	3.4426	0.1758	9662.9	9686.9	24.0	1.22	1.22	1.22	1761.8	99.8
30-Sep-16	Sunny	299.8	758.7	3.2878	3.4016	0.1138	9686.9	9710.9	24.0	1.23	1.23	1.23	1770.7	64.3
													Min	22.0
													Max	99.8

Average 53.3

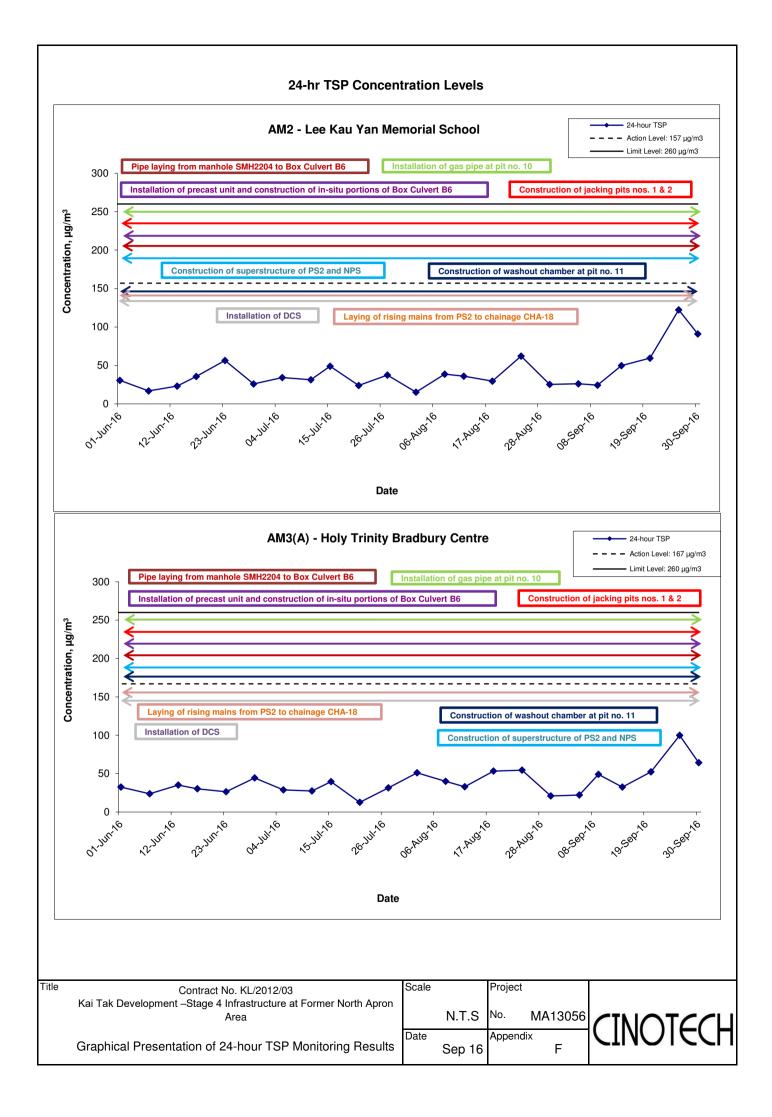
#### Location AM4(A) - EMSD Workshops

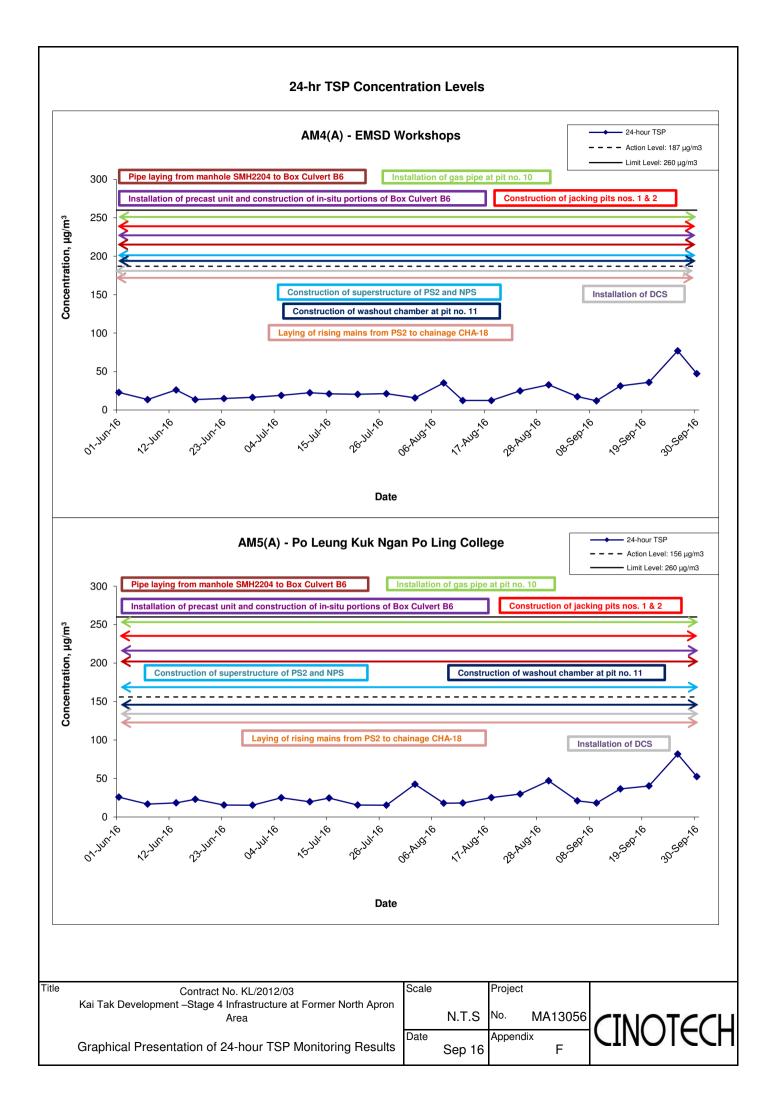
Start Date	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	e (m³/min.)	Av. flow	Total vol.	Conc.
Start Date	Condition	Temp. (K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	$(\mu g/m^3)$
5-Sep-16	Cloudy	301.7	756.3	3.5792	3.6099	0.0307	792.0	816.0	24.0	1.21	1.21	1.21	1747.7	17.6
9-Sep-16	Cloudy	301.4	759.1	3.5861	3.6070	0.0209	816.0	840.0	24.0	1.22	1.22	1.22	1751.7	11.9
14-Sep-16	Cloudy	302.8	755.6	3.5965	3.6513	0.0548	840.0	864.0	24.0	1.21	1.21	1.21	1743.8	31.4
20-Sep-16	Cloudy	302.4	755.7	3.6236	3.6864	0.0628	864.0	888.0	24.0	1.21	1.21	1.21	1745.1	36.0
26-Sep-16	Cloudy	301.9	757.5	3.2751	3.4106	0.1355	888.0	912.0	24.0	1.22	1.22	1.22	1756.2	77.2
30-Sep-16	Sunny	300.4	757.4	3.2814	3.3649	0.0835	912.0	936.0	24.0	1.22	1.22	1.22	1760.3	47.4
													Min	11.9
													Max	77.2
													Average	36.9

#### 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.
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> )	$(\mu g/m^3)$
5-Sep-16	Cloudy	301.6	757.4	3.6044	3.6411	0.0367	2139.0	2163.0	24.0	1.22	1.22	1.22	1757.7	20.9
9-Sep-16	Cloudy	301.0	758.6	3.5539	3.5859	0.0320	2163.0	2187.0	24.0	1.22	1.22	1.22	1760.8	18.2
14-Sep-16	Cloudy	301.7	756.2	3.5581	3.6222	0.0641	2187.0	2211.0	24.0	1.22	1.22	1.22	1756.1	36.5
20-Sep-16	Cloudy	301.8	756.1	3.5984	3.669	0.0706	2211.0	2235.0	24.0	1.22	1.22	1.22	1755.7	40.2
26-Sep-16	Cloudy	302.2	758.3	3.2723	3.4153	0.1430	2235.0	2259.0	24.0	1.21	1.21	1.21	1749.2	81.8
30-Sep-16	Sunny	299.5	758.6	3.3117	3.4039	0.0922	2259.0	2283.0	24.0	1.22	1.22	1.22	1756.6	52.5
													Min	18.2
													Max	Q1 Q

Max 81.8 Average 41.7





APPENDIX G NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

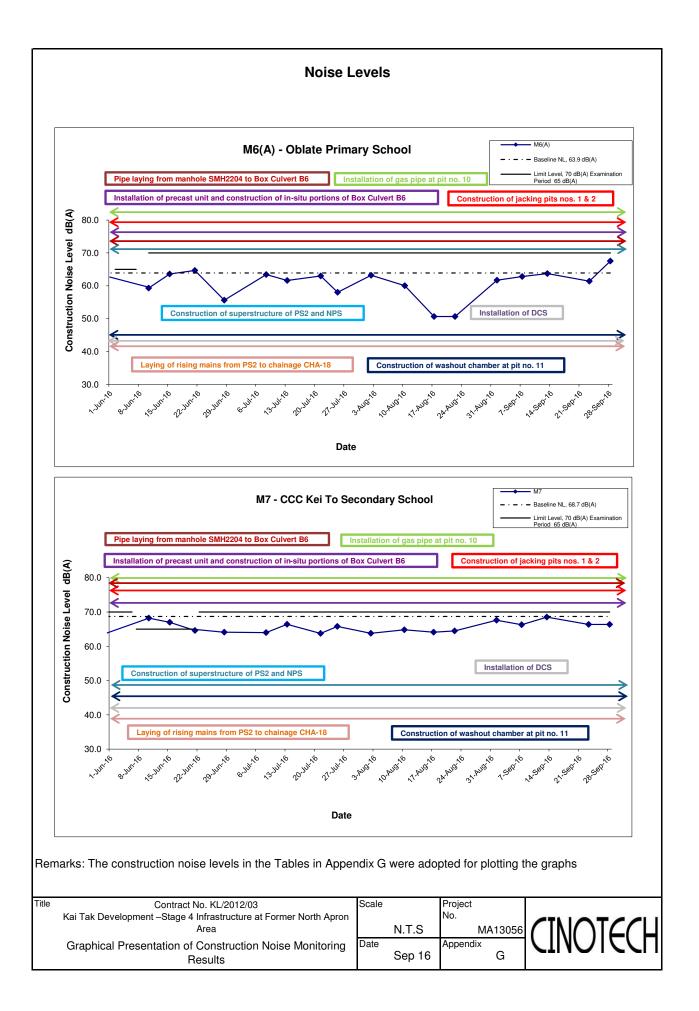
#### Appendix G - Noise Monitoring Results

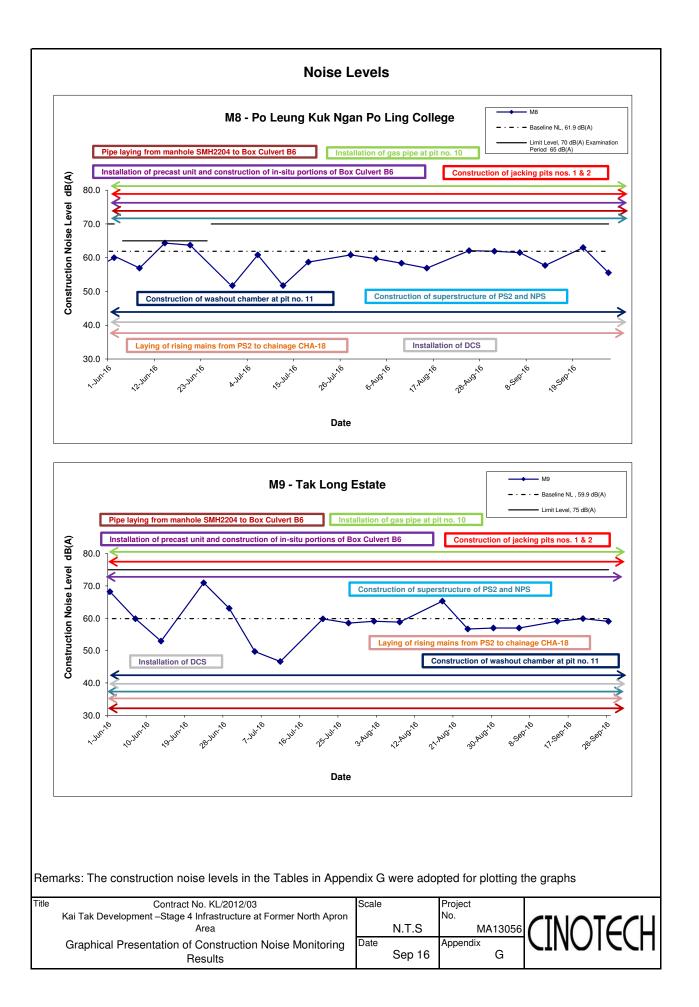
Location M6(	A) - Oblate P	rimary Schoo								
			Unit: dB (A) (30-min)							
Date	Time	Weather	Meas	sured Noise	Level	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>			
1-Sep-16	13:45	Cloudy	61.7	63.2	60.0		61.7 Measured $\leq$ Baseline			
7-Sep-16	11:00	Cloudy	62.8	63.0	60.4		62.8 Measured $\leq$ Baseline			
13-Sep-16	9:50	Cloudy	63.7	65.8	62.1	63.9	63.7 Measured $\leq$ Baseline			
23-Sep-16	9:05	Cloudy	61.4	62.8	59.3		61.4 Measured $\leq$ Baseline			
28-Sep-16	10:00	Cloudy	69.1	71.9	62.3		67.5			

Location M7 -	CCC Kei To	Secondary S	school							
			Unit: dB (A) (30-min)							
Date	Time	Weather	Meas	sured Noise	Level	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>	L <sub>eq</sub>			
1-Sep-16	13:00	Cloudy	67.6	71.5	61.4		67.6 Measured $\leq$ Baseline			
7-Sep-16	10:00	Cloudy	66.3	68.6	62.5		66.3 Measured $\leq$ Baseline			
13-Sep-16	11:00	Cloudy	68.5	70.4	64.2	68.7	68.5 Measured $\leq$ Baseline			
23-Sep-16	9:00	Sunny	70.7	73.0	65.4		66.4			
28-Sep-16	10:45	Cloudy	70.7	72.6	64.6		66.4			

Location M8 - Po Leung Kuk Ngan Po Ling College										
			Unit: dB (A) (30-min)							
Date	Time	Weather	Meas	sured Noise	Level	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>			
6-Sep-16	13:20	Cloudy	61.5	64.5	57.5		61.5 Measured $\leq$ Baseline			
12-Sep-16	14:00	Sunny	63.3	65.1	59.7	61.9	57.7			
21-Sep-16	8:00	Sunny	65.5	67.0	58.2	01.9	63.0			
27-Sep-16	14:30	Sunny	62.8	63.9	61.3		55.5			

Location M9 - Tak Long Estate										
			Unit: dB (A) (30-min)							
Date	Time	Weather	Meas	sured Noise	Level	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>			
5-Sep-16	13:30	Cloudy	61.7	62.7	59.9		57.0			
14-Sep-16	9:00	Sunny	59.1	60.2	58.0	59.9	59.1 Measured $\leq$ Baseline			
20-Sep-16	9:30	Cloudy	59.9	61.6	58.0	53.5	59.9 Measured $\leq$ Baseline			
26-Sep-16	9:40	Cloudy	62.5	63.8	61.1		57.0			





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-337/2009 - New Distributor Roads serving the Planned Kai Tak Development

#### Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	160902
Date	2 September 2016
Time	10:00 - 11:30

		Related
Ref. No.	Non-Compliance	Item No.
-	None identified	-
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
160902-002	• Muddy sand water at the entrance near Road L6 should be cleared to prevent muddy	
	runoff outside site boundary.	B 8
	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	
160902-001	Chemical/ Oil container should be disposed properly.	E 2ii
	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.: 160826), all environmental	
	deficiencies were observed rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Carrie Leung	Camie	5 September 2016
Checked by	Dr. Priscilla Choy	w.T.	5 September 2016

Checklist Reference Number	160909
Date	9 September 2016
Time	14:00 – 16:00

D. C. N.	New Complement	Related Item No.
Ref. No.	Non-Compliance	Hem 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.: 160902), all environmental deficiencies were observed rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Carrie Leung	Coe	9 September 2016
Checked by	Dr. Priscilla Choy	h L	9 September 2016

Checklist Reference Number	160914	
Date	14 September 2016	
Time	10:00 - 12:00	

		Related Item No.
Ref. No.	Non-Compliance	Item 140.
-	None identified	
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
160914-002	• Stockpile of dusty material should be covered by impervious material near PS2.	C 7
	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.: 160909), no major environmental deficiencies were observed during the site inspection.	

	Name	Signature	Date
Recorded by	Carrie Leung	Quie	14 September 2016
Checked by	Dr. Priscilla Choy	NIA	14 September 2016

Checklist Reference Number	160921
Date	21 September 2016
Time	14:00 - 17:00

		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.: 160914), all environmental deficiencies were observed rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Carrie Leung	Ceie	21 September 2016
Checked by	Dr. Priscilla Choy	Willo	21 September 2016

Checklist Reference Number	160930
Date	30 September 2016
Time	10:00 - 12:00

		Related
Ref. No.	Non-Compliance	Item No.
-	None identified	-
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
160930-001	Silt and sediment inside sediment tank should be cleared regularly.	B 3iv
	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.: 160921), all environmental deficiencies were observed rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Carrie Leung	aire	30 September 2016
Checked by	Dr. Priscilla Choy	Nif	30 September 2016
		/	

Checklist Reference Number	160902
Date	2 September 2016
Time	10:00 - 11:30

Ref. No.	Non Compliance	Related
Kel. NO.	Non-Compliance None identified	Item No
-	INORE Identified	-
D.C.N.		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.: 160826), no major environmental	
	deficiencies were observed during the site inspection.	

	Name	Signature	Date
Recorded by	Carrie Leung	Cone	5 September 2016
Checked by	Dr. Priscilla Choy	- http://www.	5 September 2016
		/	

Checklist Reference Number	160909
Date	9 September 2016
Time	14:00 - 16:00

Ref. No.	Non-Compliance	Related Item No.
	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
160909-R01	• Properly clear the broken sandbags and replace the new ones near the drainage at L19.	B 16
	C. Air Quality	·
160909-R02	• The stockpiles of dusty materials should be covered by impervious material to prevent the dust emission at L19.	C 7
	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.: 160902), no major environmental deficiencies were observed during the site inspection.	

	Name	Signature	Date
Recorded by	Carrie Leung	(añe	9 September 2016
Checked by	Dr. Priscilla Choy	- wh	9 September 2016
<b></b>		7	

Checklist Reference Number	160914	
Date	14 September 2016	
Time	10:00 - 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.: 160909), all environmental deficiencies	
	were observed rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Carrie Leung	a co	14 September 2016
Checked by	Dr. Priscilla Choy	NA	14 September 2016

Checklist Reference Number	160921
Date	21 September 2016
Time	14:00 17:00

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	
160921-R01	• Contractor was reminded to dispose general refuse in the container regularly near NPS.	E 1iii
w + 111 - 11	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.: 160914), no major environmental deficiencies were observed during the site inspection.	

Date	Signature	Name	
21 September 2016	Conic	Carrie Leung	Recorded by
21 September 2016	h Ra	Dr. Priscilla Choy	Checked by
	L hp	Dr. Priscilla Choy	Checked by

Checklist Reference Number	160930
Date	30 September 2016
Time	10:00 - 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	L
	• Follow-up on previous audit section (Ref. No.: 160921), no major environmental	
	deficiencies were observed during the site inspection.	

