## Monthly Environmental Monitoring & Auditing Report for

Drainage Diversion Works for the Comprehensive Residential Development at Various Lots in DD227 & DD229, Tai Po Tsai, Sai Kung

December 2012

**Environmental Pioneers & Solutions Limited** 

Flat A, 19/F, Chaiwan Industrial Centre, 20 Lee Chung Street, Chai Wan, Hong Kong Tel: 2556 9172 Fax: 2856 2010 Drainage Diversion Works for the Comprehensive Residential Development at Various Lots in DD227 & DD229, Tai Po Taai, Sai Kung Monthly EM&A Report for December 2012

#### **APPROVAL SHEET**

The Contents of this report have been

Certified by: ETL (Environmental Pioneers & Solution Limited)

Signature:

Date: 18-JAN-2013

Ms. Goldie Fung (Environmental Team Leader)

and Verified by:

IEC (ENVIRON Hong Kong Limited)

Signature:

Mr. Tony Cheng (IEC) Date: 18 Jan 2013

**Environmental Pioncers & Solutions Limited** 

# TABLE OF CONTENT

1	Intr	oduction	1
2	Pro	ject Information	1
3	Pro	ject Organization	2
	3.1	Key personal contact information chart	2
4	Con	struction Stage	3
	4.1	Construction Activities in Reporting Period	3
	4.2	Construction Activities for Coming Months	3
	4.3	Environmental Status	3
5	Nois	se Monitoring	4
	5.1	Monitoring Parameters and Methodology	4
	5.2	Monitoring Equipment	4
	5.3	Monitoring Locations	5
	5.4	Monitoring Frequency	7
	5.5	Monitoring Results and Interpretation	7
	5.6	Action and Limit Level for Construction noise	8
	5.7	Monitoring Schedule for the next reporting period	13
6	Wat	er Monitoring	13
	6.1	Water Quality Monitoring Parameters and Methodology	13
	6.2	Monitoring Equipment	13
	6.3	Monitoring Locations	14
	6.4	Monitoring Frequency	17
	6.5	Monitoring Results and Interpretation	17
	6.6	Action and Limit Level for Water Quality	17
	6.7	Monitoring Schedule for Next Reporting Period	22
7	Air	Quality Monitoring	23
	7.1	Monitoring Methodology and Parameters	23
	7.2	Monitoring Equipment	23
	7.3	Monitoring Locations	24
	7.4	Monitoring Frequency	
	7.5	Monitoring Results and Interpretation	
	7.6	Action and Limit Level for 1-hr TSP and 24-hrs TSP	27
	7.7	Monitoring Schedule for Next Reporting Period	
8	Eco	logy	
9	Acti	ion Taken in Event of Exceedance	
10	Con	struction Waste Disposal	
11		us of Permits and Licenses	
Envi	ronme	ntal Pioneers & Solutions Limited	<b>P.</b> iii

12	Compliant Log	34
13	Site Environmental Audits	
	13.1 Site Inspection	34
	13.2 Compliance with Legal and Contractual Requirement	
	13.3 Implementation Status and Effectiveness of Mitigation Measures .	35
14	Future Key Issues and Recommendations	36
Con	clusions	37

## LIST OF APPENDIXES

Appendix A: Construction Master Programme and Site Location Plan Appendix B: Key Personal Contact Information Chart Appendix C: Calibration Certificates for Measuring Instruments Appendix D: Construction Noise Monitoring Data Appendix E: Water Quality Monitoring Data Appendix F: Air Quality Monitoring Data

## **EXECUTIVE SUMMARY**

This is the fourth monthly Environmental Monitoring and Audit (EM&A) Report for Drainage Diversion Works for the Comprehensive Residential Development at Various Lots in DD227 & DD229, Tai Po Tsai, Sai Kung under New World Project Management Ltd. This report concludes the impact monitoring for the activities undertaken during the period from 1<sup>st</sup> of December 2012 to 31<sup>st</sup> December 2012. The major site activities in this reporting period were mainly tree retain, transplanting and stream course diversion works.

The Environmental Team (ET) is responsible for the EM&A works required in the Particular Specifications (PS). Site inspections were carried out on weekly basis to investigate and audit the equipment and work methodologies with respect to pollution control and environmental mitigation. The weekly inspections and photos records were kept.

Noise, water quality and air quality monitoring were performed during the reporting period. Results were compared with the established Action/Limit (A/L) level.

In general, waste management was satisfactory during the reporting period.

Impact monitoring for construction noise, water quality and air quality was conducted in the reporting period. No exceedance of A/L level was reported.

There was no complaint, notification of any summons and successful prosecutions against the project received during the reporting period.

It is expected that noise, water quality and air quality impacts may be resulted from the site works. ET has reminded the contractor to provide environmental pollution control measures wherever necessary and to keep a good environmental management at site practice. The recommended mitigation measures proposed for the project as well as implementation status can refer to section 13.3.

The ET will continue to implement the environmental monitoring & audit programme in accordance with the PS and Environmental Permit requirement.

### **1** Introduction

This is the fourth monthly Environmental Monitoring and Audit (EM&A) Report for Drainage Diversion Works for the Comprehensive Residential Development at Various Lots in DD227 & DD229, Tai Po Tsai, Sai Kung under New World Project Management Ltd.. The site layout plan is shown in **Appendix A**. The Environmental Team, Environmental Pioneers & Solutions Limited was appointed by Hip Seng Construction Co. Ltd. to prepare the report. The report is to be submitted to the Contractor, the Engineer and the IEC.

This report presents the results of the environmental monitoring of the project activities conducted within the reporting period from 1<sup>st</sup> December 2012 to 31<sup>st</sup> December 2012. This report included the noise monitoring, water quality monitoring, air quality monitoring and regular site inspections for verification of implementation of the mitigation measures as recommended in the Environmental Permit (FEP-02/428/2011/A) (EP), PS and the Contractor's Environmental Management Plan (EMP).