	Name	Signature	Date
Recorded by	Carrie Leung	Ceije	30 September 2016
Checked by	Dr. Priscilla Choy	NEL	30 September 2016

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

ER	2. Check Contractor's	implemented	undertake any necessary
2. Increase	working method		replacement
monitoring	3. Discuss with ET and		
frequency	Contractor on possible		
3. Discuss remedial	remedial measures		
actions with IEC,	4. Advise ER on		
ER and Contractor	effectiveness of		
4. Monitor remedial	proposed remedial		
actions until	measures		
rectification has	5. Supervise		
been completed	implementation of		
5. If non-conformity	remedial measures.		
stops, cease			
additional			
monitoring			

APPENDIX K ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

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

Types of Impacts	Mitigation Measures	Status
Impacts	<ul> <li>8 times daily watering of the work site with active dust emitting activities.</li> <li>Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation.</li> <li>The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts.</li> <li>Stockpiling site(s) should be lined with impermeable</li> </ul>	Λ
	<ul> <li>sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission.</li> <li>Misting for the dusty material should be carried out</li> </ul>	Δ
	<ul> <li>before being loaded into the vehicle.</li> <li>Any vehicle with an open load carrying area should have properly fitted side and tail boards.</li> </ul>	٨
	<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 tamped.</li> </ul>	۸
	<ul> <li>clean tarpaulin.</li> <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>	٨
Construction Dust	<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 of lose materials.</li> </ul>	^
	<ul> <li>Vehicle washing facilities should be provided at every</li> </ul>	*
	<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,</li> </ul>	۸
	<ul> <li>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> </ul>	Λ
	<ul> <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> </ul>	^
	<ul> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> </ul>	۸

· · · · · · · · · · · · · · · · · · ·		
	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	^
	<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> <li>Scheduling of Construction Works during School</li> </ul>	^ N/A(1) ^ ^
	Examination Period	^
Construction Noise	<ul> <li>(i) Provision of low noise surfacing in a section of Road L2; and</li> </ul>	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
	<ul> <li>(i) Provision of low noise surfacing in a section of Road L4 before occupation of Site 111; and</li> </ul>	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

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

Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	^
Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	^
Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m <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.	٨
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.	۸
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.	۸
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.	*
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.	۸
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	, A
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.	Λ
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.	۸
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.	۸
Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.	۸
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.	Λ
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.	Λ
Construction effluent, site run-off and sewage should be properly collected and/or treated.	٨
Any works site inside the storm water courses should be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at bottom and properly supported props to prevent adverse impact on the storm water quality.	^
Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to accidental spillage of construction materials.	۸
Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea.	Λ
K-6	

	Supervisory staff should be assigned to station on site to	^
8	closely supervise and monitor the works	
	Marine water quality monitoring and audit programme	^
	shall be implemented for the proposed sediment	$\sim$
	treatment operation.	
	Good Site Practices	
	It is not anticipated that adverse waste management	
	related impacts would arise, provided that good site	
	practices are adhered to. Recommendations for good site practices during construction activities include:	
	<ul> <li>Nomination of an approved person, such as a site</li> </ul>	
	manager, to be responsible for good site practices,	^
	arrangements for collection and effective disposal	
	to an appropriate facility, of all wastes generated at the site	
	<ul> <li>Training of site personnel in proper waste</li> </ul>	^
	management and chemical waste handling	-
	procedures	
	<ul> <li>Provision of sufficient waste disposal points and</li> </ul>	^
	<ul> <li>regular collection for disposal</li> <li>Appropriate measures to minimise windblown litter</li> </ul>	
	and dust during transportation of waste by either	^
	covering trucks or by transporting wastes in	
	enclosed containers	
	<ul> <li>A recording system for the amount of wastes generated recycled and disposed of (including the</li> </ul>	^
	generated, recycled and disposed of (including the disposal sites)	
	Waste Reduction Measures	
	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	
	<ul> <li>reduction include:</li> <li>Sort C&amp;D waste from demolition of the remaining</li> </ul>	^
	structures to recover recyclable portions such as	~
	metals	
	<ul> <li>Segregation and storage of different types of</li> </ul>	^
	waste in different containers, skips or stockpiles to	
	enhance reuse or recycling of materials and their proper disposal	
	<ul> <li>Encourage collection of aluminium cans, PET</li> </ul>	
	bottles and paper by providing separate labelled	^
	bins to enable these wastes to be segregated from	
	<ul> <li>other general refuse generated by the work force</li> <li>Any unused chemicals or those with remaining</li> </ul>	٨
	functional capacity should be recycled	~
	<ul> <li>Proper storage and site practices to minimise the</li> </ul>	^
	potential for damage or contamination of	
	construction materials	
	K-7	
	N = I	

Construction and Demolition Material	
<ul> <li>Mitigation measures and good site practices should be incorporated into contract document to control potential environmental impact from handling and transportation of C&amp;D material. The mitigation measures include:</li> <li>Where it is unavoidable to have transient stockpiles of C&amp;D material within the Project work site pending collection for disposal, the transient stockpiles should be located away from waterfront or storm drains as far as possible</li> </ul>	۸
<ul> <li>Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric</li> </ul>	٨
<ul> <li>Skip hoist for material transport should be totally enclosed by impervious sheeting</li> </ul>	۸
<ul> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site</li> </ul>	٨
<ul> <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> </ul>	٨
<ul> <li>The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle</li> </ul>	۸
<ul> <li>All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet</li> <li>The height from which excavated materials are</li> </ul>	٨
<ul> <li>The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading</li> </ul>	٨
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.	٨
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	Λ
K-8	

	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	٨
	CM1 All existing trees should be carefully protected during construction.	^
Landscape and Visual	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.	٨
	CM4 Erection of decorative screen hoarding.	^

Remarks:	Compliance of mitigation measure;
	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: September 2016

Log Ref.	Received Date	Details of Warning / Summons and Successful Prosecutions	Investigation/Mitigation Action	Status
N/A	N/A	N/A	N/A	N/A

### Warnings / Summons and Successful Prosecutions received in the reporting month

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

# **Complaint Log**

EPD Complaint Ref No.	Date of Complaint	Complaint Details	Investigation / Mitigation Action	Status
15-14258	10/6/2015	Complainant said dust emission from the construction work affecting him/her. The stockpiles was not covered properly such that dust emission was observed. Some muddy water was found in To Kwa Wan Typhoon Shelter.	Complaint cases referred to the Contractor. Investigation conducted by the Contract ET. The investigation results showed that no major construction activities were conducted at the time of complaint on the day - 10 <sup>th</sup> June 2015. Since no marine works or land-based construction activities near the To Kwa Wan Typhoon Shelter were conducted, muddy effluent discharged to the To Kwa Wan Typhoon Shelter is not anticipated. The regular impact air monitoring results in the first three weeks of June 2015 were in full compliance with the Action and Limit levels. No major environmental deficiencies were observed related to the air quality and water quality, and the deficiencies as mentioned in the complaint were not recorded during the site inspections.	Closed

APPENDIX M WASTE GENERATED QUANTITY

# APPENDIX IV <u>Monthly Summary Waste Flow Table</u>

(PS Clause 1.86)

Name of Department: CEDD

Contract No. : KL/2012/03

## Monthly Summary Waste Flow Table for September 2016 (year) (in tons)

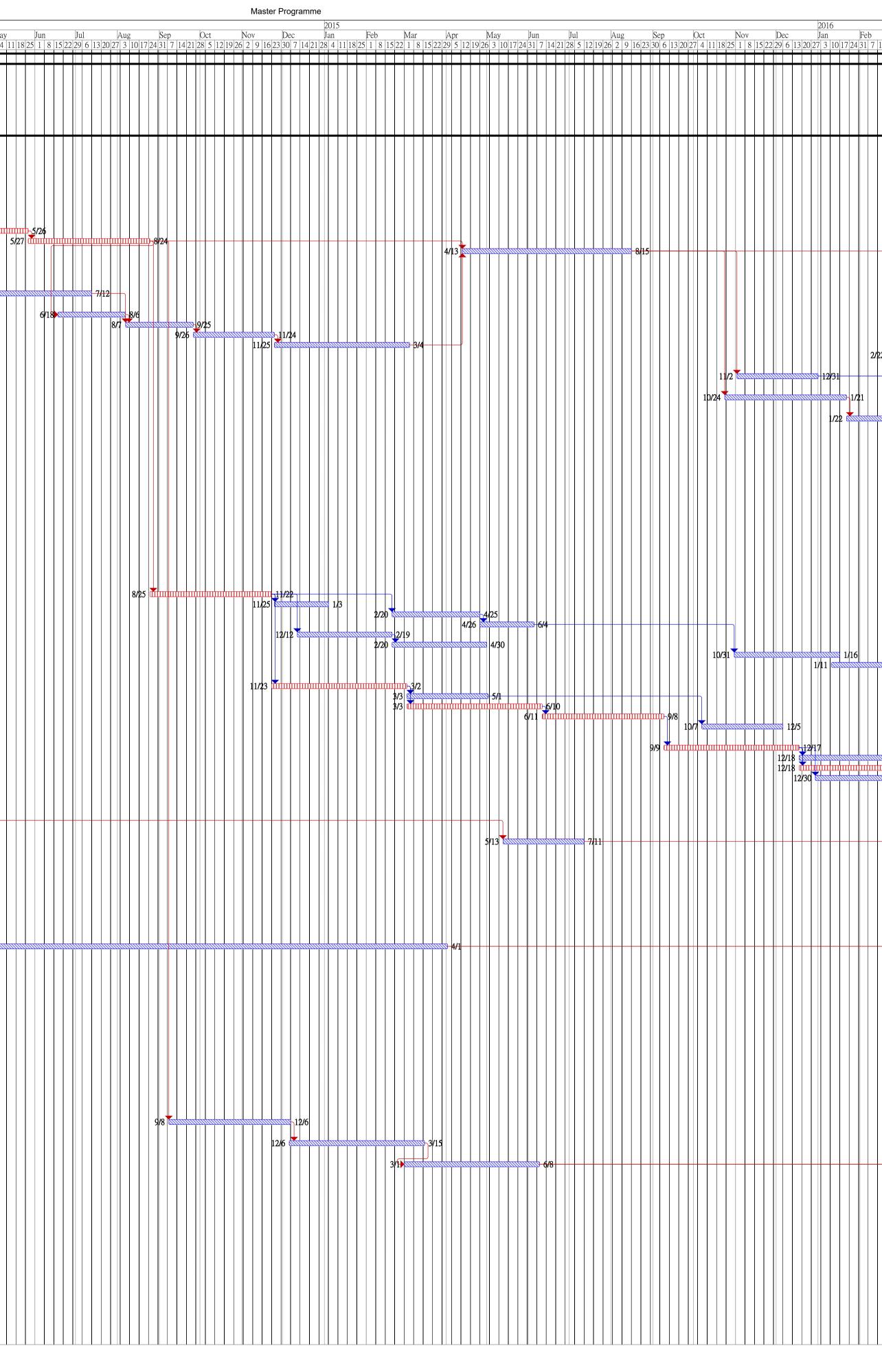
			Actual Q	Quantities of Ind	ert C&D Mater	ials Generated M	Actual Quantities of C&D Wastes Generated Monthly						
Month	Total Disposal Loads	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemicals Waste	Others, e.g. general refuse	
	(No.s)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	
2013 (Oct - Dec) Sub-Total	108	463.69	0	0	0	0	0	0	0	0	0	463.69	
2014 (Jan – Dec) Sub-Total	24	16925.7	0	0	16798.9	83.66	1804.27	0	0	0	0	43.11	
Jan-15	3	38301.47	0	0	38291.9	0	2064	0	0	0	0	9.56	
Feb-15	2	7.8	0	0	0	0	1776	0	0	0	0	7.8	
Mar-15	7	21.46	0	0	0	0	2450	0	0	0	0	21.46	
Apr-15	26	2041.48	0	0	0	2230.43	2610	0	0	0	0	10.46	
May-15	7	647.2	0	0	0	640.58	1550	0	0	0	0	6.62	
Jun-15	60	516.9	0	0	0	501.45 0	0	0	0	0	15.45		
Jul-15	9	27.74	0	0	0	0	510	0	0	0	0	27.74	
Aug-15	12	45.39	0	0	0	0	2410	0	0	0	0	45.39	
Sep-15	51	398.77	0	0	0	359.78	1120	0	0	0	0	38.99	
Oct-15	54	367.55	0	0	0	323.83	240	0	0	0	0	43.72	
Nov-15	24	119.28	0	0	0	81.64	1920	0	0	0	0	37.64	
Dec-15	29	39364.93	0	0	0	39319.5	3270	0	0	0	0	45.43	
Jan-16	22	119.94	0	0	0	81.77	2930	0	0	0	0	38.15	
Feb-16	13	63.37	0	0	0	38.04	1090	0	0	0	0	25.33	
Mar-16	1664	28328.67	0	0	0	28298	0	0	0	0	0	30.67	
Apr-16	10	34.02	0	0	0	0	0	0	0	0	0	34.02	
May-16	26	174.63	0	0	0	130.44	0	0	0	0	0	44.19	
Jun-16	59	397.69	0	0	0	319.98	0	0	0	0	0	77.71	
Jul-16	1049	16056.81	0	0	0	15973.72	0	0	0	0	0	83.09	
Aug-16	344	4606.05	0	0	0	4455.94	0	0	0	0	0	150.11	
Sep-16	<b>58</b>	377.77	0	0	0	290.28	0	0	0	0	0	87.49	
Total	3661	149408.3	0	0	55090.8	93129.04	25744.3	0	0	0	0	1387.82	

APPENDIX N CONSTRUCTION PROGRAMME

	Fask Name	Duration	Start	Finish						)14								
				-	Sep 1 18 25 1 8	Oct 15 22 29 6 1	Nov 3 20 27 3 10	Dec 0 17 24 1 8 1	Ja	n	Feb 26 2 9		Iar 2 9 1	Ar 6 23 30			lay 4 11	18
1 <b>(</b> 2	Commence KL/2012/03 construction Section 1: Works within Portion 1 and 3	1226 days 1226 days	Thu Sep 19, '13 Thu Sep 19, '13	Thu Jan 26, '17 Thu Jan 26, '17	9/19												+	F
3	Site possession and preparation works Setting out site boundary and site clearance	14 days 19 days	Thu Sep 19, '13 Thu Oct 3, '13	Wed Oct 2, '13 Mon Oct 21, '13	9/19		<u>10/21</u>											
5	Initial joint survey Obtain underground utilities plans	60 days 60 days	Sun Oct 13, '13 Mon Oct 7, '13	Wed Dec 11, '13 Thu Dec 5, '13		10/13		12.	2/11									
/ 8 9	Erect hoarding, chain link fence and vehicular gate <u>Works for Road L6</u> Submission / approval of construction materials, method	50 days 1193 days 50 days	Sun Oct 27, '13 <b>Tue Oct 22, '13</b> Tue Oct 22, '13	Sun Dec 15, '13 Thu Jan 26, '17 Tue Dec 10, '13		10/22	)/27) 2 22		12/15 2/10					╉	┝┿╇			┝
0	statements and temporary work design for box culverts B5 Plant mobilization	7 days	Wed Dec 11, '13	Tue Dec 17, '13				12/11										
1	Excavation to the formation level for B5 at CH48 - CH72	30 days	Wed Dec 18, '13	Thu Jan 16, '14				12/18										
2	Excavation to the formation level for B5 at CH72 - CH221	70 days	Fri Jan 17, '14	Thu Mar 27, '14										<b>IIII-</b> 3/2	27			
3 4 5	Construct base slab of B5 at CH48 - CH72 Construct base slab of B5 at CH72 - CH221 Construct the wall and roof of B5 at CH48 - CH221	40 days 60 days 90 days	Sat Jan 25, '14 Fri Mar 28, '14	Wed Mar 5, '14 Mon May 26, '14 Sun Aug 24, '14						1/25			3/5 3/	/28				127
5 6 7	Backfilling to B5 at CH48 - CH221 Submission / approval of construction materials and delivery of	125 days 40 days	Tue May 27, '14 Mon Apr 13, '15 Fri Jan 10, '14	Sun Aug 24, 14 Sat Aug 15, '15 Tue Feb 18, '14					1/10			<u>≫ 2/18</u>			Ш		2	27
	materials and method statements and temporary works for stormdrain and sewerage drain		1.1.0.1.1.0, 1.	1														
8	Install 2x750mm dia sewerage drain from FMH10_345 to FMH10_350 under box culvert B5	73 days	Thu May 1, '14	Sat Jul 12, '14												5/1		
9	Excavation to the formation level for B5 at CH0 - CH48 Construct the base slab of B5 at CH0 - CH48	50 days 50 days	Wed Jun 18, '14 Thu Aug 7, '14	Wed Aug 6, '14 Thu Sep 25, '14														
2 2 3	Construct the wall and roof of B5 at CH0 - CH48 Backfilling to B5 at CH0 - CH48 Bacenstruct menhole energing at B5 from CH0, CH48 before wet	60 days 100 days	Fri Sep 26, '14 Tue Nov 25, '14 Mon Feb 22, '16	Mon Nov 24, '14 Wed Mar 4, '15 Thu Mar 31, '16														
.5	Reconstruct manhole opening at B5 from CH0 - CH48 before wet season (Variation Order to be issued) Laying sewerage drain from FMH 1K3_1 to 345 and 1K1_1 to	39 days 60 days	Mon Nov 2, '15	Thu Mar 31, 10 Thu Dec 31, '15														
5	FMH10_340 Install 250mm, 300mm dia.FWM CHD200-CHD394 and 200mm	90 days	Sat Oct 24, '15	Thu Jan 21, '16														
.6	SWM CHC200-CHC394 Install irrigation system above B5	50 days	Fri Jan 22, '16	Fri Mar 11, '16														
27 28	Laying storm drain and manhole above B5 Construct road gully and gully pipe above B5	60 days 50 days	Sat Mar 12, '16 Wed May 11, '16	Tue May 10, '16 Wed Jun 29, '16														
9	Construct road kerb Construct flexible carriageway	30 days 50 days	Thu Jun 30, '16 Sat Jul 30, '16	Fri Jul 29, '16 Sat Sep 17, '16														
2	Installation of utility by the utility undertakers along proposed footpath CHB150-400 Install street lighting	50 days 40 days	Sun Apr 17, '16 Mon Jun 6, '16	Sun Jun 5, '16 Fri Jul 15, '16														
34	Construct u-channel and drainpit at footpath Construct footpath, planting area and concrete run-in	40 days 60 days	Mon Jun 6, '16 Sat Jul 16, '16	Fri Jul 15, '16 Tue Sep 13, '16														
5	Installation of utility by the utility undertakers along proposed	30 days	Mon Mar 14, '16	Tue Apr 12, '16														
6	footpath CHC150-350 Install street lighting Construct u-channel and drainpit at footpath	20 days 25 days	Fri Jul 22, '16 Sat Jul 16, '16	Wed Aug 10, '16 Tue Aug 9, '16														
8	Construct footpath, planting area and concrete run-in	24 days	Wed Aug 10, '16	Fri Sep 2, '16														
9	Laying sewerage drain from FMH10_320 to 330 Construct manhole (FMH10_330)	90 days 40 days	Mon Aug 25, '14 Tue Nov 25, '14	Sat Nov 22, '14 Sat Jan 3, '15														
-1 -2	Laying sewerage drain from FMH10_310 to 320 Construct manhole (FMH10_310 & 320)	65 days 40 days	Fri Feb 20, '15 Sun Apr 26, '15	Sat Apr 25, '15 Thu Jun 4, '15														
3 4	Laying sewerage drain from FMH10_330 to 345 Construct manhole (FMH10_330 & 345)	70 days 70 days	Fri Dec 12, '14 Fri Feb 20, '15	Thu Feb 19, '15 Thu Apr 30, '15														
.5 .6	Laying storm drains and manhole from SMH1502 to B5 Laying storm drains and manhole from existing storm drain to SMH21 to B5	78 days 60 days	Sat Oct 31, '15 Mon Jan 11, '16	Sat Jan 16, '16 Thu Mar 10, '16														
.7 .8	Laying sewerage drain from FMH10_360 to 370 Construct manhole (FMH10_360 & 370)	100 days	Sun Nov 23, '14 Tue Mar 3, '15	Mon Mar 2, '15														
-8 -9 -0	Laying sewerage drain for FMH10_350 to 360 Construct manhole (FMH10_350)	60 days 100 days 90 days	Tue Mar 3, '15 Tue Mar 3, '15 Thu Jun 11, '15	Fri May 1, '15 Wed Jun 10, '15 Tue Sep 8, '15														
1	Laying sewerage drain for FMH10_370 to PS2 & FMH90_80 to FMH10_370	60 days	Wed Oct 7, '15	Sat Dec 5, '15														
23	Laying storm drain and manhole (SMH1906 to 1909) Laying sewerage drain from FMH 2D1_1 to 350	100 days 70 days	Wed Sep 9, '15 Fri Dec 18, '15	Thu Dec 17, '15 Thu Feb 25, '16														
5 5	Laying storm drain and manhole (SMH1904 to 1906) Laying storm drain and manhole from existing storm drain to SMH23 to 1910	90 days 60 days	Fri Dec 18, '15 Wed Dec 30, '15	Wed Mar 16, '16 Sat Feb 27, '16														
6	Laying storm drain and manhole (SMH1901 to 1904 & 1921 to 1902)	40 days	Thu Mar 17, '16	Mon Apr 25, '16														
7	Submission / approval of construction materials and method statements for watermains	30 days	Sat Feb 8, '14	Sun Mar 9, '14							2/8 📉		<u> 3</u> /9	,				-
8	Delivery of FWM and SWM pipes and fittings and valves	60 days	Wed May 13, '15	Sat Jul 11, '15														
9	Install 450mm dia.FWM CHD100-CHD200 and 200mm SWM CHC100-CHC200	70 days	Thu Mar 17, '16	Wed May 25, '16														
0	Install 450mm dia.FWM CHD0-CHD100 and 200mm SWM CHC0-CHC100 Pressure test, swabbing, sterilization and connection	40 days 30 days	Fri Jun 24, '16 Wed Aug 3, '16	Tue Aug 2, '16 Thu Sep 1, '16														
<u>1</u> 2	Construct valve, air-valve and wash-out chambers and fire hyrdants for watermain	30 days	Thu Jul 28, '16	Fri Aug 26, '16														
3 4	Install irrigation system along road L6 Liaison meeting with UU	30 days 430 days	Sun Jul 24, '16 Mon Jan 27, '14	Mon Aug 22, '16 Wed Apr 1, '15						1/27								
5	Installation of utility by the utility undertakers along proposed footpath CHB0-150	40 days	Thu Jun 2, '16	Mon Jul 11, '16														
6 7 8	Install street lighting along L6 (RHS) Construct u-channel and drainpit at footpath Construct footpath, planting area and concrete run-in	30 days 30 days 30 days	Tue Jul 12, '16 Tue Jul 12, '16 Thu Aug 11, '16	Wed Aug 10, '16 Wed Aug 10, '16 Fri Sep 9, '16														
i9	Installation of utility by the utility undertakers along proposed	45 days	Thu May 26, '16	Sat Jul 9, '16														
0	footpath CHC0-150 Install street lighting (LHS)	30 days	Sun Jul 10, '16	Mon Aug 8, '16														
'1 '2	Construct u-channel and drainpit at footpath Construct footpath, planting area and concrete run-in	30 days 30 days	Sun Jul 10, '16 Tue Aug 9, '16	Mon Aug 8, '16 Wed Sep 7, '16														
3	Construct road gully and gully pipe at Road L6	30 days 30 days	Thu May 26, '16 Sat Jun 25, '16	Fri Jun 24, '16 Sun Jul 24, '16														
4 75 76	Construct road kerb along Road L6 Construct flexible carriageway Road marking	45 days 2 days	Mon Jul 25, '16 Thu Sep 8, '16	Wed Sep 7, '16 Fri Sep 9, '16														
7	Laying stormwater drain at pedestrian street for SMH1701 to B5	90 days	Mon Sep 8, '14	Sat Dec 6, '14														
'8	Laying stormwater drain at pedestrian street for SMH1801 to B5	100 days	Sat Dec 6, '14	Sun Mar 15, '15														
9	Laying stormwater drain at pedestrian street for SMH1601 to B5	100 days	Sun Mar 1, '15	Mon Jun 8, '15														
0	Construct u-channel and drainpit at pedestrian street near and inside site $1L/2 \& 3$	100 days	Tue May 24, '16	Wed Aug 31, '16														
	Construct u-channel and drainpit at pedestrian street near and inside site 1K/2	100 days	Tue May 24, '16	Wed Aug 31, '16														
2	Install irrigation system at pedestrian street near site 1L/2 & 3 Install irrigation system at pedestrian street near site 1K/2	100 days	Tue May 24, '16 Tue May 24, '16	Wed Aug 31, '16 Wed Aug 31, '16														
4 5	Construct pedestrian street near site 1L/2 & 3 Construct pedestrian street near site 1L/2 Mag	100 days 100 days 100 days	Tue May 24, '16 Tue May 24, '16 Tue May 24, '16	Wed Aug 31, '16 Wed Aug 31, '16 Wed Aug 31, '16														
6 7	Installation of lighting system by HyD Road marking	15 days 25 days	Wed Aug 17, '16 Sat Sep 10, '16	Wed Aug 31, '16 Tue Oct 4, '16														
8 9	Plants delivery for landscaping works Preparatory works for landscaping works	30 days 15 days	Wed Aug 31, '16 Tue Sep 13, '16	Thu Sep 29, '16 Tue Sep 27, '16														
0	Hydroseeding Tree and shurb planting	6 days 55 days	Wed Oct 5, '16 Tue Oct 11, '16 Mon Dec 5, '16	Mon Oct 10, '16 Sun Dec 4, '16 Thu Ian 26, '17														
2	Terminal float	53 days	Mon Dec 5, '16	Thu Jan 26, '17														

	Critical tasks Non-critical Tasks	Working days Inactive Milestone	ÇŢ	Inactive Summary Manual Task	\$ Duration-only Manual Summary Rollup ◆	Manual Summary Start-only
Commencement Date: 19 September 2010 Completion Date: 2 September 2010						





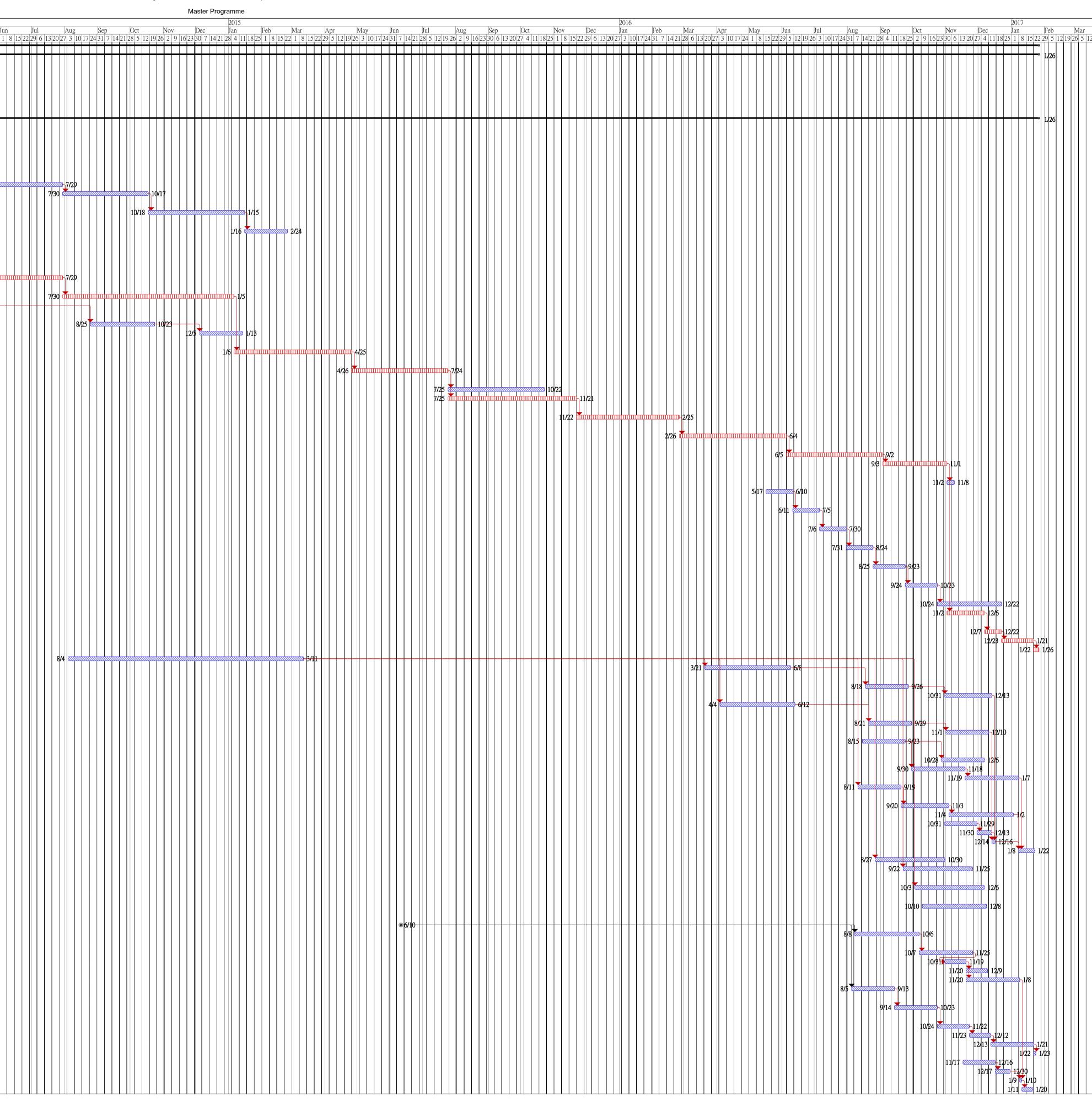
nmary	<b>♦</b>	Finish-only	<b>~</b>	External Milestone	
		External Tasks	<b></b>		

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ID	Task Name	Duration	Start		Sep 25 1 8	Oc 15 22 29		Nov 0 27 3		Dec 24 1		2014 Jan 29 5 1	2 19 2	Feb 26 2		Mai 23 2	Apr 23 30 6	13 20	May 27 4		Jun 25 1
1 2	Commence KL/2012/03 construction Section 1: Works within Portion 1 and 3	1226 days 1226 days	Thu Sep 19, '13 Thu Sep 19, '13	Thu Jan 26, '17 Thu Jan 26, '17	9/19															$ \blacksquare$	
3	Site possession and preparation works Setting out site boundary and site clearance	14 days 40 days	Thu Sep 19, '13 Thu Oct 3, '13	Wed Oct 2, '13 Mon Nov 11, '13	9/19	) (1111) 10/3 (	10/2		<b>D-1</b> 1/1	1											
5	Initial joint survey Obtain underground utilities plans	60 days 60 days	Fri Nov 1, '13 Thu Oct 3, '13	Mon Dec 30, '13 Sun Dec 1, '13		10/3	11.	/1		12	/1	⊠ 12/3	D								
7 8	Erect hoarding, chain link fence and vehicular gate Works for Northbound of Road D2	70 days 1200 days	Tue Nov 12, '13 Tue Oct 15, '13	Mon Jan 20, '14 Thu Jan 26, '17		10/1	5 🗕	11/12					<u>∞</u> 1/	20						┝┷┥┥	
9	Submission of baseline monitoring for EPD approval	30 days	Mon Oct 7, '13	Tue Nov 5, '13		10/7			1/5												
10 11	Approval of baseline monitoring by EPD Submission / approval of construction materials and delivery of materials and method statements for stormwater drain and	30 days 100 days	Wed Nov 6, '13 Tue Jan 21, '14	Thu Dec 5, '13 Wed Apr 30, '14				11/6 💰			.2/5	1/2	1						<mark>s</mark> 4/3	0	
12	sewerage drain       Delivery of materials for stormwater and sewerage drain	90 days	Thu May 1, '14	Tue Jul 29, '14														5.11			
12	Install sewerage drain and construct manhole (FMH90_20 to 40 and 50 to 65)	80 days	Wed Jul 30, '14	Fri Oct 17, '14														5/1			
14	Install storm drain and construct manhole (SMH3418 to 3422 and 3423 to 3426)	90 days	Sat Oct 18, '14	Thu Jan 15, '15																	
15 16	Diversion of KO ROW Submission of condition survey for work within existing Kai Tak	40 days 80 days	Fri Jan 16, '15 Tue Nov 12, '13	Tue Feb 24, '15 Thu Jan 30, '14				11/12		щщ	шш			<mark>D-</mark> 1/3	0						
17	Tunnel Submission of trial pit records for work within existing Kai Tak Tunnel	90 days	Fri Jan 31, '14	Wed Apr 30, '14									1/31		ппп				<b>I</b> -4/3	0	
18	Submission of method statement for work within existing Kai Tak Tunnel	90 days	Thu May 1, '14	Tue Jul 29, '14														5/1			
19 20	Approval for work within existing Kai Tak Tunnel Submission / approval of construction materials and method	160 days 80 days	Wed Jul 30, '14 Tue Jan 14, '14	Mon Jan 5, '15 Thu Apr 3, '14								1/14						2			
20	statements for rising mains Delivery of materials for rising mains	60 days	Mon Aug 25, '14	Thu Apr 3, 14								1/14					4/	2			
22	Install 2x500mm dia. HDPE rising main CHA120-CHA180	40 days	Fri Dec 5, '14	Tue Jan 13, '15																	
23	Breaking up existing concrete slab	110 days	Tue Jan 6, '15	Sat Apr 25, '15																	
24	Install 2x500mm dia. HDPE rising main CHA70-100 & CHA180-350 and DC1	90 days	Sun Apr 26, '15	Fri Jul 24, '15																	
25 26	Install 2x500mm dia. HDPE rising main CHA0-CHA70 Install storm drain and construct manhole (SMH3101 to SMH3111 & SMH3401 to 3418)	90 days 120 days	Sat Jul 25, '15 Sat Jul 25, '15	Thu Oct 22, '15 Sat Nov 21, '15																	
27	Install FWM CHC250-CHC630 and SWM CHB250-CHB630	96 days	Sun Nov 22, '15	Thu Feb 25, '16																	
28	Construct road gully and gully pipe up to the jointion of D2 & L6	100 days	Fri Feb 26, '16	Sat Jun 4, '16																	
29 30	Construct road kerb up to the jointion of D2 & L6 Construct flexible carriageway up to the jointion of D2 & L6	90 days 60 days	Sun Jun 5, '16 Sat Sep 3, '16	Fri Sep 2, '16 Tue Nov 1, '16																	
31	Road marking	7 days	Wed Nov 2, '16	Tue Nov 8, '16																	
32	Install sewerage drain and construct manhole (FMH90_40 to 50)	25 days	Tue May 17, '16	Fri Jun 10, '16																	
33	Install sewerage drain and construct manhole (FMH90_50 to 60)	25 days	Sat Jun 11, '16	Tue Jul 5, '16																	
34	Install storm drain and construct manhole (SMH3422 to 3423)	25 days	Wed Jul 6, '16	Sat Jul 30, '16																	
35	Install sewerage drain and construct manhole (1P1 to FMH90_20)	25 days	Sun Jul 31, '16	Wed Aug 24, '16																	
36	Install FWM CHC630-CHC825 and SWM CHB630-CHB825	30 days	Thu Aug 25, '16	Fri Sep 23, '16																	
37	Construct valve, fire hydrant, air-valve and wash-out chamber for watermain Pressure test, swabbing, sterilization and connection	30 days 60 days	Sat Sep 24, '16 Mon Oct 24, '16	Sun Oct 23, '16 Thu Dec 22, '16																	
39	Construct remaining stormdrain, sewer drain, road gully and gully pipe along D2	35 days	Wed Nov 2, '16	Tue Dec 6, '16																	
40 41	Construct road kerb Construct flexible carriageway	16 days 30 days	Wed Dec 7, '16 Fri Dec 23, '16	Thu Dec 22, '16 Sat Jan 21, '17																	
42 43	Road marking Liaison meeting with UU	5 days 220 days	Sun Jan 22, '17 Mon Aug 4, '14	Thu Jan 26, '17 Wed Mar 11, '15																	
44	Installation of utility by the utility undertakers along proposed footpath CH200-400	80 days	Mon Mar 21, '16	Wed Jun 8, '16																	
45 46 47	Construct drainpit and u-channel at footpath Construct footpath and concrete run-in Installation of utility by the utility undertakers along proposed	40 days 44 days 70 days	Thu Aug 18, '16 Mon Oct 31, '16 Mon Apr 4, '16	Mon Sep 26, '16 Tue Dec 13, '16 Sun Jun 12, '16																	
47	footpath CH400-600 Construct drainpit and u-channel at footpath	40 days	Sun Aug 21, '16	Thu Sep 29, '16																	
49 50	Construct footpath and concrete run-in Installation of utility by the utility undertakers along proposed	40 days 40 days	Tue Nov 1, '16 Mon Aug 15, '16	Sat Dec 10, '16 Fri Sep 23, '16																	
51	footpath CH0-200 Install irrigation system	40 days	Fri Oct 28, '16	Tue Dec 6, '16																	
52 53	Construct drainpit and u-channel at footpath Construct footpath, planting area and concrete run-in	50 days 50 days	Fri Sep 30, '16 Sat Nov 19, '16	Fri Nov 18, '16 Sat Jan 7, '17																	
54	Installation of utility by the utility undertakers along proposed footpath CHA850-960	40 days	Thu Aug 11, '16	Mon Sep 19, '16																	
55 56	Construct drainpit and u-channel at footpath Construct footpath and concrete run-in	45 days 60 days	Tue Sep 20, '16 Fri Nov 4, '16	Thu Nov 3, '16 Mon Jan 2, '17																	
57 58	Plants delivery for landscaping works Preparatory works for landscaping works	30 days 14 days	Mon Oct 31, '16 Wed Nov 30, '16	Tue Nov 29, '16 Tue Dec 13, '16																	
59 60	Hydroseeding Tree and shurb planting	3 days 15 days	Wed Dec 14, '16 Sun Jan 8, '17	Fri Dec 16, '16 Sun Jan 22, '17																	
61 62	Install traffic signal at the Junction of Road D2/ Road D3 Install traffic signal at the Junction of Road D2/ Slip Road of	65 days 65 days	Sat Aug 27, '16 Thu Sep 22, '16	Sun Oct 30, '16 Fri Nov 25, '16																	
63	KCR Install traffic signal at the Junction of Road D2/ Eastern Access Road	65 days	Mon Oct 3, '16	Tue Dec 6, '16																	
64	Construct sewerage drain pipes from FMH120_70 to FMH130_90	60 days	Mon Oct 10, '16	Thu Dec 8, '16																	
65	Awaiting for site possession at Portion 3	630 days	Thu Sep 19, '13	Wed Jun 10, '15	9/19																
66 67	Installation of utility by the utility undertakers along proposed footpath CH0-CHG100 Construct drainpit and u-channel	60 days 50 days	Mon Aug 8, '16 Fri Oct 7, '16	Thu Oct 6, '16 Fri Nov 25, '16																	
68 69	Install street lighting Installation of lighting system by HyD	20 days 20 days	Mon Oct 31, '16 Sun Nov 20, '16	Sat Nov 19, '16 Fri Dec 9, '16																	
70 71	Construct footpath, planting area and concrete run-in Construct stormwater drain and manholes from SMH3426 to	50 days 40 days		Sun Jan 8, '17 Tue Sep 13, '16																	
72	SMH3500 Install FWM CHC825-CHC921 and SWM CHB825-CHB920	40 days	Wed Sep 14, '16	Sun Oct 23, '16																	
73	Construct road gully with pipes	30 days	Mon Oct 24, '16	Tue Nov 22, '16																	
74 75	Construct road kerb Construct flexible carriageway	20 days 40 days	Wed Nov 23, '16 Tue Dec 13, '16	Mon Dec 12, '16 Sat Jan 21, '17																	
76 77	Road marking Plants delivery for landscaping works	2 days 30 days	Sun Jan 22, '17 Thu Nov 17, '16	Mon Jan 23, '17 Fri Dec 16, '16																	
78 79	Preparatory works for landscaping works Hydroseeding	14 days 2 days	Sat Dec 17, '16 Mon Jan 9, '17	Fri Dec 30, '16 Tue Jan 10, '17																	
80	Tree and shurb planting	10 days	Wed Jan 11, '17	Fri Jan 20, '17																	

Critical tasks Working days Inactive Summary Duration-only Manual Summa ..... . . . . . . . Manual Task Non-critical tasks Inactive Milestone Manual Summary Rollup 🔶 Start-only  $\diamond$ Commencement Date: 19 September 2013 Completion Date: 2 September 2016 Revised Completion Date: 26 January 2017

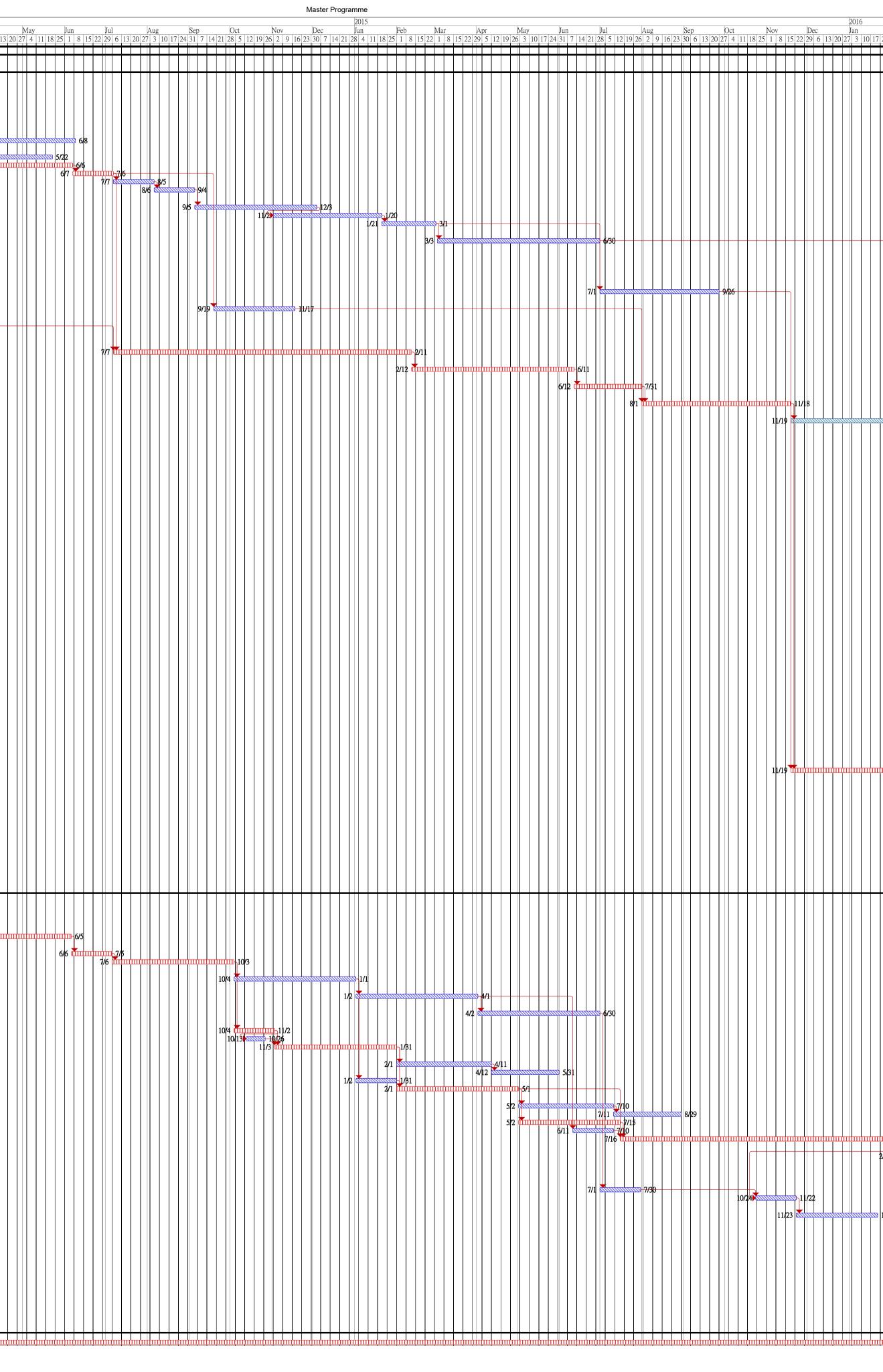




mary	<b>♦</b>	Finish-only	<b>~</b>	External Milestone	
	(	External Tasks	<b>♦</b>		