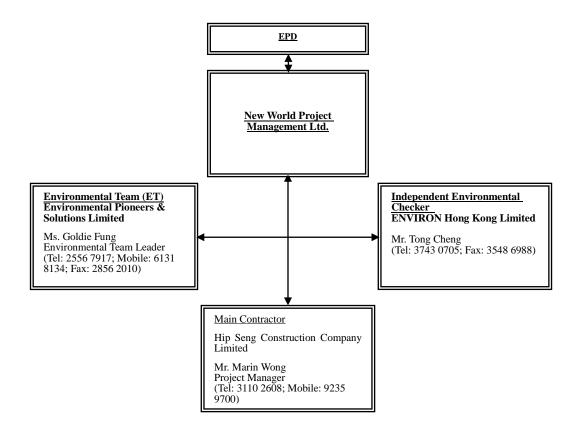
## 2 **Project Information**

Construction works of "Drainage Diversion Works for the Comprehensive Residential Development at Various Lots in DD227 & DD229, Tai Po Tsai, Sai Kung" project has been commenced in Sep 2012 and is expected to completed by July 2013. Construction master program is shown in **Appendix A**.

### **3** Project Organization

The Main Contractor, Hip Seng Construction Company Limited, has commissioned Environmental Pioneers & Solutions Limited as the Environmental Team, which comprises the environmental team leader, the environmental technicians to undertake the environmental monitoring and audit work for this project.

The Environmental management structure is shown in Fig. 3.1



#### 3.1 Key personal contact information chart

Detail contact of key persons involved in environmental aspect of the project is shown in **Appendix B**.

#### 4 Construction Stage

## 4.1 Construction Activities in Reporting Period

Major activities in the reporting period included the followings:

- Tree retain and transplanting works
- Stream course diversion works
  - Excavation works
  - Precast concrete pipe installation
  - Manhole concreting works
  - Sheet pile installation works

#### 4.2 Construction Activities for Coming Months

Proposed key construction works in the coming month will include:

- Tree retain
- Stream course diversion works
- Site formation soil nail construction works
- Sit formation socket H pile and foundation works

#### 4.3 Environmental Status

The site layout plan is shown in **Appendix A**.

Locations of the monitoring and control stations with environmental sensitive receivers are presented in Section 5.3, 6.3, and 7.3 for noise monitoring, water quality monitoring, and air quality monitoring respectively.

#### 5 Noise Monitoring

#### 5.1 Monitoring Parameters and Methodology

The construction noise level was measured in terms of the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ).  $L_{eq (30minutes)}$  was used as the monitoring parameter for the impact monitoring in the time period between 0700 to 1900 hours on normal weekdays. For all other time period,  $L_{eq (5minutes)}$  was employed for comparison with the Noise Control Ordinance (NCO) criteria.

Noise measurement results obtained from each monitoring location were recorded in the Construction Noise Monitoring Data Sheet immediately after the measurement. As supplementary information for data auditing, statistical results  $L_{10}$  and  $L_{90}$  were also be recorded for reference.

In case of non-compliance with the construction noise criteria, more frequent monitoring, as specified in the Action plan in Table 5.7.2, shall be carried out. This additional monitoring shall be carried out until the recorded noise levels are rectified or proved to be irrelevant to the construction activities.

#### 5.2 Monitoring Equipment

The sound level meters and calibrators comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications as referred to in the Technical Memorandum (TM) to the Noise Control Ordinance was deployed as monitoring equipment for noise measurement.

Noise measurement was not be made in the presence of fog, rain, wind with a steady speed exceeding 5ms<sup>-1</sup> or wind with gust exceeding 10ms<sup>-1</sup>. Thus wind speed was checked by the portable wind speed indicator capable of measuring the wind speed in m/s. Table 4.2.1 summarizes the equipment list for noise monitoring

Equipment	Manufacturer & Model No.	Precision Grade	Qty
Integrated sound	Svantek 949	IEC 651 Type 1	2
level meter	Svantek 955	IEC 804 Type 1	
Acoustical	Svantek SV30A	IEC 942 Type 1	1
calibrator			
Remarks: Calibra	tion details of the sound level	meter and acoustical ca	librator
are given in Appe	ndix C for reference		

Table 5.2.1 Equipment List for Noise Monitoring

#### 5.3 Monitoring Locations

According to the PS, impact noise monitoring was undertaken at four locations during the construction phase of the project. The monitoring locations are summarized in Table 5.3.1 and are shown in Figure 5.3.1.

Noise measurement for N4 location was taken at a point 1m from the exterior of the selected premises and at a height with no disturbance to the dweller and least obstructed view, so that façade measurement was made for monitoring location N4 and the free field measurements were made for monitoring locations N1, N2 and N3.

Identification No.	Noise Monitoring Locations
N1	Staff Quarters 1-12, HKUST
N2	174, Lots in DD227 & DD229, Tai Po Tsai, Sai Kung
N3	152A, Lots in DD227 & DD229, Tai Po Tsai, Sai Kung
N4	109, Lots in DD227 & DD229, Tai Po Tsai, Sai Kung

Table 5.3.1 Noise Monitoring Locations during Construction Phase

In accordance with the requirements in the PS, weekly impact monitoring was conducted. For the time period between 0700 and 1900 hours on normal weekdays, and noise parameter of  $L_{eq~(30minutes)}$  was measured. As if the construction works were carried out during restricted period (i.e. 1900-2300, 2300-0700 of next day and Sundays / general holiday), impact monitoring that comprises 3 consecutive  $L_{eq~(5minutes)}$  would be carried out.

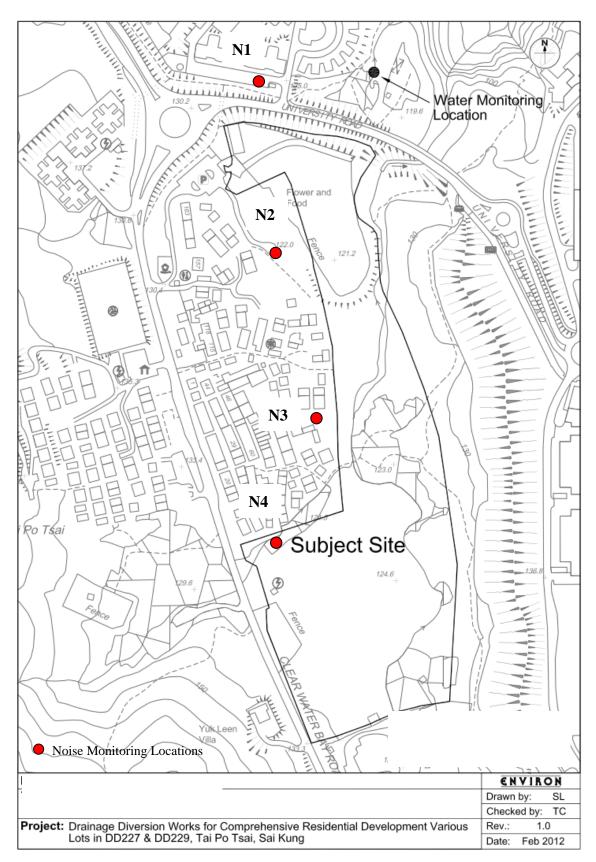


Figure 5.3.1 Impact noise monitoring locations

## 5.4 Monitoring Frequency

The regular monitoring for each location was performed on a basis of once in every 6 days.