ID Ta	ask Name	Duration	Start	Finish									2014									
	Commence KL/2012/03 construction	1591 days	Thu Sep 19, '13	Fri Jan 26, '18	Se 18 25 1	8 15 2	Oct 2 29 6	13 20	Nov 27 3 1	0 17 2	Dec 4 1 8	15 2	Jan 2 29 5	12 19	Feb 26 2 9	16 2	Mar 32			pr 6 13	/lay 4 1	1 18 2.
2 3	Section 1: Works within Portion 1 and 3 Widening of Existing Footpaths at Sung Wong Toi Road and To Kwa Wan Road	1226 days 1226 days	Thu Sep 19, '13 Thu Sep 19, '13	Thu Jan 26, '17 Thu Jan 26, '17		9/19 9/19																
4 5	Site possession and preparation works Setting out site boundary and site clearance	21 days 30 days	Thu Sep 19, '13 Thu Oct 10, '13	Wed Oct 9, '13 Fri Nov 8, '13		9/19 🚥		10/9		11/0												
5 6 7	Initial joint survey Obtain underground utilities plans	25 days 60 days	Tue Nov 12, '13 Thu Sep 19, '13	Fri Dec 6, '13 Sun Nov 17, '13		9/19 📖	10/10 🚹		11/12	1/8 11/8	17	2/6										
8 9 10	Erect hoarding, chain link fence and vehicular gate Apply XP for roadworks Approval of TTA drawings	60 days 210 days 90 days	Thu Dec 5, '13 Mon Nov 11, '13 Mon Nov 18, '13	Sun Feb 2, '14 Sun Jun 8, '14 Sat Feb 15, '14					11/11	innn	2/5				2/2	2/1:						
11 12	Liaison meeting with UU Application of tree felling permit	180 days 210 days	Sun Nov 24, '13 Sat Nov 9, '13	Thu May 22, '14 Fri Jun 6, '14						1/04 📉						anna,						5/
13 14 15	Tree felling Site clearance for widening of existing footpath Awiating for design of mass concrete wall (Additional works)	30 days 30 days 30 days	Sat Jun 7, '14 Mon Jul 7, '14 Wed Aug 6, '14	Sun Jul 6, '14 Tue Aug 5, '14 Thu Sep 4, '14																		
16	Demolish existing security fence (Additional works)	90 days	Fri Sep 5, '14	Wed Dec 3, '14																		
17 18	Construction of mass concrete wall (Additional works) Backfilling and completion to formation level for widening of existing footpath	80 days 40 days	Sun Nov 2, '14 Wed Jan 21, '15	Tue Jan 20, '15 Sun Mar 1, '15																		
19	Installation of utility by the utility undertakers along proposed footpath CHD0-100	120 days	Tue Mar 3, '15	Tue Jun 30, '15																		
20	Install 400mm dia.FWM CHB200-CHB300 & 450mm dia. SWM CHA200-CHA300	60 days	Mon Jun 13, '16	Thu Aug 11, '16																		
21 22 23	Install street lighting CHD0-100 Construct new footpath Installation of utility by the utility undertakers along proposed	30 days 80 days 88 days	Fri Aug 12, '16 Sun Sep 11, '16 Wed Jul 1, '15	Sat Sep 10, '16 Tue Nov 29, '16 Sat Sep 26, '15																		
24	footpath CHD100-250 Backfilling and compaction to formation level for construction of	60 days	Fri Sep 19, '14	Mon Nov 17, '14																		
25	new footpath Submission / approval of construction materials and method statements for watermains	60 days	Wed Jan 29, '14	Sat Mar 29, '14										1/29					3,	29		++
26	Change of alignment and size of watermains by AECOM (Variation	220 days	Mon Jul 7, '14	Wed Feb 11, '15																		
27	Order issued on 9 Feb 2015) Procument and delivery of materials for watermains (Variation	120 days	Thu Feb 12, '15	Thu Jun 11, '15																		
28	Order) TTA approval along Sung Wong Toi Road	50 days	Fri Jun 12, '15	Fri Jul 31, '15																		
29	Install 300mm dia.FWM CHB50-CHB100 & 450mm dia. SWM CHA50-CHA100	110 days	Sat Aug 1, '15	Wed Nov 18, '15																		
30	Install 300mm dia.FWM CHB100-CHB150 & 450mm dia. SWM CHA100-CHB150 Install 300mm dia EWM CHB150-CHB200 & 450mm dia SWM	115 days	Thu Nov 19, '15	Sat Mar 12, '16																		
31 32	Install 300mm dia.FWM CHB150-CHB200 & 450mm dia. SWM CHA150-CHB200 Install 300mm dia. FWM CHB450-CHB565 & 450mm dia. SWM	100 days 40 days	Sun Mar 13, '16 Fri Sep 30, '16	Mon Jun 20, '16 Tue Nov 8, '16																		
33	CHA450-CHA565 (excluding CH480 to 500) Re-diversion of Gate 7 to the newly constructed carriageway under	10 days	Wed Nov 9, '16	Fri Nov 18, '16																		
34	Section 3 Install 300mm dia. FWM CHB480-CHB500 & 450mm dia. SWM CHA480-CHA500	15 days	Sat Nov 19, '16	Sat Dec 3, '16																		
35	Installation of utility by the utility undertakers along proposed footpath CHD270-300	10 days	Sun Dec 4, '16	Tue Dec 13, '16																		
36 37	Install street lighting CHD270-300 Construct new footpath	10 days 25 days	Wed Dec 14, '16 Sat Dec 24, '16	Fri Dec 23, '16 Tue Jan 17, '17																		
38 39	Install 300mm dia. FWM CHB0-CHB50 & 450mm dia. SWM CHA0-CHA50 Install 800mm dia. Salt water main CHD0-CHD25	80 days 60 days	Fri May 13, '16 Wed Jul 20, '16	Sun Jul 31, '16 Sat Sep 17, '16																		
40 41	Install 800mm dia. Salt water main CHD25-CHD52 Pressure test, swabbing, sterilization and connection	60 days 60 days	Mon Sep 19, '16 Fri Nov 18, '16	Thu Nov 17, '16 Mon Jan 16, '17																		
42	Construct valve, fire hydrant, air-valve and wash-out chambers for watermain Install irrigation system	60 days 60 days	Fri Nov 18, '16 Wed Oct 26, '16	Mon Jan 16, '17 Sat Dec 24, '16																		
44 45	Construct u-channel and drainpit Application of traffic signal at the Junction of Sung Wong Toi Road	80 days 90 days	Tue Oct 25, '16 Tue Aug 2, '16	Thu Jan 12, '17 Sun Oct 30, '16																		
46	/ To Kwa Wan Road by AECOM Install traffic signal at the Junction of Sung Wong Toi Road / To Kwa Wan Road	60 days	Mon Oct 31, '16	Thu Dec 29, '16																		
47	Application of traffic signal at the Junction along Sung Wong Toi Road by AECOM	90 days	Tue Aug 9, '16	Sun Nov 6, '16																		
48	Install traffic signal at the Junction along Sung Wong Toi Road	60 days	Mon Nov 7, '16	Thu Jan 5, '17																		
49	Application for relocation of traffic signal and red light cameras at To Kwa Wan Road and Mok Cheong Street junction by AECOM	90 days	Wed Jul 20, '16	Mon Oct 17, '16																		
50	Relocate traffic signal and red light cameras at To Kwa Wan Road and Mok Cheong Street junction (additional works to be covered by	90 days	Tue Oct 18, '16	Sun Jan 15, '17																		
51	VO) Install ducting and draw pit for street lighting at N/B of Sung Wong	120 days	Thu Jul 28, '16	Thu Nov 24, '16																		
52 53	Toi Road Install street lighting by HyD Demolition of existing street lighting by HyD	20 days 20 days	Fri Nov 25, '16 Thu Dec 15, '16	Wed Dec 14, '16 Tue Jan 3, '17																		
54	Install 400mm dia.FWM CHB300-CHB450 & 450mm dia. SWM CHA300-CHA450	190 days	Thu Nov 19, '15	Thu May 26, '16																		
55 56 57	Install street lighting CHD100-250 Construct new footpath Construct road gully and gully pipe	20 days 50 days	Fri May 27, '16 Thu Jun 16, '16	Wed Jun 15, '16 Thu Aug 4, '16																		
58 59	Construct road guily and guily pipe Construct road kerb Construct carriageway at the existing footpath	50 days 30 days 50 days	Fri Aug 5, '16 Sat Sep 24, '16 Mon Oct 24, '16	Fri Sep 23, '16 Sun Oct 23, '16 Mon Dec 12, '16																		
60 61	Erect traffic sign Re-surface existing carriageway	50 days 35 days	Thu Oct 20, '16 Tue Dec 13, '16	Thu Dec 8, '16 Mon Jan 16, '17 Mon Jan 23, '17																		
62 63 64	Road marking Plants delivery for landscaping works Preparatory works for landscaping works	7 days 30 days 14 days	Tue Jan 17, '17 Sun Nov 27, '16 Tue Dec 27, '16	Mon Jan 23, 17 Mon Dec 26, '16 Mon Jan 9, '17																		
65 66	Hydroseeding Tree and shurb planting	3 days 7 days	Tue Jan 17, '17 Fri Jan 20, '17	Thu Jan 19, '17 Thu Jan 26, '17																		
67 68 69	Construction of Box Culverts B6 Site possession and preparation works	1155 days 30 days	Thu Sep 19, '13 Thu Sep 19, '13	Wed Nov 16, '16 Fri Oct 18, '13		9/19		<u>111</u> ⊳10	/18			+				+					$\left  \right $	++
70 71	Initial survey and site clearance Submission for change of construction method by precast box unit for box culverts B6	50 days 90 days	Sat Oct 19, '13 Sun Dec 8, '13	Sat Dec 7, '13 Fri Mar 7, '14		9/19 <del></del> 9/19 <b></b>	10/1	9 🎹			12/8	2/7			щиң	шщ		3/7				
72	Approval for change of construction method by precast box unit for box culverts B6	90 days	Sat Mar 8, '14	Thu Jun 5, '14													3/8					фици
73 74	Plant trial for precast units for box culvert B6 Production of precast units for box culvert B6 (batch 1 - approx. 15	30 days 90 days	Fri Jun 6, '14 Sun Jul 6, '14	Sat Jul 5, '14 Fri Oct 3, '14																		6
75	nos.) Production of precast units for box culvert B6 (batch 2 - approx. 15 nos.)	90 days	Sat Oct 4, '14	Thu Jan 1, '15																		
76	Production of precast units for box culvert B6 (batch 3 - approx. 15 nos)	90 days	Fri Jan 2, '15	Wed Apr 1, '15																		
77	Production of precast units for box culvert B6 (batch 4 - approx. 15 nos)	90 days	Thu Apr 2, '15	Tue Jun 30, '15																		
78 79 80	Delivery of precast unit batch no. 1 Plant mobilization Construct temporary works and excavation to the formation level for	30 days 14 days 90 days	Sat Oct 4, '14 Mon Oct 13, '14 Mon Nov 3, '14	Sun Nov 2, '14 Sun Oct 26, '14 Sat Jan 31, '15																		
81	box culverts B6 CH50-100 Placing precast unit for box culvert for CH50-100	70 days	Sun Feb 1, '15	Sat Apr 11, '15																		
82 83	Soil backfilling works Delivery of precast unit batch no. 2	50 days 30 days	Sun Apr 12, '15 Fri Jan 2, '15	Sun May 31, '15 Sat Jan 31, '15																		
84	Construct temporary works and excavation to the formation level for box culverts B6 CH100-150 Placing precast unit for box culvert for CH100-150	90 days 70 days	Sun Feb 1, '15 Sat May 2, '15	Fri May 1, '15 Fri Jul 10, '15																		
86 87	Soil backfilling works Diversion of existing sewerage drain	50 days 75 days	Sat Jul 11, '15 Sat May 2, '15	Sat Aug 29, '15 Wed Jul 15, '15																		
88 89	Delivery of precast unit batch no. 3 Construct temporary works and excavation to the formation level for box culverts B6 CH150-200	30 days 200 days	Thu Jun 11, '15 Thu Jul 16, '15	Fri Jul 10, '15 Sun Jan 31, '16																		
90 91	Placing precast unit for box culvert for CH150-200 Notification of Marine Department for construction of outfall	200 days 40 days	Mon Feb 1, '16 Sat Jul 9, '16	Thu Aug 18, '16 Wed Aug 17, '16																		
92 93	Construction of outfall Delivery of precast unit batch no. 4	60 days 30 days	Fri Aug 19, '16 Wed Jul 1, '15	Mon Oct 17, '16 Thu Jul 30, '15																		
94	Construct temporary works and excavation to the formation level for box culverts B6 CH0-50	30 days	Sat Oct 24, '15	Sun Nov 22, '15																		
95 96 97	Placing precast unit for box culvert for CH0-50 Modification of seawall	60 days 20 days	Mon Nov 23, '15 Tue Oct 18, '16 Mon Nov 7, '16	Thu Jan 21, '16 Sun Nov 6, '16 Wed Nov 16, '16																		
97 98 99	Soil backfilling works Demolition of Kowloon East DWFI pumping station	10 days 137 days	Mon Nov 7, '16 Mon Sep 12, '16	Wed Nov 16, '16 Thu Jan 26, '17																		
00	Submission / approval of method statements	20 days	Tue Aug 23, '16	Sun Sep 11, '16																		
.01	Demolish super-structure of Kowloon East DWFI pumping station (To be carried out after completion of NPS)	82 days	Mon Sep 12, '16	Fri Dec 2, '16																		
102	Demolish sub-structure of Kowloon East DWFI pumping station (To be carried out after completion of NPS)	55 days	Sat Dec 3, '16	Thu Jan 26, '17																		
103 104	Section 1A	1587 days	Thu Sep 19, '13	Mon Jan 22, '18		g/10 🖵																
104	Establishment works for Section 1	1587 days	Thu Sep 19, 13 Thu Sep 19, '13	Mon Jan 22, 18 Mon Jan 22, '18		9/19 9/19 <b>[[[</b> ]																





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External Tasks

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External Milestone

												Stage 4	Kai Tak Dev Infrastructure at F Master Pro	ormer North A	Apron Area												Page 2
ID Task Name 1 Commence KL/2012/03 construction	Duration 1454 days	Start Thu Sep 19, '13	Finish 9 16 23 3 Mon Sep 11, '17	Jul 3 30 7 14 21 28	Aug Sep 8 4 11 18 25 1 8	Oct 8 15 22 29 6 13 2	Nov De 20 27 3 10 17 24 1	2014 lec Jan 8 15 22 29 5	Feb Mar 12 19 26 2 9 16 23 2 9 16 2	Apr May Ju 3 30 6 13 20 27 4 11 18 25 1	un Ju 1 8 15 22 29	ul Aug 20 27 3 10 17 24 3	Sep Oct 31 7 142128 5 121	Nov 26 2 9 16 23	2015           Dec         Jan         Feb           30         7         14         21         28         4         11         18         25         1	Mar         Apr           8 15 22 1 8 15 22 29 5 12 19 2	May Jun Jul 5 3 10 17 24 31 7 14 21 28 5 12	Aug         Sep           19         26         2         9         16         23         30         6         13	Oct Nov 20 27  4  11  18  25  1   8  15  2	2016 Dec Jan 22 29 6 13 20 27 3	Feb         Mar           0 17 24 31 7 14 21 28 6 13	Apr May 2027 3 10 17 24 1 8 15	Jun Ju 22 29 5 12 19 26 3	ıl Aug 3 10 17 24 31 7 14 21 28	ep Oct 4 11 18 25 2 9 16 23	Nov         Dec           30         6         13         20         27         4         1	2017 Jan Feb 11 18 25 1 8 15 22 29 5
1     Commence KL/2012/03 construction       2     Section 2: Works within Portion 1 and 4		Thu Sep 19, 13 Thu Sep 19, '13	Mon Sep 12, '16		9/19	9																			9/12		
3       Setting out site boundary         4       Obtain underground utilities plans         5       Site clearance         6       Initial survey         7       Erect hoarding, chain link fence and vehicular gate         8       Construction of Road L19	30 days 30 days 14 days 30 days 1090 days	Mon Nov 18, '13 Mon Dec 2, '13 <b>Thu Sep 19, '13</b>	Fri Oct 18, '13 Fri Oct 18, '13 Sun Nov 17, '13 Sun Dec 1, '13 Tue Dec 31, '13 <b>Mon Sep 12, '16</b>		9/1	19 10/19 19	10/18 10/18 11/18 11/18 12/2	12/1	31																9/12		
<ul> <li>9 Application of XP and TTA for approval</li> <li>10 Submission / approval of construction materials, temporary works design and method statements for rising mains, stormwater drain and watermains</li> </ul>	315 days 30 days	Fri Sep 20, '13 Wed Nov 20, '13	Thu Jul 31, '14 Thu Dec 19, '13		9/2		11/20	12/19				7/31															
11       Delivery of materials         12       Install storm drain from SMH1 to SMH6 and construct manholes         13       Install sewerage drain from DC2 to FMH7 and construct manholes	80 days	Tue Feb 25, '14 Fri Aug 1, '14 Mon Oct 20, '14	Fri Apr 25, '14 Sun Oct 19, '14 Sat Jan 17, '15						2/25	4/25		8/1 00000000		10/19													
14Approval of TTA drawing at Bailey Street15Install storm drain from SMH8 to SMH12 and 16 and manholes		Sun Jan 18, '15 Thu Mar 19, '15	Wed Mar 18, '15 Sun Aug 30, '15												1/18	-3/18 3/19											
<ul> <li>Install storm drain from SMH7 to existing manhole and construct manholes</li> <li>Inspection pit at Bailey Street for determining the alignment of sewer drain and construct protection concrete layer above existing</li> </ul>	60 days 180 days	Tue Oct 6, '15 Thu Mar 19, '15	Fri Dec 4, '15 Mon Sep 14, '15													3/19			10/6	12/4							
18       Install sewerage drain from FMH10 to existing manhole and construct manholes (VO)	195 days	Tue Sep 15, '15	Sun Mar 27, '16															9/15 🛣				<mark>1110</mark> ∼3 <b>/</b> 27					
19 Notification of traffic advice and implementation of TTA at Bailey Street (VO)	65 days	Mon Mar 28, '16	Tue May 31, '16																		3/	28	<b>1110</b> -5/31				
20 Construction of manhole FMH9 and 4 nos. DN600 DI pipes (VO)		Wed Jun 1, '16																					5/1	<b>11111111111</b> -8/4			
<ul> <li>21 Application of traffic signal at Beiley Street (VO)</li> <li>22 Construct road kerb at CHE50-150</li> <li>23 Installation of additional street lighting and traffic signals system at Bailey Street (VO)</li> </ul>	180 days 30 days 50 days	Fri Aug 5, '16	Tue Aug 16, '16 Sat Sep 3, '16 Fri Sep 23, '16																		2/19			8/5	9/3 11111111 9/23		
24Install 200mm dia. Fresh water main CHE50-CHE10025Construct road kerb at CHE50-150	25 days 30 days	Wed Oct 19, '16	Tue Oct 18, '16 Thu Nov 17, '16																						9/24 <b>10/19</b>		
<ul> <li>26 Construction of road pavement CHE50-150</li> <li>27 UU liaison meeting</li> <li>28 Installation of utility by the utility undertakers along proposed footpath CHF50-150</li> </ul>	35 days 200 days 43 days		Thu Dec 22, '16 Mon Feb 2, '15 Thu Aug 25, '16									7/18				/2							7/:	14	25	11/18 (11)	12/22
<ul> <li>29 Construct footpath</li> <li>30 Installation of utility by the utility undertakers along proposed footpath CHE50-150</li> <li>31 Construct footpath</li> </ul>	42 days	Fri Aug 26, '16 Sun Jul 17, '16 Sun Aug 28, '16	Sat Sep 24, '16 Sat Aug 27, '16 Mon Sep 26, '16																				7	8/26 8/26 8/28	9/24 27 9/26		
32 Installation of utility by the utility undertakers along proposed footpath CHE150-250	40 days	Fri Jul 15, '16	Tue Aug 23, '16																					/15	3		
<ul> <li>33 Construct footpath</li> <li>34 Installation of utility by the utility undertakers along proposed footpath CHF150-250</li> <li>35 Construct footpath</li> </ul>	43 days	Wed Aug 24, '16 Thu Jul 14, '16 Fri Aug 26, '16	Thu Sep 22, '16 Thu Aug 25, '16 Sat Sep 24, '16																				7/:	14 8/24 8/26	9/22		
<ul> <li>36 Installation of utility by the utility undertakers along proposed footpath CHF250-340</li> <li>37 Construct footpath</li> </ul>	43 days	Sat Jul 16, '16 Sun Aug 28, '16	Sat Aug 27, '16 Mon Sep 26, '16																				7,	/16			
38 Installation of utility by the utility undertakers along proposed footpath CHE250-340	30 days	Mon Jul 25, '16	Tue Aug 23, '16																					7/25	3		
<ul> <li>Construct footpath</li> <li>Installation of utility by the utility undertakers along proposed footpath CHE0-50</li> </ul>		Wed Aug 31, '16 Sat Sep 24, '16	Thu Sep 29, '16 Sun Oct 23, '16																					8/31	9/29		
<ul> <li>41 Installation of utility by the utility undertakers along proposed footpath CHF0-50</li> <li>42 Existing utilities diversion works by the UU</li> </ul>	30 days	Sat Sep 24, '16 Mon Aug 8, '16	Sun Oct 23, '16 Fri Sep 16, '16																					0/0	9/24	0/23	
<ul> <li>43 Construct footpath</li> <li>44 Application and installation of traffic signal at Beiley Street (VO)</li> </ul>	20 days 180 days	Sat Sep 17, '16 Thu Mar 31, '16	Thu Oct 6, '16 Mon Sep 26, '16																		3	/31			9/17 10/6 9/26		
<ul> <li>45 Submission of ICE design for jacking pit 10 and 11</li> <li>46 Construct jacking pit at pit no. 11</li> <li>47 Submission of ICE design for common pit no. 10 (VO)</li> <li>48 Construct common pit at pit no. 10 (VO)</li> <li>49 Mobilization of equipment and set up</li> <li>50 Drilling for rising mains from pit 11 to 10</li> <li>51 Delivery of rising mains for pit 11 to 10</li> <li>52 Install rising mains from pit 11 and 10</li> <li>53 Construct WO chamber at pit no. 11</li> <li>54 Install storm drain from SMH13 to SMH15 and manholes</li> <li>55 Install 2x630mm dia. HDPE rising mains from WOC to DC2 (VO)</li> </ul>	125 days 30 days 55 days 10 days 100 days 60 days 75 days	Wed Aug 27, '14 Sat Sep 27, '14 Mon Dec 29, '14 Thu Jan 8, '15 Sat Apr 18, '15 Wed Jun 17, '15 Mon Aug 31, '15 Sat Jul 16, '16	Mon Aug 25, '14 Sun Dec 28, '14 Thu Sep 25, '14 Thu Nov 20, '14 Wed Jan 7, '15 Fri Apr 17, '15 Tue Jun 16, '15 Sun Aug 30, '15 Fri Jul 15, '16 Thu Aug 4, '16 Fri Aug 19, '16									8/1 8/26 6 8/27 5	9/25 9/25 9/27		12/28 /20 12/29 1/8	4/1 <sup>*</sup> 4/18		8/30 8/31 8/31					7,	7/15 /16 8/4 8/19			
56Install 200mm dia fresh water main CHE200-CHE40057Install NS125 & NS63 salt water main CHE0-CHE10058Pressure test, swabbing,sterilization and connection59Construct addition lay-by (VO)60Construct road kerb61Application of traffic signal at Chi Kiang Street (VO)62Installation of traffic signals at Chi Kiang Street (VO)63Construct flexible carriageway64Installation of street lighting by HyD65Road marking66Relocate existing directional sign67Construct footpath and planting area and irrigation system68Plants delivery for landscaping works69Preparatory works for landscaping works70Hydroseeding71Tree and shurb planting	25 days 30 days 25 days 13 days 120 days 30 days 25 days 30 days 2 days 30 days 20 days 30 days 12 days	Sat Aug 20, '16 Sat Aug 20, '16 Mon Sep 19, '16 Mon Sep 19, '16 Fri Oct 14, '16 Sun Jun 5, '16 Thu Oct 27, '16 Sat Nov 26, '16 Fri Oct 14, '16 Wed Dec 21, '16 Thu Sep 22, '16 Fri Oct 28, '16 Thu Nov 3, '16	Fri Oct 21, '16 Wed Nov 16, '16 Fri Dec 2, '16 Wed Dec 14, '16 Thu Dec 15, '16																				6/5	8/20	9/19 9/19 9/19 10/14 10/14 10/2 10/27 10/27 10/14 9/22 10/27 10/28 11/2	3 10/26 11/26 11/26 11/12 11/12	111 12/20 21 0 12/22 12/14 12/15 0 12/18
72       73     Section 2A       74     Establishment works for Section 2		Thu Sep 19, '13 Thu Sep 19, '13	Mon Sep 11, '17 Mon Sep 11, '17		9/19 9/1																						

	Critical tasks Non-critical tasks	2 5	· · · · · · · · · · · · · · · · · · ·	Inactive Summary Manual Task	\$ Duration-only Manual Summary Rollup	Manual Summa Start-only
Commencement Date: 19 Septemb Completion Date: 5 May 2016	er 2013					