Monitoring was carried out on 1<sup>st</sup>, 7<sup>th</sup>, 13<sup>th</sup>, 19<sup>th</sup>, 24<sup>th</sup> and 29<sup>th</sup> of December 2012.

## 5.5 Monitoring Results and Interpretation

Relevant details of the noise monitoring results are presented in Table 5.5.1. The results of N1 ranged between 59.5dB (A) and 64.9dB (A), N2 ranged between 52.9dB (A) and 65.0dB (A), N3 ranged between 59.5dB (A) and 68.6dB (A) and N4 ranged between 61.1dB (A) and 62.7dB (A) were within the limit levels and therefore no exceedance was found.

Table 5.5.	Table 5.5.1 Noise Monitoring Results for the reporting month										
Location	Parameter	Date	Time	L <sub>Aeq</sub> dB(A)	Limit dB(A)	Exceedance	Weather				
*N1	Leq30min	1-Dec-12	16:26	64.9	75	Ν	Overcast				
*N1	Leq30min	7-Dec-12	14:17	61.1	75	Ν	Cloudy				
*N1	Leq30min	13-Dec-12	13:40	59.5	75	Ν	Cloudy				
*N1	Leq30min	19-Dec-12	13:37	63.9	75	Ν	Cloudy				
*N1	Leq30min	24-Dec-12	13:45	63.2	75	Ν	Sunny				
*N1	Leq30min	29-Dec-12	13:42	61.9	75	Ν	Cloudy				
*N2	Leq30min	1-Dec-12	14:12	64.0	75	Ν	Overcast				
*N2	Leq30min	7-Dec-12	13:45	65.0	75	Ν	Cloudy				
*N2	Leq30min	13-Dec-12	13:02	52.9	75	N	Cloudy				
*N2	Leq30min	19-Dec-12	13:02	61.1	75	Ν	Cloudy				
*N2	Leq30min	24-Dec-12	13:08	63.9	75	Ν	Sunny				
*N2	Leq30min	29-Dec-12	13:08	63.2	75	Ν	Cloudy				
*N3	Leq30min	1-Dec-12	14:05	62.5	75	Ν	Overcast				
*N3	Leq30min	7-Dec-12	9:50	68.6	75	N	Cloudy				
*N3	Leq30min	13-Dec-12	10:01	65.7	75	N	Cloudy				
*N3	Leq30min	19-Dec-12	9:42	59.5	75	N	Cloudy				
*N3	Leq30min	24-Dec-12	10:35	62.8	75	Ν	Sunny				

Drainage Diversion Works for the Comprehensive Residential Development at Various Lots in DD227 & DD229, Tai Po Tsai, Sai Kung Monthly EM&A Report for December 2012

*N3	Leq30min	29-Dec-12	10:26	64.3	75	N	Cloudy
N4	Leq30min	1-Dec-12	13:30	61.2	75	Ν	Overcast
N4	Leq30min	7-Dec-12	10:24	61.1	75	Ν	Cloudy
N4	Leq30min	13-Dec-12	10:37	61.1	75	Ν	Cloudy
N4	Leq30min	19-Dec-12	10:15	61.6	75	Ν	Cloudy
N4	Leq30min	24-Dec-12	10:01	62.0	75	Ν	Sunny
N4	Leq30min	29-Dec-12	9:50	62.7	75	Ν	Cloudy

\*The equivalent noise level of N1, N2 and N3 is corrected by +3dB(A).

Remarks: Raw datasheet for noise monitoring are attached in **Appendix D** for reference.

#### 5.6 Action and Limit Level for Construction noise

The Action and Limit (A/L) levels for construction noise are defined in Table 5.6.1. Should non-compliance of the criteria occur, action in accordance with the Action Plan in Table 5.6.2 should be carried out.

There was no exceedance recorded in the reporting period.

Table 5.6.1 Action and Limit Levels for Construction Noise at All Sensitive										
Receivers										
Time Period	Action	Limit								
Daytime		75 dB(A)*								
0700 – 1900 hrs on normal	W/han and									
weekdays	When one documented									
1900 – 2300 on all days and 0700 –		60/65/70 dB(A)**								
2300 on general holidays (including	complaint is received									
Sundays)	leceiveu									
2300 – 0700 on all days		45/50/55 dB(A)**								

EVENT		ET Leader		IEC		ER		CONTRACTOR
Exceedance	1.	Identify source,	1.	Check monitoring	1.	Notify	1.	Rectify any
for one		investigate the		data submitted by		Contractor.		unacceptable
sample in		causes of		ET.				practice.
Action		exceedance and	2.	Check			2.	Amend working
Level		propose remedial		Contractor's				methods if
		measures.		working method.				appropriate.
	2.	Inform ER, IEC						
		and Contractor.						
	3.	Repeat						
		measurement to						
		confirm finding.						
	4.	Increase						
		monitoring						
		frequency to daily.						

## Table 5.6.2 Event / Action Plan for Construction Noise

Evendent	1 Identify agrees	4		4		1	Carla and the l
Exceedance	1. Identify source,	1.	Checking	1.	Confirm receipt	1.	Submit proposals
for two or	investigate the		monitoring data		of notification of		for remedial
more	causes of		submitted by ET.		failure in writing.		actions to IEC
consecutive	exceedance and	2.	Check	2.	Notify		within three
samples in	propose remedial		Contractor's		Contractor.		working days of
Action	measures.		working method.	3.	Ensure remedial		notification.
Level.	2. Inform IEC and	3.	Discuss with ET		measures	2.	Implement the
	Contractor.		and Contractor		properly		agreed proposals.
	3. Repeat		on possible		implemented.	3.	Amend proposals
	measurements to		remedial				if appropriate.
	confirm findings.		measures.				
	4. Increase	4.	Advise the ER on				
	monitoring		the effectiveness				
	frequency to		of the proposed				
	daily.		remedial				
	5. Discuss with IEC		measures.				
	and Contractor	5.	Supervisor				
	on remedial		implementation				
	actions.		of remedial				
	6. If exceedance		measures.				
	continues,						
	arrange meeting						
	with IEC and ER.						
	7. If exceedance						
	stops, cease						
	additional						
	monitoring.						
	8.						