Revised Completion Date: 12 September 2016

# KL/2012/03 Kai Tak Development -

nmary	<b>♦</b>	Finish-only		<ul> <li>External Milestone</li> </ul>	
		External Tasks	<b>\$</b>		

# Rev .15 Page 2a

ID	Task Name	Duration	Start	Finish	Jul	Aug				Dec	2014 Jan	F	Feb	Mar	Ar		May	1100
1 2	Commence KL/2012/03 construction Section 2: Works within Portion 1 and 4	1437 days 1090 days	Thu Sep 19, '13 Thu Sep 19, '13	Fri Aug 25, '17 Mon Sep 12, '16		4 11 10	9/19				2223	121720	2 7 102	2 <u>2</u> <u>7</u>			/ 4 1.	. 102
3	Setting out site boundary Obtain underground utilities plans	30 days 30 days	Thu Sep 19, '13 Thu Sep 19, '13	Fri Oct 18, '13 Fri Oct 18, '13			9/19 <b>111</b> 9/19 🗪		18									
5	Site clearance Initial survey	30 days 14 days	Sat Oct 19, '13 Mon Nov 18, '13	Sun Nov 17, '13 Sun Dec 1, '13				10/19 🗛	<u>, 1/</u>									
7	Erect hoarding, chain link fence and vehicular gate	30 days	Mon Dec 2, '13	Tue Dec 31, '13					1/18	12/1	12	31						
8	Installation of rising main along To Kwa Wan Road	1060 days	Sat Oct 19, '13	Mon Sep 12, '16				0/19										Π
9 10	Application of XP and TTA for approval Submission / approval of method statement, temporary works design	210 days 100 days	Sat Oct 19, '13 Sat Dec 28, '13	Fri May 16, '14 Sun Apr 6, '14				10/19		12/2	8					4/6		<b>5/1</b>
11 12	Procurement of HDPE pipes and fittings Procurement of special fittings	80 days 80 days	Fri Oct 3, '14 Thu Jan 22, '15	Sun Dec 21, '14 Sat Apr 11, '15														
13	Inspection pits at pit no. 5, 6, 7, 9, 10 and 11 for determining the alignment of rising mains.	14 days	Sat May 17, '14	Fri May 30, '14													<b>5/</b> 17	Ť
14	Allow for utilities diversion works by the UU at pit no. 5, 6, 7, 9, 10 and 11	21 days	Sat May 31, '14	Fri Jun 20, '14														5/31
15	Construct common pit at pit no.5 and 9	40 days	Sat Jun 21, '14	Wed Jul 30, '14														
16 17	Handover common pit 5 and 9 for HKCG works Construct common pit at pit no. 6	35 days 90 days	Thu Jul 31, '14 Fri Aug 15, '14	Wed Sep 3, '14 Wed Nov 12, '14														
18 19	Construct common pit at pit no. 7 Construct common pit at pit no. 10	275 days 55 days	Thu Aug 21, '14 Sat Sep 27, '14	Fri May 22, '15 Thu Nov 20, '14														
20	Construct jacking pit at pit no. 11	130 days	Mon Sep 1, '14	Thu Jan 8, '15														
21 22	Mobilization of equipment and set up at Pit 7 Drilling for gas mains from pit 9 to 7 by HKCG	44 days 247 days	Tue Oct 14, '14 Thu Nov 27, '14	Wed Nov 26, '14 Fri Jul 31, '15														
23 24	Install gas mains from pit 9 to 7 by HKCG	140 days	Sat Aug 1, '15 Sat Dec 19, '15	Fri Dec 18, '15														
25	Bacfilling and handback pit 7 to KO Bacfilling and handback pit 9 to KO	16 days 37 days	Sun Dec 27, '15	Sun Jan 3, '16 Mon Feb 1, '16														
26 27	Rectification works by HKCG at Pit 9 DSD contractor repair works near Pit 9	66 days 14 days	Tue Feb 2, '16 Mon Jan 4, '16	Thu Apr 7, '16 Sun Jan 17, '16														
28	Mobilization of equipment and set up at pit 9	30 days	Fri Apr 8, '16	Sat May 7, '16														
29 30	Drilling for rising mains from pit 9 to 7 (use DN1350 TBM and DN1650 steel sleeve pipe) (Rock head) Demobilization of equipment at Pit 9	220 days	Sun May 8, '16 Wed Dec 14, '16	Tue Dec 13, '16 Tue Dec 27, '16														
31 32	Install rising mains (HDPE - 3m long) from pit 9 to 7 Procument of HDPE fittings and install rising mains at pit 7 and 9	120 days 40 days	Wed Dec 28, '16 Thu Apr 27, '17	Wed Apr 26, '17 Mon Jun 5, '17														
33 34	Mobilization of equipment and set up at pit 10 Drilling for rising mains from pit 10 to 9 (Boulder head)	30 days 60 days	Fri Nov 25, '16 Wed Dec 28, '16	Sat Dec 24, '16 Sat Feb 25, '17														
35	Demobilization of equipment at Pit 10	20 days	Sun Feb 26, '17	Fri Mar 17, '17														
36 37	Install rising mains from pit 10 and 9 Procument of HDPE fittings and install rising mains at pit 10	30 days 30 days	Sat Mar 18, '17 Mon Apr 17, '17	Sun Apr 16, '17 Tue May 16, '17														
38 39	Mobilization of equipment and set up at pit 6 Drilling for rising mains from pit 6 to 7 (Rock Head)	45 days 45 days	Wed Dec 2, '15 Sat Jan 16, '16	Fri Jan 15, '16 Mon Feb 29, '16														
40	Install rising mains from pit 6 to 7	30 days	Fri May 6, '16	Sat Jun 4, '16														
41 42	Procument of HDPE fittings and install rising mains at pit 6 Reinstatement of pit 6	25 days 25 days	Sat Dec 17, '16 Wed Jan 11, '17	Tue Jan 10, '17 Sat Feb 4, '17														
43	Drilling for gas mains from pit 5 to 6 by HKCG	110 days	Sun Aug 24, '14	Thu Dec 11, '14														
44 45	Install gas mains from pit 5 and 6 by HKCG Mobilization of equipment and set up at Pit 10	65 days 21 days	Fri Dec 12, '14 Sun Jul 12, '15	Sat Feb 14, '15 Sat Aug 1, '15														
46 47	Drilling for gas mains from pit 10 to 9 by HKCG Demobilization of equipment at Pit 10	30 days 7 days	Sun Aug 2, '15 Tue Sep 1, '15	Mon Aug 31, '15 Mon Sep 7, '15														
48	Install gas mains from pit 10 and 9 by HKCG	120 days	Tue Sep 8, '15	Tue Jan 5, '16														
49 50	Riser installation at pit 10 Gas pipe Connection	20 days 20 days	Wed Jan 6, '16 Tue Jan 26, '16	Mon Jan 25, '16 Sun Feb 14, '16														
51 52	Bacfilling and handback pit 10 to KO Mobilization of equipment and set up at Pit 6 by HKCG	30 days 14 days	Mon Feb 15, '16 Tue Jul 7, '15	Tue Mar 15, '16 Mon Jul 20, '15														
53	Drilling for gas mains from pit 6 to 7 by HKCG	18 days	Tue Jul 21, '15	Fri Aug 7, '15														
54 55	Demobilization of equipment at Pit 6 & 7 Install gas mains from pit 6 and 7 by HKCG	35 days 30 days	Sat Aug 8, '15 Sat Sep 12, '15	Fri Sep 11, '15 Sun Oct 11, '15														
56 57	Erect working platform by HKCG Gas pipe testing	14 days 28 days	Mon Oct 12, '15 Mon Oct 26, '15	Sun Oct 25, '15 Sun Nov 22, '15														
58	Gas pipe Connection	7 days	Mon Nov 23, '15	Sun Nov 29, '15														
59 60	Bacfilling and handback pit 6 to KO Bacfilling and handback pit 7 to KO	46 days 51 days	Tue Mar 1, '16 Tue Mar 1, '16	Fri Apr 15, '16 Wed Apr 20, '16														
61 62	Backfilling to the formation level for KO works at pit no. 5 Mobilization of equipment and set up at Pit 5	14 days 25 days	Sun Feb 15, '15 Wed Mar 11, '15	Sat Feb 28, '15 Sat Apr 4, '15														
63	Drilling for rising mains from pit 5 to 6 (Boulder head)	65 days	Thu Apr 16, '15	Fri Jun 19, '15														
64 65	Demobilization of equipment at pit 5 Handover common pit 6 for HKCG works	15 days 2 days	Sat Jun 20, '15 Sun Jul 5, '15	Sat Jul 4, '15 Mon Jul 6, '15														
66 67	Install rising mains from pit 5 and 6 Mobilization of equipment and set up at pit 5	40 days 28 days	Thu May 12, '16 Fri Aug 14, '15	Mon Jun 20, '16 Thu Sep 10, '15														
68	Drilling for rising mains from pit 5 to 4 (Rock head)	90 days	Sat Sep 26, '15	Thu Dec 24, '15														
69 70	Demobilization of equipment at Pit 4 and 5 Install rising mains from pit 5 to 4	14 days 60 days	Fri Dec 25, '15 Sat Jun 25, '16	Thu Jan 7, '16 Tue Aug 23, '16														
71 72	Construct wash-out chamber at pit no.5 Inspection pits at pit no. 3 and 4 for determining the alignment of	45 days 40 days	Wed Aug 24, '16 Sat Oct 11, '14	Fri Oct 7, '16 Wed Nov 19, '14														
72	rising mains. Allow for utilities diversion works by the UU at pit no. 3 and 4 if	40 days 65 days	Thu Nov 20, '14	Fri Jan 23, '15														
74 75	necessary Construct jacking pit no. 4 Revised TTA at Pit 4 for TMLG approval and implementation of	190 days 30 days	Fri Apr 3, '15 Wed Mar 9, '16	Fri Oct 9, '15 Thu Apr 7, '16														
76	TTA Mobilization of equipment and set up at pit 4	42 days	Fri Apr 8, '16	Thu May 19, '16														
77 78	Drilling for rising mains from pit 4 to 2 (Rock head) Install rising mains (HDPE - 4m long) from pit 4 to 2	240 days 80 days	Fri May 20, '16 Sun Jan 15, '17	Sat Jan 14, '17 Tue Apr 4, '17														
79	Procument of HDPE fittings and install rising mains at pit 2 and 4	30 days	Wed Apr 5, '17	Thu May 4, '17														
80 81	Mobilization of equipment and set up Drilling for rising mains from pit 11 to 10	10 days 100 days	Fri Jan 9, '15 Mon Jan 19, '15	Sun Jan 18, '15 Tue Apr 28, '15														
82	Install rising mains from pit 11 and 10	110 days	Wed Apr 29, '15	Sun Aug 16, '15														
83	Inspection pits at pit no. 2 for determining the alignment of rising mains.	10 days	Sat Nov 15, '14	Mon Nov 24, '14														
84	Inspection pits at pit no. 1 for determining the alignment of rising mains.	60 days	Tue Nov 25, '14	Fri Jan 23, '15														
85 86	DSD's Construction of Works Roadworks advice approved by RMO	90 days 30 days	Sat Jan 24, '15 Sun Apr 5, '15	Thu Apr 23, '15 Mon May 4, '15														
87	Allow for utilities diversion works by the UU at pit no. 2	220 days	Tue May 5, '15	Thu Dec 10, '15														
88 89	Construct receiving pit no. 2 Remove existing EMSD hoarding	40 days 70 days	Fri Mar 18, '16 Sat Jan 24, '15	Tue Apr 26, '16 Fri Apr 3, '15														
90 91	Roadworks advice approved by RMO Allow for utilities diversion works by the UU at pit no. 1	30 days 205 days	Sat Apr 4, '15 Mon May 4, '15	Sun May 3, '15 Tue Nov 24, '15														
92	Construct jacking pit no. 1	140 days	Wed Nov 25, '15	Tue Apr 12, '16														
93 94	Mobilization of equipment and set up Drilling for rising mains from pit 1 to 2 (Boulder head)	38 days 70 days	Wed Apr 13, '16 Sat May 21, '16	Fri May 20, '16 Fri Jul 29, '16														
95 96	Install rising mains from pit 1 to 2 and pit 1	40 days	Mon Sep 12, '16	Fri Oct 21, '16														
97	Procument of HDPE fittings and install rising mains at pit 1 Pit reinstatement at pit 1	30 days 20 days	Sun Jan 15, '17 Tue Feb 14, '17	Mon Feb 13, '17 Sun Mar 5, '17														
98 99	Demobilization of equipment at Pit 1 Install rising mains from NPS to pit 1	14 days 30 days	Sat Jul 30, '16 Sat Aug 13, '16	Fri Aug 12, '16 Sun Sep 11, '16														
100	CCTV inspection to completed pipeline	21 days	Tue Jun 6, '17	Mon Jun 26, '17														
101 102	Pressure test Road reinstatement at pit 7, 9 and 10	30 days 30 days	Tue Jun 27, '17 Thu Jul 27, '17	Wed Jul 26, '17 Fri Aug 25, '17														

Manual Task Duration-only

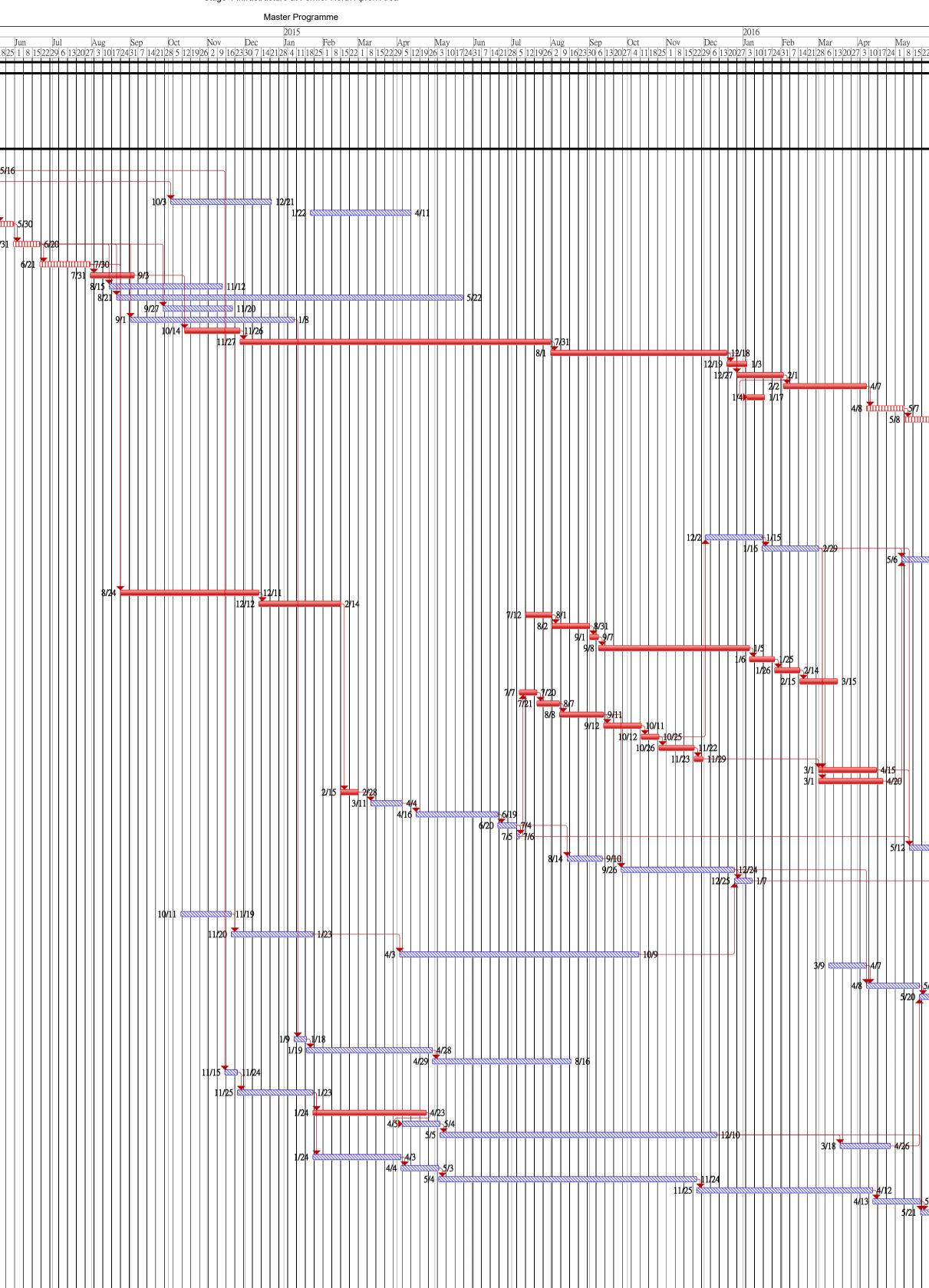
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Manual Summary Rollup 🔶 Manual Summary 🔷

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





	External Tasks	•
Finish-only	 External Milestone	

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	52	229	5 1	21		10	17	24	31	71	42	12	3 4	11	18	325	2	9	162	233	06	5 13	320	)27	74	11	18	25	1	8	152	222	29	5 1	21	.92	65	5 1	219	926	52	9	16	23	30	71	42	12	84	1	118	25	2	91	62	33(	) 6	13	202	27	3
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						7	7/30	8	/13		8/1	2			9/1	1																	2/1	4			~	3/:	5									6/6	5 <b>t</b>	6	/27	<b>D</b>	5/2	5		7/	<b>'</b> 26				

ID Task Name									Masie	Programme									
	Duration	Start	Finish		mber 1	January 2014 January 1	May 2014 March 1 May 1	July 1	September 2014 September 1	Januar November 1 Januar		arch 1	May 2015 May 1 July 1	September 2015           September 1         November 1           10/25         11/22	January 2016 January 1	March 1	May 2016 May 1	July 1   September 2     6/5   7/3   7/31	1 Novem
1       Commence KL/2012/03 construction         2       Section 3: Works within Portion 1	1336 days 972 days	Thu Sep 19, '13 Thu Sep 19, '13	Tue May 16, '17	4 9/1 9/29 10/2 9/19	27 11/24	12/22 1/19	2/16 3/16 4/13 5/11	6/8 7/6 8/3	3 8/31 9/28	10/26 11/23 12/21	1/18 2/15	3/15 4/	/12 5/10 6/7 7/5 8	8/30         9/27         10/25         11/22	12/20 1/17	2/14 3/	3 4/10 5/8	6/5     7/3     7/31     8/28       7	9/25 10/23
3 Works for Part of Road D2			Tue May 17, '16	9/19													5/17		
4       Site possession and preparation works         5       Site clearance and setting out site boundary         6       Apply XP for roadworks at junction of SWTR and TKWR and TTA approval	15 days 20 days 210 days	Thu Sep 19, '13 Fri Oct 4, '13 Sun Nov 3, '13	Wed Oct 23, '13	9/19 10/3 10/4 10/23 11/3				/B1											
7       Submission of baseline monitoring for EPD approval         8       Approval of baseline monitoring by EPD	25 days 25 days		Thu Oct 31, '13 Mon Nov 25, '13	10/7	31														
9 Submission / approval of construction materials and method statements for sewerage drain	55 days	Fri Oct 4, '13	Wed Nov 27, '13	10/4															
10 Construct jacking / receiving pits for 2x750mm dia. Concrete pipes from FMH120_60 to 70 by trenchless method	120 days	Thu Nov 28, '13	Thu Mar 27, '14		11/28		3/27												
11Delivery of materials for sewerage drain12Mobilization of pipe jacking machine and setup13Drilling and installation of concrete pipe for 2x750mm dia.	60 days 30 days 90 days	Fri Jan 24, '14 Fri Mar 28, '14 Sun Apr 27, '14	Sat Apr 26, '14			1/2	3/24 3/28 4/27 4/26	7/25											
14     Construct sewerage drain and construct manholes from FMH120_30 to 40	80 days	Sat Jul 26, '14	Mon Oct 13, '14					7/26	10	13									
15     Construct manholes FMH120_60 and 70       16     Removal of existing hoarding	60 days 50 days	Sat Dec 13, '14	Sat Jan 31, '15						10/14	12/12 12/13	1/31								
<ul> <li>Approval of TTA and implementation of TTA along SWTR and TKWR</li> <li>Removal of existing security fence</li> </ul>	30 days 20 days										2/1 4	3/2							
19 Install storm drain from SMH2501 to 2503 and construct manholes for construction of road junction of D2/SWTR	30 days	Mon Mar 23, '15	Tue Apr 21, '15									🗡	4/21						
20 Completion of CLP works (Portion B) (width of occupied areas at northbound of D2 = approx. 20m)			Wed Apr 15, '15				4/3					<u></u>	15						
21Installation of sheetpiling for CP3P3 1061-111522Installation of waling and excavation to formation level for CP3P3 1061-1115		Sun Jan 11, '15 Wed Feb 25, '15								1/1	2/9 2/25	-4/10							
23Construct DCS system at CP3P3 1061-111524Trench backfilling at CP3P3 1061-1115 and removal of sheet			Tue Oct 13, '15 Thu Nov 12, '15									4/22		10/13 10/14					
piles       25       Install storm drain from SMH2202 to 2204 and construct manholes			Wed Jul 29, '15										5/31 7/29						
26 Install storm drain from SMH3110 to3112 & 3113 to 3115 and construct manholes	90 days	Sun Jun 7, '15	Fri Sep 4, '15										6/7	9/4					
27 Construct sewerage drain and construct manholes from DC1 to FMH120_30	50 days	Sun Sep 6, '15	Sun Oct 25, '15											9/6					
28 Install storm drain from SMH3112 to 3113 and construct manholes			Mon Dec 14, '15											10/26	2/14				
29       Install water main and wash-out chamber CHB200-CHB280 and CHC200-CHC280         20       Left light of the fluctuation of the state of the sta			Sun Mar 13, '16											12/15		3/13			
<ul> <li>30 Installation of utility by the utility undertakers at the junction of the realigned DLO ROW</li> <li>31 Install sewer drain from FMH120_10 to 20</li> </ul>			Mon Mar 28, '16 Thu May 12, '16													3/14			
32 Construct additional manhole FMH120_15 (VO) 33 Modification of newly constructed sewer manholes and	40 days	Fri May 13, '16	Tue Jun 21, '16 Mon Jun 20, '16													5129	5/13 5/13 5/22	6/2	
associated drain pipes for DC1 34 Construct flexible carriageway at the junction of realigned DLO			Fri Aug 5, '16															6/22	
ROW including wearing course         35       Road marking         36       Install traffic signal at the Junction of Road D2/ Western Access		Sat Aug 6, '16 Sun Jun 26, '16																8/6 <del>6</del> 8/6	
<ul> <li>Install traffic signal at the Junction of Road D2/ Western Access Road</li> <li>Re-diversion of DLO ROW</li> </ul>		Sun Jun 26, '16 Sun Aug 7, '16	Fri Jul 15, '16 Mon Aug 8, '16															6/26 7/15 8/7 8/8	
38 Install water main CHB170-CHB200 and CHC170-CHC200	15 days	Tue Aug 9, '16	Tue Aug 23, '16															8/9 \$/23	
39     Construct road gully and gully pipe       40     Construct road kerb       41     Construct flexible carriageway	15 days		Thu Sep 22, '16															8/24 9/8 9/8 9/8	9/22
41Construct flexible carriageway42Installation of utility by the utility undertakers along proposed footpath CH730-750	20 days 15 days		Tue Aug 23, '16															8/9	S 7/2/
43     Construct u-channel and footpath       44     Landscaping works	3 days	Wed Sep 28, '16																0,21	≥9/27 ≥ 9/30
<ul> <li>45 Construct sewerage drain and construct manholes from FMH120_40 to 60</li> <li>46 Proposed sewerage drain from FMH120_50 to 60 clash with CLP</li> </ul>	22 days														1/2				
46 Proposed sewerage drain from FMH120_50 to 60 clash with CLP as-constructed CLP tunnel. Revised construction details was instructed by the Engineer on 30 Dec 15	30 days														1/3				
<ul> <li>47 Construct additional manhole FMH120_55 (VO)</li> <li>48 Construct sewerage drain from FMH120_50 to 55 to 60</li> <li>49 Install storm drain from SMH3117 to SMH2304</li> </ul>	60 days 30 days 55 days	Fri Mar 4, '16	Sat Apr 2, '16												1/4	3/3		5/07	
49       Install storm drain from SMH3117 to SMH2304         50       Install storm drain from SMH3115 to 3117a and construct manholes		Sun Apr 3, 16 Sat May 28, '16														4,	5/28 8	6/21	
51Install water main CHB0-CHB170 and CHC0-CHC17052Construct road gully and gully pipe53Construct road bully and gully pipe	50 days	Sat May 28, '16 Sat May 28, '16	Sat Jul 16, '16														5/28 5/28	7/16	
53       Construct road kerb         54       Install irrigation system         55       Installation of lighting system by HyD	30 days 30 days 20 days	Sun Jul 17, '16 Tue Aug 16, '16 Tue Aug 16, '16	Wed Sep 14, '16															7/17 8/15 8/16 8/16 8/16	4
56Construct flexible carriageway57Planting works	50 days 5 days	Tue Aug 16, '16 Wed Oct 5, '16	Tue Oct 4, '16 Sun Oct 9, '16															8/16 8/16 10	0/5 n 10/9
<ul> <li>58 Liaison meeting with UU</li> <li>59 Installation of utility by the utility undertakers along proposed footpath CH550-730</li> </ul>	270 days 52 days		Sun Feb 1, '15 Tue Aug 23, '16				5/8				2/1							7/3	
60Construct planting area, u-channel and footpath61Landscaping works62Installation of utility by the utility undertakers along proposed footpath CH750-810	3 days	Wed Aug 24, '16 Fri Sep 23, '16 Sun Jul 3, '16																8/24 9/23 0 7/3	
63Construct planting area, u-channel and footpath64CLP T-junction at Portion C	40 days 388 days	Wed Aug 17, '16 Thu Oct 9, '14							10/9									8/17	9/25
65 Installation of utility by the utility undertakers along proposed footpath CHA820-850		Sun Nov 1, '15	Mon Nov 30, '15											11/1					
66 Submission on method statement for DWFI for DSD approval	20 days		Fri Oct 23, '15											10/4					
<ul> <li>67 Awaiting for construction details for re-construction of box culvert</li> <li>68 Reconstruction of existing box culvert DWFI (VO)</li> </ul>		Wed Dec 2, '15 Thu Jan 14, '16	Wed Jan 13, '16 Wed Jun 1, '16												1/13 1/14				
69 Construct sewer drain from box culvert to FMH140_10 and manhole	70 days		Wed Aug 10, '16														6/2		
70 Install FWM CHC1-0 to 50 & SWM CHF2-0 to 50 (VO 35A)			Fri Sep 9, '16															8/11	
71 Installation of utility by the utility undertakers along proposed footpath CHA820-850			Mon Sep 19, '16															9/10 1111-9/1	
72       Construct planting area, u-channel and footpath         73			Sun Oct 9, '16 Tue May 16, '17	9/19														9/20	10/9
75   Establishment works for Section 3     76	1336 days	Thu Sep 19, '13	Tue May 16, '17	9/19															
77Section 478Perservation and preotection of trees within Portions 1 to 4		Thu Sep 19, '13 Thu Sep 19, '13		9/19														→ 9/2 → → → → → → → → → → → → → → → → → → →	

	Critical tasks	Working days	÷	Inactive Summary		Duration-only		Manual Sum
	Non-critical tasks	Inactive Milestone		Manual Task	$\diamond$	Manual Summary Rollup	•	Start-only
ection 3	or 2013							

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

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 Finish-only
 External Milestone

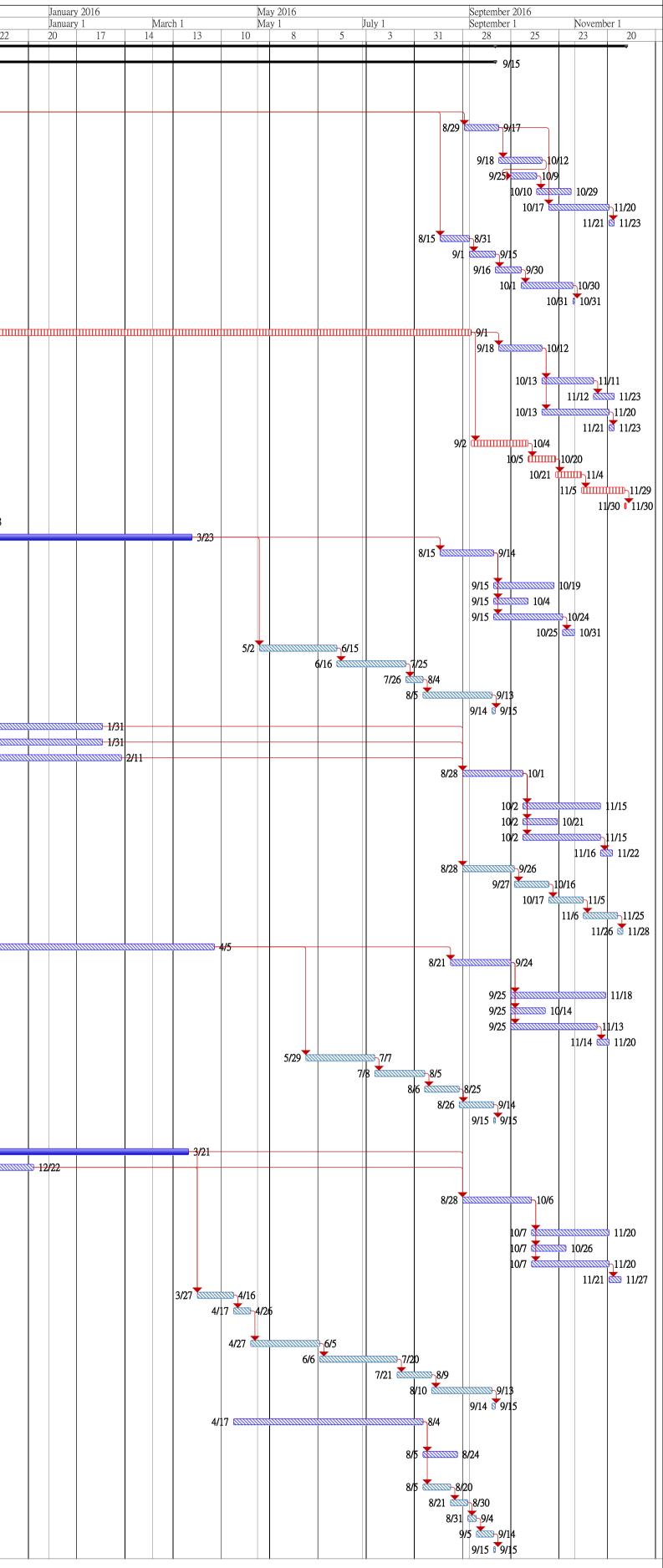
 External Tasks
 Image: Alternal Milestone

Rev .15 Page 3

											Stage 4 Infrastruct	ture at Former	North Ap	ron Area									
ID	Task Name	Duration	Start	Finish	September 2013 September 1 Nov	ovember 1	January 2014 January 1	March 1	May 2014 May 1 July 1		September 2014 September 1	November 1		January 2015 January 1	March 1	May May	<u>/ 2015</u> / 1	July 1		September 2 September 1		November 1	1
1	Commence KL/2012/03 construction	1093 days	Thu Sep 19, '13	Thu Sep 15, '10	б 🗣	27 24	22 19	16 16	13 11 8 6	5 3	31 28	26	23	21 18	15 15	12	10 7	5	2	30	27	25	22
2	Section 5: Works for Southbound of Road D2           Awaiting for the notification of commencement of works by the Engineer	1093 days 97 days	Thu Sep 19, '13 Thu Sep 19, '13	Thu Sep 15, '10 Tue Dec 24, '11			⊛ <sub>]</sub> 12/24																
4	Construction of DCC and he for CH2D2 070 to 1020	270 1	Wed Dec 25, 112	W-1D 21 11	4	10.0								10/01									
4	Completion of DCS works for CH3P3-970 to 1030 Installation of utility by the utility undertakers along proposed footpath	372 days 20 days	Wed Dec 25, '13 Mon Aug 29, '16	Wed Dec 31, '14 Sat Sep 17, '16		12/2	25 (111111111111111111111111111111111111							12/31									
		05.1	0 0 10 11(	W. 10 (10 11)	-																		
6	Construct drainpit and u-channel Install street lighting	25 days 15 days	Sun Sep 18, '16 Sun Sep 25, '16	Wed Oct 12, '10 Sun Oct 9, '10																			
8	Installation of lighting system by HyD	20 days	Mon Oct 10, '16	Sat Oct 29, '10																			
9	Construct footpath, planting area and concrete run-in Landscape works	35 days 3 days	Mon Oct 17, '16 Mon Nov 21, '16	Sun Nov 20, '10 Wed Nov 23, '10																			
11	Construct stormwater drain and manholes	17 days	Mon Aug 15, '16	Wed Aug 31, '10	6																		
12	Construct road gully with pipes Construct road kerb	15 days 15 days	Thu Sep 1, '16 Fri Sep 16, '16	Thu Sep 15, '10 Fri Sep 30, '10																			
14	Construct flexible carriageway	30 days	Sat Oct 1, '16	Sun Oct 30, '10	6																		
15	Road marking Construct CLP tunnel by CLP Portion B	1 day 413 days	Mon Oct 31, '16 Fri Feb 28, '14	Mon Oct 31, '10 Thu Apr 16, '11			D/	28								4/16							
17	Completion of DCS works for CH3P3-1030 to 1115	610 days	Thu Jan 1, '15	Thu Sep 1, '10									1	/1									
18	Installation of utility by the utility undertakers along proposed footpath	25 days	Sun Sep 18, '16	Wed Oct 12, '10	6																		
19	Construct drainpit and u-channel	30 days	Thu Oct 13, '16	Fri Nov 11, '16	6																		
20	Install street lighting	12 days	Sat Nov 12, '16	Wed Nov 23, '10																			
21	Construct footpath, planting area and concrete run-in Landscape works	39 days 3 days	Thu Oct 13, '16 Mon Nov 21, '16	Sun Nov 20, '10 Wed Nov 23, '10																			
23	Construct stormwater drain and manholes	33 days	Fri Sep 2, '16	Tue Oct 4, '16																			
24	Construct road gully with pipes Construct road kerb	16 days 15 days	Wed Oct 5, '16 Fri Oct 21, '16	Thu Oct 20, '10 Fri Nov 4, '10																			
26	Construct flexible carriageway	25 days	Sat Nov 5, '16	Tue Nov 29, '10	6																		
27	Road marking Completion of DCS works for CH3P3-930 to 970	1 day 141 days	Wed Nov 30, '16 Wed Jul 1, '15	Wed Nov 30, '10 Wed Nov 18, '11														//1				11	1/18
29	Construct CLP tunnel by CLP Portion F1	126 days	Thu Nov 19, '15	Wed Mar 23, '10	6												,	/1				11/19	,10
30	Installation of utility by the utility undertakers along proposed footpath	31 days	Mon Aug 15, '16	Wed Sep 14, '10	6																		
31	Construct drainpit and u-channel	35 days	Thu Sep 15, '16	Wed Oct 19, '10	6																		
32	Install street lighting	20 days	Thu Sep 15, '16	Tue Oct 4, '10																			
33	Construct footpath, planting area and concrete run-in Landscape works	40 days 7 days	Thu Sep 15, '16 Tue Oct 25, '16	Mon Oct 24, '10 Mon Oct 31, '10																			
35	Construct stormwater drain and manholes	45 days	Mon May 2, '16	Wed Jun 15, '10																			
36	Construct road gully with pipes Construct road kerb	40 days 10 days	Thu Jun 16, '16 Tue Jul 26, '16	Mon Jul 25, '10 Thu Aug 4, '10																			
38	Construct flexible carriageway	40 days	Fri Aug 5, '16	Tue Sep 13, '10	6																		
39 40	Road marking Completion of DCS works for CH3P3-370 to 520	2 days 400 days	Wed Sep 14, '16 Sun Dec 28, '14	Thu Sep 15, '10 Sun Jan 31, '10									12/28	8									
41	Completion of DCS works for CH3P3-350 to 370	120 days	Sun Oct 4, '15	Sun Jan 31, '10	6								12,20							10	4		
42	Completion of DCS works for CH3P3-520 to 570 Installation of utility by the utility undertakers along proposed footpath	110 days 35 days	Sun Oct 25, '15 Sun Aug 28, '16	Thu Feb 11, '10 Sat Oct 1, '10																	10/25 🔤		
-5	instantion of unity by the unity undertakers along proposed rootpain	35 days	5un Aug 20, 10	Sat Oct 1, 1																			
44	Construct drainpit and u-channel	45 days	Sun Oct 2, '16	Tue Nov 15, '10																			
45	Install street lighting Construct footpath, planting area and concrete run-in	20 days 45 days	Sun Oct 2, '16 Sun Oct 2, '16	Fri Oct 21, '10 Tue Nov 15, '10																			
47	Landscape works	7 days	Wed Nov 16, '16	Tue Nov 22, '10																			
48	Construct stormwater drain and manholes Construct road gully with pipes	30 days 20 days	Sun Aug 28, '16 Tue Sep 27, '16	Mon Sep 26, '10 Sun Oct 16, '10																			
50	Construct road kerb	20 days	Mon Oct 17, '16	Sat Nov 5, '10	6																		
51 52	Construct flexible carriageway Road marking	20 days 3 days	Sun Nov 6, '16 Sat Nov 26, '16	Fri Nov 25, '10 Mon Nov 28, '10																			
53	Completion of DCS works for CH3P3-570 to 730	200 days	Sat Sep 19, '15	Tue Apr 5, '10	6															9/19 📖			
54	Installation of utility by the utility undertakers along proposed footpath	35 days	Sun Aug 21, '16	Sat Sep 24, '10	6																		
55	Construct drainpit and u-channel	55 days	Sun Sep 25, '16	Fri Nov 18, '10	6																		
56 57	Install street lighting Construct footpath, planting area and concrete run-in	20 days 50 days	Sun Sep 25, '16 Sun Sep 25, '16	Fri Oct 14, '10 Sun Nov 13, '10																			
58	Landscape works	7 days		Sun Nov 13, 10 Sun Nov 20, '10																			
59	Construct stormwater drain and manholes	40 days	Sun May 29, '16 Fri Jul 8, '16	Thu Jul 7, '10 Eri Aug 5, '10																			
61	Construct road gully with pipes Construct road kerb	29 days 20 days	Fri Jul 8, '16 Sat Aug 6, '16	Fri Aug 5, '10 Thu Aug 25, '10																			
62	Construct flexible carriageway	20 days	Fri Aug 26, '16	Wed Sep 14, '10																			
64	Road marking Completion of DCS works for CH3P3-730 to 830	1 day 260 days	Thu Sep 15, '16 Mon Mar 2, '15	Thu Sep 15, '10 Mon Nov 16, '11										3/2	2							11/1	/16
65	Cable duct block by CLP	126 days	Tue Nov 17, '15	Mon Mar 21, '10												105						11/17 📥	
00	Completion of DCS works for CH3P3-830 to 930 (except 860 to 900)	240 days	Mon Apr 27, '15	Tue Dec 22, '1	5											4/27							
67	Installation of utility by the utility undertakers along proposed footpath	40 days	Sun Aug 28, '16	Thu Oct 6, '10	6																		
68	Construct drainpit and u-channel	45 days	Fri Oct 7, '16	Sun Nov 20, '10	6																		
69	Install street lighting	20 days	Fri Oct 7, '16	Wed Oct 26, '10	6																		
70	Construct footpath, planting area and concrete run-in Landscape works	45 days 7 days	Fri Oct 7, '16 Mon Nov 21, '16	Sun Nov 20, '10 Sun Nov 27, '10																			
71 72	Construct stormwater drain and manholes	21 days	Sun Mar 27, '16	Sul Nov 27, 10 Sat Apr 16, '10																			
73	Proposed sewer drain FMH120_20 to 10 clash with as-constructed CLP's cable tunnel. Further instruction is required	10 days	Sun Apr 17, '16	Tue Apr 26, '10	6																		
74	Construct additional manhole with backdrop (VO)	40 days	Wed Apr 27, '16	Sun Jun 5, '10	6																		
75	Construct road gully with pipes	45 days	Mon Jun 6, '16	Wed Jul 20, '10	6																		
76 77	Construct road kerb Construct flexible carriageway	20 days 35 days	Thu Jul 21, '16 Wed Aug 10, '16	Tue Aug 9, '10 Tue Sep 13, '10																			
78	Road marking	2 days	Wed Sep 14, '16	Thu Sep 15, '16	6																		
79	Completion of DCS works for CH3P3-860 to 900 for realignment of DLO ROW including wearing course	110 days	Sun Apr 17, '16	Thu Aug 4, '10	6																		
80	Installation of utility by the utility undertakers along proposed footpath	20 days	Fri Aug 5, '16	Wed Aug 24, '10	6																		
01	Construct atomic ter deriver dans 1.1	17.1																					
81 82	Construct stormwater drain and manholes Construct road gully with pipes	16 days 10 days	Fri Aug 5, '16 Sun Aug 21, '16	Sat Aug 20, '10 Tue Aug 30, '10																			
83	Construct road kerb	5 days	Wed Aug 31, '16	Sun Sep 4, '16	6																		
84 85	Construct flexible carriageway Road marking	10 days 1 day	Mon Sep 5, '16 Thu Sep 15, '16	Wed Sep 14, '10 Thu Sep 15, '10																			
	1			,		I					II						<u> </u>	<b> </b>					

Non-critical tasksInactive MilestoneManual TaskManual Summary RollupStart-only	Critical tasks	Working days	Ţ	Inactive Summary		Duration-only		Manual Summa
	Non-critical tasks	Inactive Milestone		Manual Task	$\diamond$	Manual Summary Rollup	•	Start-only