	-	<b>T1</b>	4	<u>Cl. 1:</u>	4		4	<b>m</b> 1 <b>t t</b>
Exceedance	1.	Identify source,	1.	Checking	1.	Confirm receipt	1.	Take immediate
for on		investigate the		monitoring data		of notification of		action to avoid
sample in		causes lof		submitted by ET		failure in writing.		further
Limit Level		exceedance and	2.	Check	2.	Notify		exceedance.
		propose remedial		Contractor's		Contractor.	2.	1 1
		measures.		working method	3.	Ensure remedial		for remedial
	2.	Inform ER,	3.	Discuss with ET		measures		actions to IEC
		Contractor and		and Contractor on		properly		within three
		EPD.		possible remedial		implemented.		working days of
	3.	Repeat		measures				notification.
		measurement to	4.	Advise the ER on			3.	Implement the
		confirm finding.		the effectiveness				agreed proposals.
	4.	Increase		of the proposed			4.	Amend proposal
		monitoring		remedial				if appropriate.
		frequency to		measures.				
		daily.	5.	Supervisor				
	5.	Assess		implementation				
		effectiveness of		of remedial				
		Contractor's		measures.				
		remedial actions						
		and keep IEC,						
		EPD and ER						
		informed of the						
		results.						
		iobalds.						

Exceedance	1.	Identify source,	1.	Discuss amongst	1.	Confirm receipt	1.	Take immediate
for two or		investigate the		ER, ET and		of notification of		action to avoid
more		causes of		Contractor on the		failure in writing.		further
consecutive		exceedance and		potential remedial	2.	Notify		exceedance.
samples in		prpose remedial		actions.		Contractor.	2.	Submit proposals
Limit Level		measures.	2.	Review	3.	In consultation		for remedial
	2.	Notify IEC, ER,		Contractor's		with the IEC,		actions to IEC
		Contractor and		remedial actios		agree with the		within three
		EPD.		whenever		Contractor on the		working days of
	3.	Repeat		necessary to		remedial		notification.
		measurement to		assure their		measures to be	3.	Implement the
		confirm findings.		effectiveness and		implemented.		agreed proposals.
	4.	Increase		advise the ER	4.	Ensure remedial	4.	Resubmit
		monitoring		accordingly.		measures		proposals if
		frequency to	3.	Supervise the		properly		problem still not
		daily.		implementation		implemented		under control.
	5.	Carry out		of remedial	5.	If exceedance	5.	Stop the relevant
	5.	analysis of		measures.		continues		portion of works
		Contractor's				consider what		as determined by
		working				portion of the		the ER until the
		procedures to				work is		exceedance is
		determine				responsible and		abated.
		possible				instruct the		
		mitigation to be				Contractor to stop		
		implemented.				that portion of		
	6	-				work until the		
	6.	Arrange meeting				exceedance is		
		with IEC and ER				abated remedial		
		to discuss the				actions.		
		remedial actions						
		to be taken.						
	7.	Assess						
		effectiveness of						
		Contractor's						
		remedial actions						
		and keep IEC,						
		EPD and ER						

	informed of the results		
8.	If exceedance		
	stops, cease additional		
	monitoring		

#### 5.7 Monitoring Schedule for the next reporting period

Noise monitoring schedule is proposed to be carried out on 3<sup>rd</sup>, 9<sup>th</sup>, 14<sup>th</sup>, 19<sup>th</sup>, 25<sup>th</sup> and 31<sup>st</sup> of January 2013.

#### 6 Water Monitoring

#### 6.1 Water Quality Monitoring Parameters and Methodology

Turbidity in Nephelometric Turbidity Unit (NTU), and Dissolved Oxygen (DO) in mg/L, temperature, water depth and pH measurements were in-situ measurements and suspended solids measurements were performed by a HOKLAS accredited laboratory using recommended reference method APHA 2540D.

#### 6.2 Monitoring Equipment

Turbidity, DO, Salinity, pH and temperature was measured by an instrument complied with the following requirements:

The instrument is a portable as well as weatherproof multimeter complete with cable and uses a DC power source. It is capable of measuring:

- A turbidity between 0-1000NTU;
- A dissolved Oxygen level in the range of 0-20mg/L and 0-200% saturation;
- A temperature of 0-50°C;
- pH in the range of 0-14.

The measurements were performed by a portable and weatherproof multi-meter, model TOA-DKK WQC-24. The equipment was calibrated and verified by certified laboratory every 3 months to ensure they perform to the same level of accuracy as stated in the manufacturer's specification. Detailed calibration records of the multi-meter were shown in Appendix C for reference

Suspended solids were determined by the water samples collected from the monitoring locations for further analysis in accredited HOKLAS laboratory. Water samples were contained by polythene bottles, packed in ice (cooled in  $4^{\circ}$ C without frozen) and delivered to the laboratory for analysis as soon as possible after collection.

Since water depths for all monitoring stations were less than 0.5m during the impact measurement period, only mid-depth level was monitored. The monitoring parameters and measurement methods of water quality monitoring are summarized in Table 6.2.1.

Table 6.2.1 – Water Quality Monitoring Parameters and Measurement				
Methods				
Parameter	Measurement Method			
Temperature (°C)				
Turbidity (NTU)	in-situ			
рН	In-suu			
Dissolved Oxygen (mg/L and %)				
Suspended Solids (mg/L)	Reference method APHA 2540D			

#### 6.3 Monitoring Locations

In accordance with the PS, monitoring stations were established at two locations, which are summarized in Table 6.3.1.

Table 6.3.1 – Water Quality Monitoring Locations				
Monitoring Station Coordinates				
Monitoring Station	Easting	Northing		
W1 (upstream)	E:844944	N:821720		
W2 (downstream)	E:844959	N:822249		

As illustrated in Figure 6.3.1, W1 served as the control station while W2 was the monitoring location of water quality.

In accordance with the PS, measurements shall be taken at 3 water depths, namely, 1m below water surface, mid-depth and 1m above river bed, except where the water depth less than 6m, the mid-depth station may be omitted. Should the water depth be less than 3m, only the mid-depth station will be monitored.

As the depth of water was less than 3m, water samples were collected at mid-depth of each monitoring stations for measurements and sample collection.