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



ID	Fask Name	Duration	Start	Finish	Sep	Qtr 4, 201 Oct	Nov		Dec		Qtr 1, 20 Jan		Feb		Mar		A	2tr 2, 20 Apr		May		Ju			Qtı Jul	l
	Commence KL/2012/03 construction	902 days	Thu Sep 19, '13	Tue Mar 8, '16	1 8 15 2	2 29 6 1	3 20 27 3	10 17 24	1 8 1	15 22 2	29 5 1	2 19 2	2	9 16 2	3 2	9 16			13 20		11 18	25	1 8 1	15 22	29	ſ
2 3	Section 7A: Works for Southbound of Road D2 Awaiting for the notifcation of commencement of works by the Engineer	902 days 97 days	Thu Sep 19, '13 Thu Sep 19, '13	Tue Mar 8, '16 Tue Dec 24, '13						⊛_12	2/24														Ī	ľ
4	Submission for approval of DCS materials	100 days 30 days	Wed Dec 25, '13	Thu Apr 3, '14		10/10			12	2/25 📥		uhuuhu	щщ		m			D-4/3								ĺ
5 6 7	Interface works meeting with CLP Deliver DCS materials batch no. 1	150 days	Tue Oct 15, '13 Tue Apr 15, '14	Wed Nov 13, '13 Thu Sep 11, '14		10/15 🔇		<u>∞ 11/13</u>										4/15							<u></u>	\$
8	Submission for approval of method statement and temp work design Installation of sheetpiles for CH3P3-970 to 1030	40 days 40 days	Fri Apr 4, '14 Wed May 14, '14	Tue May 13, '14 Sun Jun 22, '14													4/4									
9 10	Installation of waling and excavation for CH3P3-970 to 1030 Grade 200 rock fill (SI)	60 days 20 days	Mon Jun 23, '14 Fri Aug 22, '14	Thu Aug 21, '14 Wed Sep 10, '14																5/14			••••••	23	<b>4</b> 2	ł
10 11 12	Construct DCS system at CH3P3-970 to 1030 Trench backfilling at CH3P3-970 to 1030	90 days 22 days	Thu Sep 11, '14 Wed Dec 10, '14	Tue Dec 9, '14 Wed Dec 31, '14																						
12 13 14	Construct CLP tunnel by CLP Portion B Deliver DCS materials batch no. 3	413 days 60 days	Fri Feb 28, '14 Thu Oct 30, '14	Thu Apr 16, '15 Sun Dec 28, '14										2/28	╉ <u>┥</u>									+	-	l
14	Installation of sheetpiles for CH3P3-1030 to CP3P3-1087 & CP3P2-1115	50 days	Thu Jan 1, '15	Thu Feb 19, '15																						
16	Installation of waling and excavation for CH3P3-1030 to CP3P3-1087 & CP3P2-1115	50 days	Fri Feb 20, '15	Fri Apr 10, '15																						
17	Construct DCS system at CH3P3-1060 to CP3P3-1087 & CP3P2-1115	50 days	Sat Apr 11, '15	Sat May 30, '15																						
18	Cut CLP sheetpiles and additional infill in CLP structure for installation of seawater pipes	30 days	Mon Jun 1, '15	Tue Jun 30, '15																						l
19	Trench excavation for WSD permanent diversion of existing watermain at CH3P3-1000 (additional works)	16 days	Wed Jul 1, '15	Thu Jul 16, '15																						l
20 21	Permanent diversion of existing watermain at CH3P3-1000 by WSD (additional works) Remove existing watermain and then installation of waling and excavation	91 days 30 days	Fri Jul 17, '15 Fri Oct 16, '15	Thu Oct 15, '15 Sat Nov 14, '15																						ĺ
21	for CH3P3-1030 to 1050 Construct DCS system at CH3P3-1030 to CP3P3-1087	110 days	Sun Nov 15, '15	Thu Mar 3, '16																						ĺ
23 24	Construct sectional valve chambers (SV-N-09) Trench backfilling at CP3P3-1087 to CP3P2-1115	165 days 30 days	Fri Mar 4, '16 Wed Oct 7, '15	Mon Aug 15, '16 Thu Nov 5, '15																						ĺ
24 25 26	Trench backfilling at CH3P3-1030 to CP3P2-1113 Trench backfilling at CH3P3-1030 to CP3P3-1087 Deliver DCS materials batch no. 5	16 days 60 days	Tue Aug 16, '16 Thu Apr 30, '15	Wed Aug 31, '16 Sun Jun 28, '15																						l
20 27 28	Proposed UU works to be laid at DLO ROW Re-diversion of DLO ROW	23 days 22 days	Mon Jun 8, '15 Wed Jul 1, '15	Tue Jun 30, '15 Wed Jul 22, '15																						l
28 29 30	Break up existing hard materials for sheetpiling works Installation of sheetpiles for CH3P3-930 to 970	4 days 30 days	Thu Jul 23, '15 Mon Jul 27, '15	Sun Jul 26, '15 Tue Aug 25, '15																						ļ
30 31 32	Temporary support existing watermain Install waling and excavate for CH3P3-930 to 970	30 days 30 days 25 days	Wed Aug 26, '15 Fri Sep 25, '15	Thu Sep 24, '15 Mon Oct 19, '15																						l
32 33 34	Construct DCS system at CH3P3-930 to 970 Trench backfilling at CH3P3-930 to 970	50 days 30 days	Tue Oct 20, '15 Thu Feb 18, '16	Tue Dec 8, '15 Fri Mar 18, '16																						
35 36	Deliver DCS materials batch no. 2 Installation of sheetpiling for CH3P3-370 to 520	60 days 25 days	Wed Oct 22, '14 Sat Nov 1, '14	Sat Dec 20, '14 Tue Nov 25, '14																						ĺ
37 38	Installation of walling and excavation for CH3P3-370 to 520 Construct DCS system at CH3P3-370 to 450	90 days 80 days	Thu Nov 27, '14 Wed Feb 25, '15	Tue Feb 24, '15 Fri May 15, '15																						ĺ
39 40	Trench backfilling at CH3P3-470 to 450 Construct DCS system at CH3P3-470 to 520	30 days 200 days	Sat May 16, '15 Mon Jun 15, '15	Sun Jun 14, '15 Thu Dec 31, '15																						ĺ
41	Construct sectional valve chambers (SV-N-10)	170 days	Tue Jan 5, '16	Wed Jun 22, '16																						ĺ
42 43	Construct bend block concrete at CHC3P3-450 to 520 Trench backfilling at CH3P3-450 to 520	70 days 10 days	Thu Jun 23, '16 Thu Sep 1, '16	Wed Aug 31, '16 Sat Sep 10, '16																						ĺ
44 45	Deliver DCS materials batch no. 5 Divert ROW Installation of sheetpiles for CH3P3-350 to 370	60 days 8 days	Sat Apr 11, '15 Fri Aug 28, '15	Tue Jun 9, '15 Fri Sep 4, '15																						ĺ
46 47	Installation of wailing and excavation for CH3P3-350 to 370	25 days 30 days	Sat Sep 5, '15 Wed Sep 30, '15	Tue Sep 29, '15 Thu Oct 29, '15 Wod Jap 27, '16																						ĺ
48 49 50	Construct DCS system at CH3P3-350 to 370 Trench backfilling at CH3P3-350 to 370	90 days 15 days	Fri Oct 30, '15 Thu Jan 28, '16	Wed Jan 27, '16 Thu Feb 11, '16																						ĺ
51	Construct tee-off gate valve chambers (S-1L4) Diversion of MTR ROW	30 days 15 days	Sun Jul 31, '16 Sun Jun 7, '15	Mon Aug 29, '16 Sun Jun 21, '15																						ĺ
52 53	CLP cable duck block Trench excavation at CH3P3-520 to 570	60 days 20 days	Fri Oct 9, '15 Fri Oct 23, '15	Mon Dec 7, '15 Wed Nov 11, '15																						ĺ
54 55	Construct DCS system at CH3P3-520 to 570 Trench backfilling at CH3P3-520 to 570	90 days 10 days	Thu Nov 12, '15 Wed Feb 10, '16	Tue Feb 9, '16 Fri Feb 19, '16																						ĺ
56 57	Diversion of MTR ROW Construct DCS system at CH3P3-570 to 590	20 days 50 days	Sat Feb 20, '16 Fri Mar 11, '16	Thu Mar 10, '16 Fri Apr 29, '16																						ĺ
58 59	Construct bend block concrete at CHC3P3-570 to 590 VO49 additional 3 nos. tee-off pipes at CH3P3-560 issued on 14 Aug 15	40 days 1 day	Sat Apr 30, '16 Fri Aug 14, '15	Wed Jun 8, '16 Fri Aug 14, '15																						ĺ
60	VO49 materials production, IIB, insulation layer and delivery to site	110 days	Sat Aug 15, '15	Wed Dec 2, '15																						ĺ
61 62	VO49 trench excavation VO49 pipe laying for 3 nos. CWP	10 days 84 days	Sat Apr 9, '16 Thu Jun 9, '16	Mon Apr 18, '16 Wed Aug 31, '16																						ĺ
63 64	VO49 trench backfilling Construct CLP tunnel by CLP Portion A3-A5	15 days 260 days	Thu Sep 1, '16 Fri Jan 2, '15	Thu Sep 15, '16 Fri Sep 18, '15																						ĺ
65 66	Deliver DCS materials batch no. 4 Trench excavation for 4 nos. seawater pipes and 1 no. DN500 CWP	60 days 20 days	Mon Apr 13, '15 Tue Aug 25, '15	Thu Jun 11, '15 Sun Sep 13, '15																						ĺ
67	CH3P3-590 to 730 Laying miradrain and steel plate above KTT (addition works)	25 days	Mon Sep 14, '15	Thu Oct 8, '15																						
68	Pipe laying for 4 nos. seawater pipes and 1 no. DN500 CWP CH3P3-590 to 730	70 days	Fri Oct 9, '15	Thu Dec 17, '15																						ļ
69	Concrete surround (addition works) and laying steel plate above KTT	100 days	Fri Dec 18, '15	Sat Mar 26, '16																						
70 71	Deliver DCS materials batch no. 4 Trench excavation for 2 nos. DN1000 CWP CH3P3-590 to 730	60 days 10 days	Fri Jan 2, '15 Fri Jan 8, '16	Mon Mar 2, '15 Sun Jan 17, '16																						
72 73	Laying miradrain and steel plate above KTT (addition works) Pipe laying for 2 nos. DN1000 CWP CH3P3-590 to 730	15 days 55 days	Mon Jan 18, '16 Tue Feb 2, '16	Mon Feb 1, '16 Sun Mar 27, '16																						
74	Concrete surround (addition works) and laying steel plate above KTT	15 days	Mon Mar 28, '16	Mon Apr 11, '16																						ļ
75	VO58 additional 2 nos. tee-off pipes at CH3P3-720, issued on 17 Aug 15, materials provided by client Installation of sheetpiles and excavation works	1 day	Mon Aug 17, '15	Mon Aug 17, '15																						ļ
76 77 78	VO58 tee-off laying works	50 days 140 days	Wed Feb 24, '16 Thu Apr 14, '16 Thu Sep 1, '16	Wed Apr 13, '16 Wed Aug 31, '16																						ļ
78 79	Trench backfilling Installation of sheetpiling for CH3P3-730 to 830	10 days 35 days	Thu Sep 1, '16 Sat Mar 7, '15	Sat Sep 10, '16 Fri Apr 10, '15																						
80 81 82	Installation of wailing and excavation for CH3P3-730 to 830 Construct DCS system at CH3P3-730 to 830	80 days 130 days	Sat Apr 11, '15 Tue Jun 30, '15	Mon Jun 29, '15 Fri Nov 6, '15																						
82 83	Trench backfilling at CH3P3-730 to 830 Cable duct block by CLP	9 days 110 days	Sat Nov 7, '15 Thu Nov 19, '15 Two Mar 8, '16	Sun Nov 15, '15 Mon Mar 7, '16																						ļ
84 85	Construct tee-off gate valve chambers (S-2D1) Construct bend block concrete at CH3P3-730 to 830	140 days 37 days	Tue Mar 8, '16 Tue Jul 26, '16	Mon Jul 25, '16 Wed Aug 31, '16																						ļ
86 87	Trench backfilling at CH3P3-750-770 Construct CLP tunnel by CLP Portion F2a	10 days 215 days	Wed Jul 16, '14	Sat Sep 10, '16 Sun Feb 15, '15																						ļ
88 89	Deliver DCS materials batch no. 5 Installation of sheetpiling for CH3P3-830 to 930	60 days 30 days	Wed Apr 8, '15 Mon Jun 1, '15	Sat Jun 6, '15 Tue Jun 30, '15																						ļ
90 91	Installation of wailing and excavation for CH3P3-830 to 930 Construct DCS system at CH3P3-830 to 930	50 days 100 days	Wed Jul 1, '15 Thu Aug 20, '15	Wed Aug 19, '15 Fri Nov 27, '15																						ļ
92 93	Trench backfilling at CH3P3-830 to 930 DCS pipe laying works and construct tee-off gate valve chambers	40 days 84 days	Sat Nov 28, '15 Wed Jun 8, '16	Wed Jan 6, '16 Tue Aug 30, '16																						
94	(S-2D1L) Delivery of optical fibers	50 days	Wed Jul 27, '16	Wed Sep 14, '16																						ļ
95 96	Construction of cable ducts and drawpits Laying and testing optical fibers	50 days 20 days	Fri Jul 22, '16 Thu Sep 15, '16	Fri Sep 9, '16 Tue Oct 4, '16																						ļ
97	Interfacing works with EMSD 1020EM12A Contractor for connection of the proposed four seawater pipes and three chilled water pipes in Section C to their construction of seawater pipes and chilled water pipes	120 days	Thu May 29, '14	Thu Sep 25, '14																	5/	29 🗪				
98 99	CCTV for DCS pipes Swabbing, pressure test and chemical test for DCS Pipes	100 days 60 days	Sun May 22, '16 Thu Sep 1, '16	Mon Aug 29, '16 Sun Oct 30, '16																						

💶 Inactive Milestone 🗌 Inactive Summary Manual Task 👳

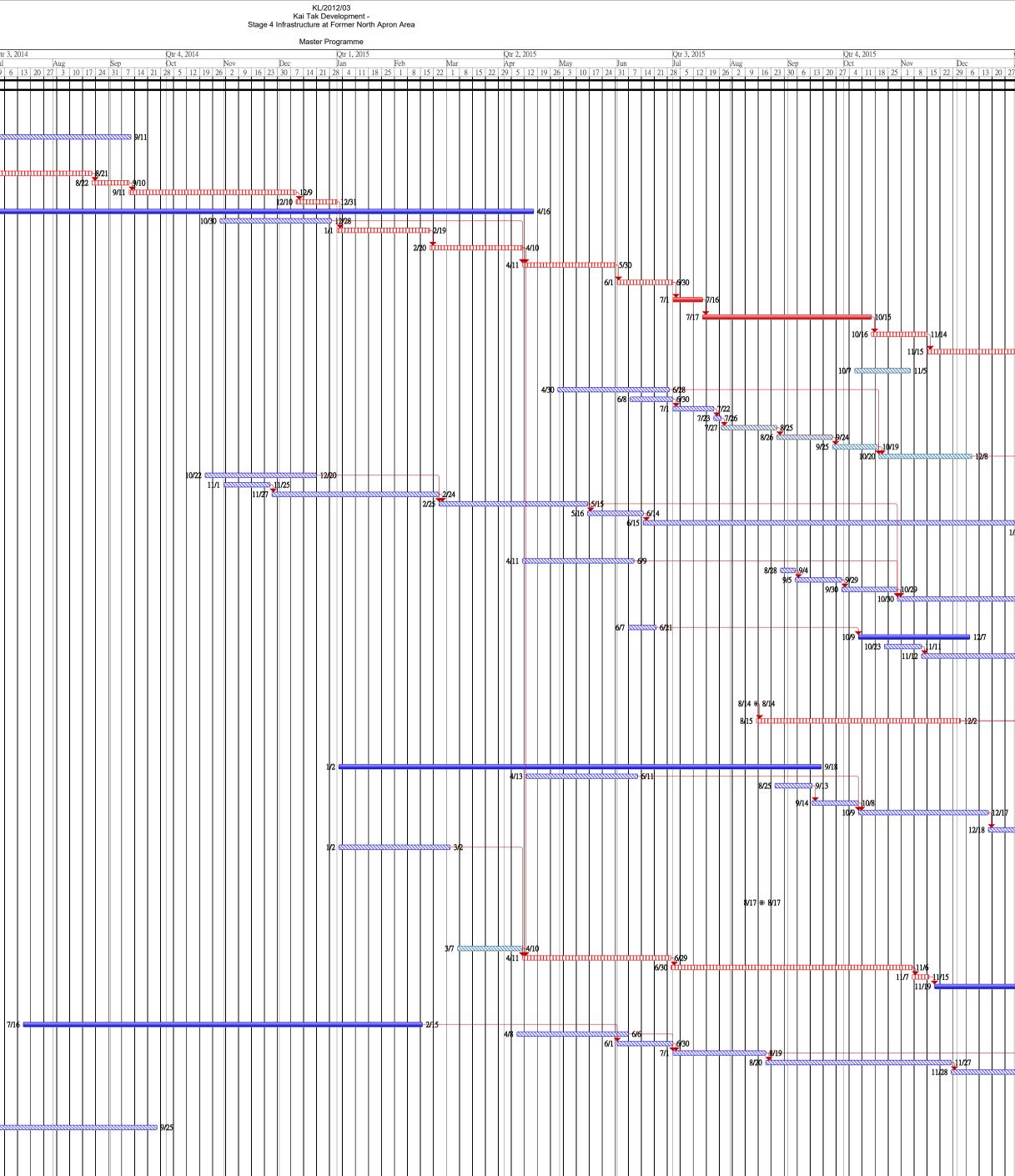
Duration-only Manual Summary Rollup 🔷

Manual Summary 🔷

Start-only Finish-only External Tasks 🔷

External Milestone

Critical tasks



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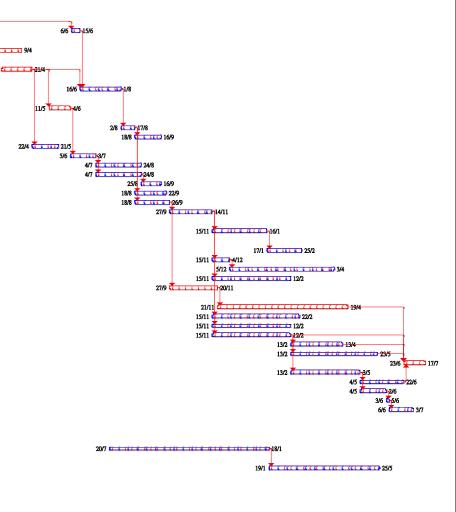
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Kwan On Construction Co. Ltd.						_	Stage 4 Infrast	KL/2012/03 (ai Tak Development - ructure at Former North A	-											Rev . Page
ID Task Name	Duration Start	Finish	May 2015		September 201		Programme for Installation of Janua	ry 2016	Design) within Portion 3	May	2016		Sept	tember 2016			January 2017			May 2017
			May 1 15 12 10	July 1 7 5	September 1           2         30	November 1           27         25	Janua 22 20		March 1 14 13	10 May		July 1 3	Sept 31	tember 1 28 25	November 23	20	January 1 18 15	March 1 12	12 9	May 1 7 4
1 Section 7B: Open Cut Section and Heading Section	763 days Fri Apr 3, '15	Thu May 4, '17																		
2         Western Approach           3         Submission for temporary ELS system and approval	453 days         Fri Apr 3, '15           14 days         Fri Apr 3, '15		4/3									6/28								
4 Install sheet piles at formation level	36 days Fri Apr 17, '15	Fri May 22, '15	4/3 4/16 4/17 4/16 5/22																	
5 Submission for revised temporary ELS system and approval	14 days Sat May 23, '15	Fri Jun 5, '15	4/17 <b>11111111111111111111</b> 5/22 5/23 <b>1111111</b>	<mark>D</mark> -6/5																
6 Install waling	11 days Sat Jun 6, '15		6/6	6/16																
7         Install strut           8         Trench excavation down to 2m and 8m long for drilling	15 days         Wed Jun 17, '15           13 days         Thu Jul 2, '15																			
horizontal pipe-piles	20 days Fri Jul 17, '15				0/5															
9Submission for heading method10Comment on heading method	20 days Fri Jul 17, 15 5 days Thu Aug 6, '15	2 /			8/6 8/10															
11 Mobilization and set up for drilling works	30 days Tue Aug 11, '15				8/11	10/1														
12Drilling for 219 dia. pipe-piles13Review design for heading method	35 days         Thu Sep 10, '15           30 days         Thu Oct 15, '15				9/10		3													
14 Grout trial to obtain design parameter	10 days Sat Nov 14, '15						□-11/23 □_11/26													
<ul><li>15 Update method statement for heading method</li><li>16 Upon grout trial successful, proceed with drilling for all grout</li></ul>	3 days         Tue Nov 24, '15           52 days         Fri Nov 27, '15						27 000000000000000000000000000000000000	<u>1/17</u>												
holes and grouting 17 Rectification of existing ELS system	100 days Mon Jan 18, '16	Tue Apr 26, '16						1/18		4/26										
18 Release of suspension of works order	16 days Wed Apr 27, '16	Thu May 12, '16								4/27	<b>5/12</b>									
19 Fixing bottom layer reinforcement bar (Additional works - no steel bar shown on original design)	16 days Fri May 13, '16									5/1	5/25									
20Concreting up to bottom level of sleeve pipe21Install 1 no. DN2800 dia sleeve pipe and 4 nos. DN2100 dia.	4 days Sun May 29, '16 4 days Thu Jun 2, '16																			
Sleeve pipe											6/2 1 6/5									
22Concreting up to middle level of sleeve pipe23Concreting up to top level of sleeve pipe	2 days Mon Jun 6, '16 3 days Wed Jun 8, '16										6/6 06/7 6/8 06/10									
24 Fixing top layer reinforcement bar (Additional works - no steel	3 days Sat Jun 11, '16										6/11 6/13									
bar shown on original design)           25         Concreting up to final level of concrete surround	3 days Tue Jun 14, '16										6/14 0_6/16									
26Backfilling and remove stage 1 strut and waling27Remove sheetpiles and filling the gap	5 days         Fri Jun 17, '16           7 days         Wed Jun 22, '16										6/17 6/2 6/22 100									
28 Grade 400 rock fill (additional works)	15 days Sun Nov 15, '15	Sun Nov 29, '15				11/15	<u>11/29</u>				0/22	0/28								
29Blinding layer for PJ-N-0230Construct base slab of PJ-N-02	20 days Mon Nov 30, '15 35 days Sun Dec 20, '15					1	1/30 12/19 12/20	-1/23												
31 Construct wall of PJ-N-02 up to +3mPD	60 days Sun Jun 12, '16	Wed Aug 10, '16					12/20	1725			6/12		<u>8/10</u>							
32     Soil Backfilling up to +2.8mPD       33     Construct top slab of PJ-N-02	14 days Thu Aug 11, '16 60 days Thu Aug 25, '16											8/11	1 8/24 8/25		10/23					
34 Soil Backfilling up to formation level	8 days Mon Oct 24, '16	Mon Oct 31, '16												1	10/24					
35Remove strut and waling36Remove sheetpiles and filling the gap	10 days         Tue Nov 1, '16           10 days         Fri Nov 11, '16														11/1 11/11	/10				
37 Hand back the site to CCC's	2 days Wed Jun 29, '16	Thu Jun 30, '16									6/29 7/1	6/30								
<ul> <li>38 Construction of remaining box culvert by CCC's.</li> <li>39 Section 7B: Open-cut Section &amp; Heading from Eastern</li> </ul>	120 days         Fri Jul 1, '16           648 days         Mon Jul 27, '15			7/27 🖷							//1				10/28					5/4
Approach           40         Submission for temporary ELS system and approval	14 days Mon Jul 27, '15	Sun Aug 9, '15		7/27 🛙	RTTTTTTT-8/9															
41 Site possession	1 day Mon Aug 10, '15	Mon Aug 10, '15			8/10 8/10															
42Install sheet piles43Install 1st layer waling and strut and excavate to 2nd layer	25 days         Tue Aug 11, '15           20 days         Sat Sep 5, '15	Fri Sep 4, '15 Thu Sep 24, '15			8/11 00000000000000000000000000000000000	₽-9/24														
44 Install 2nd layer waling and strut and excavate to 3rd layer	30 days Fri Sep 25, '15				9/25	10/24														
							11/02													
45 Install 3rd layer waling and strut and excavate to 4th layer	30 days Sun Oct 25, '15					10/25	11/23													
46 Install 4th layer waling and strut and excavate to formation level	30 days Tue Nov 24, '15	Wed Dec 23, '15				11/24	12/23													
<ul> <li>47 Drilling for 50 dia. grout holes at 2 layers and grouting</li> <li>48 Strengthening existing ELS system</li> </ul>	50 days         Thu Dec 24, '15           40 days         Fri Feb 12, '16						12/24	2/12	2/00											
49 Preparation of method statement for hand-shield construction and								2/12					<b>1111111</b> _8/18							
approval           50         Mobilize equipment & materials	12 days Fri Aug 19, '16	Tue Aug 30, '16											8/19	0						
51 Pipeline 1 - DN2100	77 days Wed Aug 31, '16	Tue Nov 15, '16											8/31	0/6		11/15				
52Ground treatment works53Pipe jacking	7 days         Wed Aug 31, '16           40 days         Wed Sep 7, '16	Sun Oct 16, '16											8/31 444		<u>∎_1</u> 0/16					
54DN1400 installation works55Annulus grout	24 days Mon Oct 17, '16 6 days Thu Nov 10, '16	· · ·												10/17		/9				
56 Pipeline 5 - DN2800	118 days Sun Oct 2, '16	Fri Jan 27, '17												10/2		11/13	1/27			
57Ground treatment works58Pipe jacking	7 days Sun Oct 2, '16 50 days Mon Oct 17, '16	Sat Oct 8, '16 Mon Dec 5, '16												10/2	/8	10/5				
59 CWP installation works	46 days Tue Dec 6, '16	Fri Jan 20, '17												10/17		12/6	1/20 1/21 1/27			
60     Annulus grout       61     Pipeline 3 - DN2100	7 days Sat Jan 21, '17 87 days Mon Nov 14, '16	Fri Jan 27, '17 Wed Feb 8, '17													11/14 💻		1/21 1/27	2/8		
62 Ground treatment works	5 days Mon Nov 14, '16	Fri Nov 18, '16														II 11/18				
63Pipe jacking64DN1400 installation works	36 days         Tue Dec 6, '16           23 days         Wed Jan 11, '17															12/6	1/11 1/10	2		
65 Annulus grout	5 days Fri Feb 3, '17	Tue Feb 7, '17														10/10	2/3	2/7	2/00	
66     Pipeline 2 - DN2100       67     Ground treatment works	92 days         Mon Dec 19, '16           7 days         Mon Dec 19, '16	Sun Dec 25, '16														12/19	<u>1110-12/25</u>		3/20	
68Pipe jacking69DN1400 installation works	40 days Wed Jan 11, '17 24 days Mon Feb 20, '17																1/11	2/19	TD-3/15	
70 Annulus grout	5 days Thu Mar 16, '17	Mon Mar 20, '17																3/16	5 11 3/20	
71Pipeline 4 - DN210072Ground treatment works	92 days Mon Dec 19, '16 7 days Mon Dec 19, '16	Mon Mar 20, '17 Sun Dec 25, '16														12/19	IIII <u>12/25</u>		3/20	
73 Pipe jacking	40 days Wed Jan 11, '17	Sun Feb 19, '17														12/19	1/11	2/19		
74DN1400 installation works75Annulus grout	24 days         Mon Feb 20, '17           5 days         Thu Mar 16, '17																	2/20	3/15 5 11-3/20	
76 Removal of plant	10 days Tue Mar 21, '17	Thu Mar 30, '17																3	3/21 3/20	
77 Backfilling and removal ELS system	35 days Fri Mar 31, '17	Thu May 4, '17									I								3/31	шицш) þ/4

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

					Stage 4 Infrastructure at Former North Apron Area
ID Ta	ask Name	Duration	Start	Finish	Master Programme           2014         2015         2016
				18	Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr M
1 Ca 2	ommence KL/2012/03 construction Section 1: Works within Portion 1 and 3	1398 days 1345 days	Thu 19/9/13 Thu 19/9/13	Mon 17/7/17 Thu 25/5/17	
2					717
3	Construction of Sewerage Pumping Station PS2	1345 days	Thu 19/9/13	Thu 25/5/17	19/9 -
4	Site possession and preparation works	14 days	Thu 19/9/13	Wed 2/10/13	199 C P279
5	Site clearance and setting out pumping station Initial survey	14 days 20 days	Tue 8/10/13 Wed 16/10/13	Mon 21/10/13 Mon 4/11/13	
7	Submission of baseline monitoring for EPD approval	35 days	Thu 3/10/13	Wed 6/11/13	3/10 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
8 9	Approval of baseline monitoring by EPD Submission / approval of method statements and temporary	30 days 40 days	Thu 7/11/13 Fri 18/10/13	Fri 6/12/13 Tue 26/11/13	7/11 0 0 0 0 0 1 2 0 1 1 1 1 1 1 1 1 1 1 1
,	works design	40 days	111 10/10/15	10c 20/11/15	
10 11	Mobilization of plant and delivery of materials Construct sheet piling system	10 days 50 days	Wed 27/11/13 Sat 7/12/13	Fri 6/12/13 Sat 25/1/14	
12	Install waling and strut, excavation to -1 mPD	65 days	Tue 28/1/14	Wed 2/4/14	28/1
13	Install waling and strut, excavation to the formation level	90 days	Thu 3/4/14	Tue 1/7/14	34 <del>(************</del> //
14	Construct the base slab	40 days	Wed 2/7/14	Sun 10/8/14	27
15	Construct 1st layer lower wall Grid C to D and Grid 2 to 5	20 days	Mon 11/8/14	Sat 30/8/14	11/8
16	Construct 1st layer lower wall Grid E to H and Grid 2 to 4	20 days	Sun 31/8/14	Fri 19/9/14	318 5 3199
12		20.1	a . 200 ll (		
17 18	Construct the remaining base slab Construct 1 st layer lower wall Grid D to E and Grid 2 to 3	20 days 20 days	Sat 20/9/14 Fri 10/10/14	Thu 9/10/14 Wed 29/10/14	2019 2019 2019 2019 2019 2019 2019 2019
19	Construct 1st layer lower wall Grid D to E and Grid 3 to 5	20 days	Thu 30/10/14	Tue 18/11/14	
20	Submission of ICE design for removal of 1st and 2nd layers of	40 days	Sun 28/9/14	Thu 6/11/14	28/9 ( 6/11
21	waling and strut Backfilling behind the wall up to -1.3mPD	85 days	Wed 19/11/14	Wed 11/2/15	19/11
22	Removal of 2nd layer of waling and struts	35 days	Thu 12/2/15	Wed 18/3/15	
23	Construct 2nd layer lower wall Grid E to H and Grid 2 to 4	24 days	Thu 19/3/15	Sat 11/4/15	19/3 🔂 🖂 🖂 11/4
24	Removal of 2nd and 3rd layer of waling and struts	30 days	Sun 12/4/15	Mon 11/5/15	12/4 2 11/5
25	Construct 2nd layer lower wall Grid D to E and Grid 2 to 3	21 days	Tue 12/5/15	Mon 1/6/15	125 125
26	Construct 2nd layer lower wall Grid D to E and Grid 3 to 5	21 days	Tue 2/6/15	Mon 22/6/15	26 2276
27	Construct 2nd layer lower wall Grid C to D and Grid 2 to 5	21 days	Tue 23/6/15	Mon 13/7/15	23/6 🚈 📭 13/7
28	Remove 1st layer waling and struts and then remove sheetpiles	32 days	Tue 14/7/15	Fri 14/8/15	147
29	Construct ground floor slab except ground slab above intake	75 days	Sat 15/8/15	Wed 28/10/15	15/8
29	and overflow pipe	75 days	5at 15/6/15	wcu 20/10/15	
30	Install rising main CHA0-CHA15	25 days	Mon 11/1/16	Thu 4/2/16	
31 32	Construct intake pipes Construct overflow pipes	35 days 15 days	Mon 14/12/15 Wed 9/3/16	Sun 17/1/16 Wed 23/3/16	
33	Construct remaining ground slab	15 days	Thu 24/3/16	Thu 7/4/16	24/3 🚛 7/4
34	Construct wall, column, beam and roof Grid A to E and 1 to 2 and A to C and 2 to 5 $$	50 days	Thu 29/10/15	Thu 17/12/15	29/10 29/10
35	Construct wall, column, beam and roof Grid C to E and 2 to $5$	16 days	Fri 18/12/15	Sat 2/1/16	18/12 🗸 🛶 2/1
36	Revoking SN's	50 days	Sun 3/1/16	Sun 21/2/16	3/1 21/2 -
37	Water tightness test for lower roof at transformer room at Grid	10 days	Mon 6/6/16	Wed 15/6/16	31 202
38	D to E and 1 to 2 Construct wall, column, beam and roof Grid C to D and 2 to 5	30 days	Fri 11/3/16	Sat 9/4/16	11/3 (
		∋∪ uays	111 11/3/10	3at 9/4/10	11/3 [1] 9/4
39	Construct wall, column, beam and roof Grid D to E and 2 to 5 $$	35 days	Fri 18/3/16	Thu 21/4/16	18/3 5
40	Construct double roof Grid A to E and 1 to 2 and A to C and 2	47 days	Thu 16/6/16	Mon 1/8/16	
	to 5				
41	Construct wall, column, beam and roof Grid E to H and 1 to 5	25 days	Wed 11/5/16	Sat 4/6/16	11/5
42	Construct Double slab & fence wall	16 days	Tue 2/8/16	Wed 17/8/16	
43 44	Construct roof plinth & fence wall Construct corbel C to D	30 days 30 days	Thu 18/8/16 Fri 22/4/16	Fri 16/9/16 Sat 21/5/16	24
45	Construct corbel E to F	29 days	Sun 5/6/16	Sun 3/7/16	
46	Construct plinth DO room	52 days	Mon 4/7/16	Wed 24/8/16	
47 48	Construct plinth screen room Construct plinth room for water booster system	52 days 23 days	Mon 4/7/16 Thu 25/8/16	Wed 24/8/16 Fri 16/9/16	
48	Staircase No.2 at Dry Well	25 days 36 days	Thu 18/8/16	Thu 22/9/16	
50	Working platform at wet well, drt well, screen channel	40 days	Thu 18/8/16	Mon 26/9/16	
51	Follow up defect works before architecural finish & mobilization	49 days	Tue 27/9/16	Mon 14/11/16	
52	Water tightness test for inlet chamber, screen channel and wet	63 days	Tue 15/11/16	Mon 16/1/17	
53	wells Install protective liner at the retaining structure	10 dars	Tue 17/1/17	84 25/2/17	
53 54	Install protective liner at the retaining structure Water tightness test for upper roof at transformer room	40 days 20 days	Tue 17/1/17 Tue 15/11/16	Sat 25/2/17 Sun 4/12/16	
55	Construct green roof system	120 days	Mon 5/12/16	Mon 3/4/17	
56 57	Architectural finishes (internal) Submission of method statement and preparation works for	90 days 55 days	Tue 15/11/16 Tue 27/9/16	Sun 12/2/17 Sun 20/11/16	
	erection of cladding				
58 59	Erect cladding (external) Erect door, roller shutter etc.	150 days 100 days	Mon 21/11/16 Tue 15/11/16	Wed 19/4/17 Wed 22/2/17	
60	Erect handrailing, louvre etc.	90 days	Tue 15/11/16	Sun 12/2/17	
61	Construct storm drain and manholes	90 days	Tue 15/11/16	Sun 12/2/17	
62 63	Construct cable ducts and draw pits for PCCW Construct u-channel with cover along access road	60 days 100 days	Mon 13/2/17 Mon 13/2/17	Thu 13/4/17 Tue 23/5/17	
63 64	Construct u-channel with cover along access road Construct access road inside PS	100 days 25 days	Mon 13/2/17 Fri 23/6/17	Tue 23/5/17 Mon 17/7/17	
65	Erect fence wall and mini bollard light	80 days	Mon 13/2/17	Wed 3/5/17	
66	Erect vehicular and man access	50 days	Thu 4/5/17	Thu 22/6/17	
67 68	Plants delivery for landscaping works Hydroseeding	30 days 3 days	Thu 4/5/17 Sat 3/6/17	Fri 2/6/17 Mon 5/6/17	
69	Tree and shurb planting	28 days	Tue 6/6/17	Mon 3/7/17	
70	Submission / approval of E&M services materials and delivery (Detailed programme will be submitted separately)	729 days	Thu 16/1/14	Thu 14/1/16	
	,				
71	E&M building service installation. (Detailed programme will be submitted separately)	183 days	Wed 20/7/16	Wed 18/1/17	
72	be submitted separately) E&M building service testing & comissioning. (Detailed	127 days	Thu 19/1/17	Thu 25/5/17	
	programme will be submitted separately)	-			
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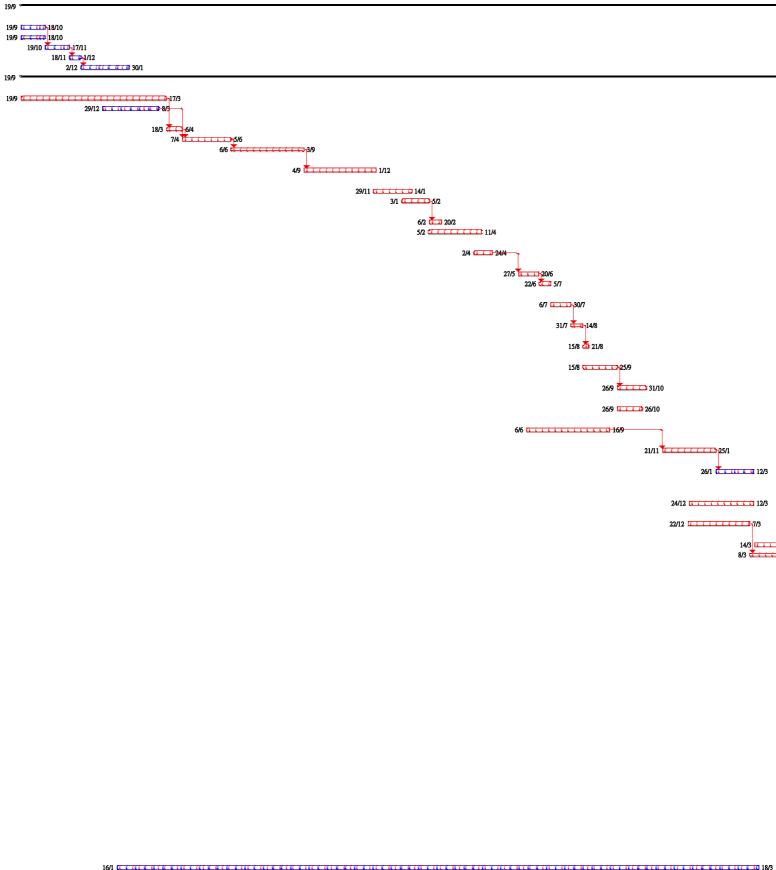


KL/2012/03 Kai Tak Development -Stage 4 Infrastructure at Former North Apron Area

Master Programme

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D	Task Name	Duration	Start	Finish Predecessors
1 2	Commence KL/2012/03 construction Commence KL/2012/03 construction	1350 days	Thu 19/9/13	Tue 30/5/17 Thu 19/9/13
3	Section 2: Works within Portion 1 and 4	0 days 1350 days	Thu 19/9/13 Thu 19/9/13	Tue 30/5/17
4	Setting out site boundary	30 days	Thu 19/9/13	Fri 18/10/13
5	Obtain underground utilities plans	30 days	Thu 19/9/13	Fri 18/10/13
6	Site clearance	30 days	Sat 19/10/13	Sun 17/11/13 4
7	Initial survey	14 days	Mon 18/11/13	Sun 1/12/13 6
8 9	Erect hoarding, chain link fence and vehicular gate Construction of sewerage pumping station NPS	60 days 1350 days	Mon 2/12/13 Thu 19/9/13	Thu 30/1/14 7 Tue 30/5/17
10	Site Possession	180 days	Thu 19/9/13	Mon 17/3/14
11	Submission / approval of method statements and temporary work design	70 days	Sun 29/12/13	Sat 8/3/14
12	Mobilization	20 days	Tue 18/3/14	Sun 6/4/14 10
13	Construct sheet piling system	60 days	Mon 7/4/14	Thu 5/6/14 12,11
14	Install waling and strut, excavation to the formation level (1st and 2nd layers)	90 days	Fri 6/6/14	Wed 3/9/14 13
15	Install waling and strut, excavation to the formation level (3rd layer)	89 days	Thu 4/9/14	Mon 1/12/14 14
16 17	Construct the base slab Construct the external and internal wall Grid E to G and Grid 2 to	47 days 34 days	Sat 29/11/14 Sat 3/1/15	Wed 14/1/15 Thu 5/2/15
10	3 up to -1.25 mPD	16	Fri 6/2/15	Fri 20/2/15 17
18 19	Backfilling works behind completed base slab and wall Construct the external wall Grid C to E and Grid 2 to 4 up to -0.95 mPD	15 days 66 days	Thu 5/2/15	Sat 11/4/15
20	Construct the external wall Grid C to E and Grid 1 to 2 up to -0.95 mPD	23 days	Thu 2/4/15	Fri 24/4/15
21 22	Construct the internal wall Grid D to E up to -0.95 mPD Backfilling works behind constructed wall and remove 2nd layer	25 days 14 days	Wed 27/5/15 Mon 22/6/15	Sat 20/6/15 20 Sun 5/7/15 21
23	of waling and strut Construct the external wall Grid C to E and Grid 2 to 4 up to	25 days	Mon 6/7/15	Thu 30/7/15
24	+2.25 mPD Construct the external wall Grid C to E and Grid 1 to 2 up to	15 days	Fri 31/7/15	Fri 14/8/15 23
25	+225 mPD Construct the internal wall Grid D to E up to +2.25 mPD	7 days	Sat 15/8/15	Fri 21/8/15 24
26	Backfilling works behind constructed wall and remove 1st layer of	42 days	Sat 15/8/15	Fri 25/9/15
27	waling and strut and sheetpiles Construct the external and internal wall Grid A to E and Grid 1 to	36 days	Sat 26/9/15	Sat 31/10/15 26
28	2 up to +4.7 mPD Construct the external and internal wall Grid A to E and Grid 2 to	31 days	Sat 26/9/15	Mon 26/10/15
29	4 up to +4.7 mPD Construct the external and internal wall Grid E to G and Grid 2 to	103 days	Sat 6/6/15	Wed 16/9/15
30	3 up to +4.7 mPD		Sat 21/11/15	Mon 25/1/16 29
31	Construct upper wall and column up to beam level Grid A to C and 1 to 5 Construct the beam and roof Grid A to C and 1 to 5, Only double	66 days	Tue 26/1/16	Sat 12/3/16 30
51	ceiling will be divided into two layers for construction	47 days	1 ue 20/1/10	Sat 12/5/10 50
32	Construct upper wall and column up to beam level Grid E to G and 1 to 5	80 days	Thu 24/12/15	Sat 12/3/16
33	Construct upper wall and column up to beam level Grid C to E and 1 to 5 $$	77 days	Tue 22/12/15	Mon 7/3/16
34	Construct the beam and roof Grid E to G and 1 to 5	78 days	Mon 14/3/16	Mon 30/5/16
35	Construct the beam and roof Grid C to E and 1 to 5	46 days	Tue 8/3/16	Fri 22/4/16 33
36	Construct roof plinth and fence wall	23 days	Tue 31/5/16	Wed 22/6/16 34
37 38	Construct ventilation house Construct corbel Grid Cto D	23 days 21 days	Tue 31/5/16 Tue 31/5/16	Wed 22/6/16 34 Mon 20/6/16 34
39	Construct corbel Grid E to F	21 days 21 days	Tue 21/6/16	Mon 11/7/16 38
40	Construct Plinth DO room 1	16 days	Thu 23/6/16	Fri 8/7/16 36
41	Construct Plinth DO room 2	13 days	Sat 9/7/16	Thu 21/7/16 40
12	Construct Plinth Room for waterbooster system	20 days	Fri 22/7/16	Wed 10/8/16 41
43	Staircase No1 at Dry Well	35 days	Tue 21/6/16	Mon 25/7/16 38
44 45	Working plantform at Wet well, Dry weel, screen channel Follow up defect works before arcectural finish works &	56 days	Tue 21/6/16 Tue 16/8/16	Mon 15/8/16 38 Mon 19/9/16 44
+J	mobilization	35 days	Tuc 10/0/10	MOII 19/9/10 444
16	Water tightness test for retaining structure	70 days	Tue 20/9/16	Mon 28/11/16 45
17	Install protective liner at the retaining structure	30 days	Tue 29/11/16	Wed 28/12/16 46
18	Water tightness test for the double ceiling	20 days	Thu 29/12/16	Tue 17/1/17 47
19	Establishment of green roof system	50 days	Wed 18/1/17	Wed 8/3/17 48
50	Architectural finishes (internal)	60 days	Tue 20/9/16	Fri 18/11/16 45
51 52	Erect granite tile Erect louvre and door	90 days 60 days	Tue 20/9/16 Tue 20/9/16	Sun 18/12/16 45 Fri 18/11/16 45
53	Erect handrailing and roller shutter etc.	90 days	Tue 20/9/16	Sun 18/12/16 45
54	Install rising main	30 days	Tue 16/8/16	Wed 14/9/16 44
55	Construct sewerage, drainage drain and manhole	46 days	Thu 15/9/16	Sun 30/10/16 54
56	Construct assess road	30 days	Thu 19/1/17	Fri 17/2/17 59,55,58,57
57	Construct cable ducts and draw pits for PCCW and CLP	40 days	Mon 31/10/16	Fri 9/12/16 55
58	Construct u-channel with cover along access road	40 days	Mon 31/10/16	Fri 9/12/16 55
59	Erect vehicular and man access and mini bollard light	40 days	Sat 10/12/16	Wed 18/1/17 55,58,57
50	Plants delivery for landscaping works	30 days	Sat 18/2/17	Sun 19/3/17 56
51	Preparatory works for landscaping works	7 days	Mon 20/3/17	Sun 26/3/17 60
52	Hydroseeding	3 days	Mon 27/3/17	Wed 29/3/17 61,49
53	Tree and shurb planting	14 days	Thu 30/3/17	Wed 12/4/17 62
54	Submission / approval of E&M services materials and delivery (Detailed programme will be submitted separately)	793 days	Thu 16/1/14	Fri 18/3/16
65	E&M building service installation. (Detailed programme will be	187 days	Wed 20/7/16	Sun 22/1/17
66	submitted separately) E&M building service Testing & Commissioning (Detailed	128 days	Mon 23/1/17	Tue 30/5/17 65
	programme will be submitted separately)			



14/3 16/8 16/8 20/9 🕇 **CCC 28/11** 29/11 29/12 29/12 29/12 18/1 🚺 🗰 🗰 🖬 18/1 20/9 16/8 11/9 15/9 11/9 19/1 17/2 31/10 31/10 10/12 10/12 18/2 20/3 20/3 27/3 29/3 30/3 📥 12/4 23/1 23/1 23/1