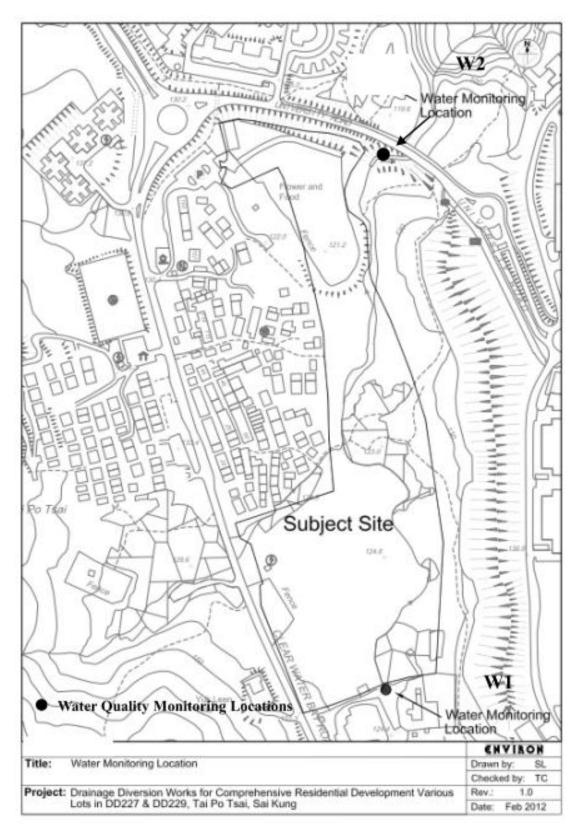


Figure 6.3.1 Water Quality Monitoring Locations

## 6.4 Monitoring Frequency

Water quality monitoring for each monitoring station was performed at mid-flood or mid-ebb tides for 3 days per week during the course of the construction river works.

Monitoring was carried out on 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 12<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup>, 19<sup>th</sup>, 21<sup>st</sup>, 24<sup>th</sup>, 27<sup>th</sup>, 29<sup>th</sup> and 31<sup>st</sup> of December 2012.

## 6.5 Monitoring Results and Interpretation

Water quality monitoring was carried out thirteen times in this reporting month. Detailed on-site measurements are shown in **Appendix E**. Table 6.5.1 presents consolidated results throughout the reporting month.

Table 6.5.1	Table 6.5.1 Summary of Water Quality Monitoring Results of this reporting month					
	Average of Monitoring Results					
	Torren oursturne	Truchidita		Dissolved	Dissolved	Suspended
	Temperature	Turbidity	pH	Oxygen	Oxygen	Solids
	(°C)	(NTU)		(mg/L)	(%)	( <i>mg/L</i> )
W1	22.5	4.2	7.19	7.28	78.4	11.23
W2	22.3	2.4	7.25	7.50	80.9	4.92

During the reporting period, no exceedance was recorded.

#### 6.6 Action and Limit Level for Water Quality

Based on the criteria stipulated in PS (Table 6.6.1) and baseline water quality monitoring data obtained, the A/L levels are shown in Table 6.6.2. The A/L levels for W1 were ignored since W1 functions as the control station for the project. If the water quality monitoring results at any impact stations exceeded the criteria, the actions in accordance with the Event and Action Plan in Table 6.6.3 should be taken.

Table 6.6.1 Action and Limit Levels for Water Quality at All Monitoring				
Stations	Stations			
Parameters	Action	Limit		
DO in mg/L	5 percentile of baseline data	4 mg/L or 1 percentile of		
	5 percentile of baseline data	baseline data		
	95 percentile of baseline data	99 percentile of baseline data or		
SS in mg/L	or 120% of upstream control	130% of upstream control		
55 III IIIg/L	station's SS recorded on the	station's SS recorded on the		
	same day	same day		
	95 percentile of baseline data	99 percentile of baseline data or		
Turbidity in	or 120% of upstream control	130% of upstream control		
NTU	station's Turbidity recorded on	station's Turbidity recorded on		
	the same day	the same day		
	<6.5  or  >8.4  or  > the upstream			
рН	control station's pH recorded	<6.0 or >9.0		
	on the same day			

Table 6.6.2	Action and Limit Levels for Water Quality at All Monitoring		
Stations			
	Monitoring Stations		
	W2		

	Monitoring Stations			
Parameters	W2			
	Action	Limit		
	Level	Level		
DO in mg/L	6.42	6.24		
SS in mg/L	18.9	19.8		
Turbidity in NTU	6.2	6.2		
pH	<6.5 or >8.4 <6.0 or >9.0			

Remarks:

- 1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- 2. For SS and Turbidity, non-compliance of the water quality limits occurs when monitoring results is higher than the limits.
- 3. For pH, for the action level, reference is made to the data recorded at EPD' river monitoring stations at the nearby Tseng Lan Shue Stream (JR3, JR6 and JR22) from year 2006 to 2010; while the limit level is referring to the water quality objective for Inland Water of Junk Bay Water Control Zone.

Event	ET Leader	IEC	ER	Contractor
ACTION LEV	EL			
Exceedance	1. Repeat in-site	1. Discuss with ET	1. Discuss with	1. Inform the ER
for one	measurement to	and Contractor	IEC on the	and confirm
sample day	confirm findings.	on the	proposed	notification of the
	2. Identify source(s)	mitigation	mitigation	non-compliance
	of impact.	measures.	measures.	in writing.
	3. Inform IEC and	2. Review	2. Make	2. Rectify
	Contractor.	proposals on	agreement on	unacceptable
	4. Check monitoring	mitigation	mitigation	practice.
	data, all plant,	measures	measures to	3. Check all plant
	equipment and	submitted by	be	and equipment.
	Contractor's	Contractor and	implemented.	4. Consider changes
	working methods.	advise the ER	3. Assess	of working
	5. Discuss mitigation	accordingly;	effectiveness	methods.
	measures with	3. Assess	of	5. Discuss with ET,
	IEC and	effectiveness of	implemented	IEC and propose
	Contractor.	the implemented	mitigation	mitigation
	6. Repeat	mitigation	measures.	measures to IEC
	measurement on	measures.		and ER.
	next day of			6. Implement the
	exceedance.			agreed mitigation
				measures.

Table 6.6.3 Event and action Plan for Water Quality

Inform the DD
. Inform the ER
and confirm
notification of the
non-compliance
in writing.
2. Rectify
unacceptable
practice.
3. Check all plant
and equipment.
. Consider changes
of working
methods.
5. Discuss with ET
and IEC and
propose
mitigation
measures within
three working
days.
5. Implement the
agreed mitigation
measures.
. Inform the ER
and confirm
notification of the
non-compliance
in writing.
2. Rectify
unacceptable
practice.
3. Check all plant
and equipment.
2. 3. 1. 5.

	~ .	~		
	Contractor's	Contractor and	C C	Consider changes
	working methods;	advise the ER		of working
	5. Discuss mitigation	0.	3. Make r	nethods.
	measures with IEC,	3. Assess	agreement on 5. I	Discuss with ET,
	ER and Contractor.	effectiveness of	the mitigation I	EC and ER and
	6. Ensure mitigation	the implemented	measures to p	propose
	measures are	mitigation	be r	nitigation
	implemented.	measures.	implemented. r	neasures to IEC
	7. Increase the		4. Assess the a	and ER within
	monitoring		effectiveness t	hree working
	frequency to daily		of the c	lays.
	until no exceedance		implemented 6. I	mplement the
	of Limit level.		mitigation a	greed mitigation
			measures. r	neasures.
Exceedance	1. Repeat in-situ	1. Discuss with ET	1. Discuss with 1. I	nform the ER
for more	measurements to	and Contractor	IEC, ET and a	and confirm
than on	confirm findings.	on the	Contractor on r	notification of the
consecutive	2. Identify source(s) of	mitigation	the proposed r	non-compliance
sampling	impact.	measures.	mitigation i	n writing.
days	3. Inform EPD, IEC	2. Review	measures. 2. H	Rectify
	and Contractor.	proposals on	2. Request u	inacceptable
	4. Check monitoring	mitigation	Contractor to p	practice.
	data, all plant,	measures	critically 3. C	Check all plant
	equipment and	submitted by	review the a	and equipment.
	Contractor's	Contractor and	working 4. <b>C</b>	Consider changes
	working methods.	advise the ER	methods.	of working
	5. Discuss mitigation	accordingly.	3. Make r	nethods.
	measures with IEC,	•••	agreement on 5. I	Discuss with ET,
	ER and Contractor.	effectiveness of	e	EC and ER and
	6. Ensure mitigation	the implemented	C	propose
	measures are	mitigation	-	nitigation
	implemented.	measures.		measures to IEC
	7. Increase the		1	and ER within
	monitoring			hree working
	frequency to daily			lays.
	inequency to during			

until no exceedance	implemented	6.	Implement the
of Limit level for	mitigation		agreed mitigation
two consecutive	measures.		measures.
days.	5. Consider and	7.	As directed by
	instruct, if		the ER, to slow
	necessary, the		down or to stop
	Contractor to		all or part of the
	slow down or		work or
	to stop all or		construction
	part of the		activities.
	work until no		
	exceedance of		
	Limit Level.		

## 6.7 Monitoring Schedule for Next Reporting Period

Water quality monitoring schedule is proposed to be carried out on 2<sup>nd</sup>, 4<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, 12<sup>th</sup>, 15<sup>th</sup>, 17<sup>th</sup>, 19<sup>th</sup>, 22<sup>nd</sup>, 24<sup>th</sup>, 26<sup>th</sup>, 29<sup>th</sup> and 31<sup>st</sup> of January 2013.

## 7 Air Quality Monitoring

#### 7.1 Monitoring Methodology and Parameters

1-hr and 24-hrs air quality monitoring have been carried out during the reporting period.

Measurements of 1-hr TSP monitoring were taken by a Dust Trak aerosol monitor or its equivalent that is a portable and battery-operated laser photometer capable of performing real time 1-hr TSP measurements.

24-hrs TSP was measured by the High Volume Sampler. The filter papers for each monitoring locations were sent to the accredited HOKLAS laboratory for further analysis.

Other relevant data such as monitoring location, time, weather conditions and any other special phenomena at the construction site were recorded during the measurement period.

#### 7.2 Monitoring Equipment

24-hrs TSP was measured by the High Volume Sampler. And the 3 sets of 1-hr TSP were carried out by the portable dust meter. The measurement equipments are listed in Table 7.2.1 and Calibration Certificates of the equipments are shown in **Appendix C**.

Equipment	Manufacturer & Model No.	Parameter	Qty
Laser Dust Monitor	SIBATA/LD-3B	1-hr TSP	2
High Volume	TE-5025A	24-hrs TSP	4
Sampler			

 Table 7.2.1 Air Quality Monitoring Equipments

## 7.3 Monitoring Locations

Monitoring locations were established at 4 locations, which are summarized in Table 7.3.1 and are shown in Figure 7.3.1

Identification No.	TSP Monitoring Locations	
D1	Staff Quarters 1-12, HKUST	
D2	174, Lots in DD227 & DD229, Tai Po Tsai, Sai Kung	
D3	152A, Lots in DD227 & DD229, Tai Po Tsai, Sai Kung	
D4	109, Lots in DD227 & DD229, Tai Po Tsai, Sai Kung	

Table 7.3.1 Air Quality Monitoring Locations

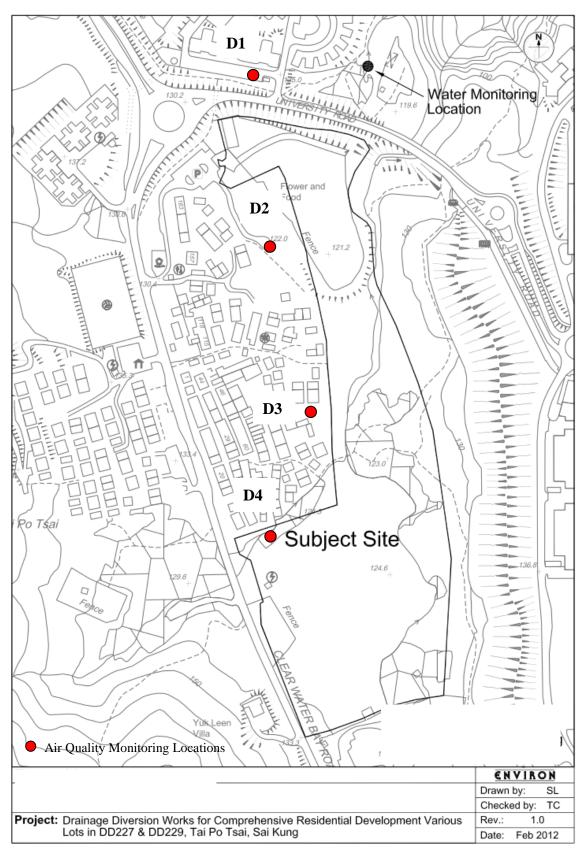


Figure 7.3.1 Air Quality Monitoring Locations

## 7.4 Monitoring Frequency

For 1-hr and 24-hr TSP monitoring, the sampling frequency of at least once in every six days.

Monitoring was carried out on 1<sup>st</sup>, 7<sup>th</sup>, 13<sup>th</sup>, 19<sup>th</sup>, 24<sup>th</sup> and 29<sup>th</sup> of December 2012.

## 7.5 Monitoring Results and Interpretation

1-hr TSP and 24-hrs TSP were carried out during this reporting. And, no exceedance was recorded.

1-hr TSP monitoring was conducted at four designated monitoring locations. The monitoring results are summarized in Table 7.5.1.

Table 7.5.1 A summarized of average 1-hr TSP monitoring data						
Location	Location Range (µg/m3) (Min – Max)					
D1	41-112	(µg/m3) 63.2				
D2	47-88	63.7				
D3	47-111	65.4				
D4	38-105	64.4				

24-hrs TSP monitoring data was obtained at four designated monitoring locations. The monitoring results are summarized in Table 7.5.2.

Table 7.5.2 A summarized of average 24-hrs TSP monitoring data						
Location	Average (µg/m3)					
D1	( <b>Min – Max</b> ) 26.4-97.7	53.1				
D2	29.0-125.4	56.2				
D3	32.2-79.8	50.2				
D4	9.6-77.0	55.9				

Details of the monitoring data were presented in Appendix F.

## 7.6 Action and Limit Level for 1-hr TSP and 24-hrs TSP

The Action and Limit levels for all monitoring stations are summarized in Table 7.6.1 and Table 7.6.2, which would be applied for compliance assessment of air quality for this project. If the air quality monitoring results at any impact stations exceeded the criteria, the actions in accordance with the Event and Action Plan in Table 7.6.3 should be taken.

Table 7.6.1 Action and Limit Levels for 1-hr TSP at All Monitoring Stations							
Monitoring Station	Monitoring Frequency	Action Level	Limit Level				
D1	- 1-hr	$285.6 \mu g/m^3$	$500 \ \mu g/m^3$				
D2		$279.4 \mu g/m^3$	$500 \ \mu g/m^3$				
D3		$289.4 \mu g/m^3$	$500 \mu g/m^3$				
D4		$284.3 \mu g/m^3$	$500 \ \mu g/m^3$				

Table 7.6.2 Action and Limit Levels for 24-hrs TSP at All Monitoring Stations							
Monitoring Station	Monitoring Frequency	Action Level	Limit Level				
D1		156.4 µg/m3	$260 \ \mu g/m^3$				
D2	24-hrs	153.8 µg/m3	$260 \ \mu g/m^3$				
D3		155.2 µg/m3	$260 \mu\text{g/m}^3$				
D4		$158.0  \mu g/m^3$	$260 \ \mu g/m^3$				

Event	ЕТ	Leader	IE	С	ER		Con	tractor
ACTION LE	VEI	_						
Exceedance for one sample	<ol> <li>1.</li> <li>2.</li> <li>3.</li> <li>4.</li> </ol>	Identify source, investigate the cause s of exceedance and propose remedial measures. Inform ER , IEC and Contractor. Repeat measurement to confirm finding. Increase monitoring frequency to daily.	2	. Check monitoring data submitted by ET. . Check Contractor's working method.	1.	Notify Contractor.		Rectify any unacceptable practice. Amend working methods if appropriate.
Exceedance for two or more consecutive samples		Identify source, investigate the causes of exceedance and propose remedial measures. Inform IEC and Contractor. Repeat measurements to confirm findings Increase monitoring frequency to daily. Discuss with IEC and Contractor on remedial actions. If exceedance continues, arrange meeting with IEC and ER	1. 2. 3. 4.	Checking monitoring data submitted by ET. Check Contractor's working method. Discuss with ET and Contractor on Possible remedial measures. Advise the ER on the effectiveness of the proposed remedial measures. Supervisor implementation of remedial measures.	2.	Confirm receipt of notification of failure in writing. Notify Contractor. Ensure remedial measures properly implemented	2.	Submit proposals for remedial actions to IEC within three working days of notification. Implement the agreed proposals. Amend proposal if appropriate.

# Table 7.6.3 Event and action Plan for Air Quality

	7.	If exceedance stops,					
	/.	cease additional					
		monitoring.					
LIMIT LF	TVE	-					
Exceedance	1		1.Checking	1	Confirm	1	. Take immediate
for one	1.	investigate the	monitoring data	1.	receipt of	1.	action to avoid
sample		causes of	submitted by ET.		notification		further
sumple		exceedance and	2. Check		of failure in		exceedance.
		propose remedial	Contractor's		writing.	2	Submit proposals
		measures.	working method	2	Notify	2.	for remedial
	2.	Inform ER,	3. Discuss with ET	2.	Contractor.		actions to IEC
	2.	Contractor and EPD.	and Contractor on	3	Ensure		within three
	3.	Repeat measurement	possible remedial	5.	remedial		working days of
	5.	to confirm finding.	measures		measures		notification.
	4.	Increase monitoring	4. Advise the ER on		properly	3	Implement the
		frequency to daily.	the effectiveness		implemented.	5.	agreed proposals.
	5.	Assess effectiveness	of the proposed		implementea.	4	Amend proposal if
	5.	of Contractor's	remedial				appropriate.
		remedial actions and	measures.				appropriate.
		keep IEC, EPD and	5. Supervisor				
		ER informed of the	implementati on				
		result.	of remedial				
		rosuit.	measures.				
Exceedance	1	Identify source,	1. Discuss amongst	1.	Confirm	1.	Take immediate
for two or	1.	investigate the causes	ER, ET and	1.	receipt of	1.	action to avoid
more		of exceedance and	Contractor on		notification		further
consecutive		propose remedial	the potenrial		of failure in		exceedance.
samples		measures.	remedial		writing.	2.	Submit proposals
sumples	2.	Notify IEC, ER,	actions.	2.	Notify	2.	for remedial
		Contractor and EPD.	2. Reviews		Contractor.		actions to IEC
	3.	_	Contractor's	3.	In		within three
	5.	to confirm findings.	remedial actions	5.	consultation		working days of
	4.	Increase monitoring	whenever		with the IEC,		notification.
		frequency to daily.	necessary to		agree with	3.	Implement the
	5.		assure their		the	2.	agreed proposals
		Contractor's working	effectiveness		Contractor on	4.	Resubmit
		procedures to	and advise the		the remedial		proposals if
		Procedures to			the remound		Proposition II

<u>г</u>						
	determine possible	ER accordingly.		measures to		problem still not
	mitigation to be	3. Supervisor the		be		under control.
	implemented.	implementati on		implemented.	5.	Stop the relevant
		of remedial	4.	Ensure		portion of works
e	6. Arrange meeting with	measures.		remedial		as determined by
	IEC and ER to discuss			measures		the ER until the
	the remedial actionsto			properly		exceedance is
	be taken.			implemented.		abated
	7. Assess effectiveness		5.	If exceedance		
	of Contractor's			continues,		
	remedial actions and			consider		
	keep IEC, EPD and			what portion		
	ER informed of the			of the work is		
	results.			responsible		
8	3. If exceedance stops,			and instruct		
	cease additional			the		
	monitoring			Contractor to		
				stop that		
				portion of		
				work until		
				the		
				exceedance is		
				abated		
				remedial		
				actions.		

## 7.7 Monitoring Schedule for Next Reporting Period

1-hr TSP and 24-hrs TSP monitoring schedule is proposed to be carried out on  $3^{rd}$ ,  $9^{th}$ ,  $14^{th}$ ,  $19^{th}$ ,  $25^{th}$  and  $31^{st}$  of January 2013.

### 8 Ecology

During the reporting period, tree protection measures have been implemented by contractor, such as provision of tree protective fencing for the retained trees and transplanted trees. The tree protection zone has enough space to prevent the construction activities to damage the trees. And, the felled trees were also removed accordingly.

As the construction activities do not affect the existing river conditions, the water flow in the existing river within the site is maintained.

#### 9 Action Taken in Event of Exceedance

If the measurements (Noise, Water and Air) exceed the action / limit level, exceedance details will be reported and follow-up actions will be taken by relevant parties involved.

During the reporting month there was no exceedance for noise, water and air measurements recorded; therefore, no actions were taken.

#### 10 Construction Waste Disposal

It is the contractor's responsibility to ensure that all wastes produced during the construction phase for the drainage improvement works are handled, stored and disposed in accordance with good waste management practices and EPD's regulation and requirement. Waste materials generated during construction activities, such as construction and demolition (C&D) material, chemical wastes and general refuse, are recommended to be audited at regular intervals to ensure that proper storage, transportation and disposal practices are being implemented.

Table 10.1 is a summary of figures of the construction wastes disposal provided by Contractor.

### Table 10.1 Summary of Construction Waste Disposal

	1	Actual Quantities of	Inert C & D M	laterials Genera	ted Monthly		Actu	ual Quantities of (	C & D Wast	es Generated	Monthly
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/cardboard packaging	Plastics (see note3)	Chemical Waste	Others, e.g. general refuse
	(in'000m3)	(in'000m3)	(in'000m3)	(in'000m3)	(in'000m3)	(in'000m3)	(in'000kg)	(in'000kg)	(in'000kg)	(in'000kg)	(in'000kg)
Sep 12	0	0	0	0	0	0	0	0	0	0	0
Oct 12	0	0	0	0	0	0	0	0	0	0	0
Nov 12	1.67	0	0	0	1.67	0	0	0	0	0	31
Dec 12	2.23	0	0	0	2.23	0	0	0	0	0	5.66
Total	3.9	0	0	0	3.9	0	0	0	0	0	36.66
		H	Forecast of Tota	al Quantities of	C & D Materi	als to be Gen	erated from	the Contract			
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/cardboard packaging	Plastics (see note3)	Chemical Waste	Others, e.g. general refuse
	(in'000m3)	(in'000m3)	(in'000m3)	(in'000m3)		(in'000m3)	(in'000kg)	(in'000kg)	(in'000kg)	(in'000kg)	(in'000kg)
	348000	1000	108000	0	239000	0	0	0	0	0	240

#### 11 Status of Permits and Licenses

Table 11.1 is the updated status of environmental related permits/ license obtained for the construction activities

Table 11.1 Status of	Table 11.1 Status of Permits and Licenses Obtained												
Description	License / Permit No.#	Date of expiry	Status										
EP	EP-428/2011	4 November 2011			Superseded by VEP								
EP	EP-428/2011/A	1 June 2012			Valid								
FEP	FEP-01/428/2011/A	9 July 2012	Various Lots in DD227 &		Surrendered on 28 Nov 2012								
FEP	FEP-02/428/2011/A	26 November 2012	DD227 & DD229, Tai Po Tsai, Sai		Valid								
Discharge License	WT00014162-2012	18 October 2012	Kung		Valid								
Registration as a Chemical Waste Producer	349704	27 Sep 2012		N/A	Valid								
Waste Disposal	N/A	N/A	N/A		N/A								
Notification Pursuant to Section 3(1) of The Air Pollution Control (Construction Dust) Regulation	349519	4 Sep 2012	Various Lots in DD227 & DD229, Tai Po Tsai, Sai Kung		Valid								

#### 12 Compliant Log

There was no formal complaint received during the reporting period. Therefore, no follow up actions for the environmental complaint is required.

Table 11.1 Summary of Formal Complaints received												
	Noise	Water	Air	Others								
September 2012	0	0	0	0								
October 2012	0	0	0	0								
November 2012	0	0	0	0								
December 2012	0	0	0	0								
Total	0	0	0	0								

#### 13 Site Environmental Audits

#### **13.1 Site Inspection**

Site inspections were undertaken weekly to inspect the construction activities in active site areas to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented.

Within this reporting period, site inspections were conducted on 7<sup>th</sup>, 12<sup>th</sup>, 19<sup>th</sup> and 24<sup>th</sup> of December 2012. A detailed checklist of each site inspection together with comments and relevant photos have been filed and kept. The findings from inspection were summarized in Table 12.1.

Table 12.1 Summary results of site inspections findings

			_			
Date	Findings	Identification	Advice from ET	Action taken	Closing date	Remarks
		Damaged tree	Contractor was	Damaged tree	7 Dec 12	N/A
		protective	reminded that	protective		
14, 21	Observation	fencing for	damaged tree	fencing was		
Nov 12	Observation	T106 was	protective fencing	replaced by		
		observed.	should be replaced	contractor.		
			as soon as possible.			

Date	Findings	Identification	Advice from ET	Action taken	Closing date	Remarks
20 N		Stockpile of	Contractor was	Stockpile was	19 Dec 12	N/A
29 Nov 12		C&D material	reminded to cover	covered with		
	Reminder	was not	the stockpile with	tarpaulin sheets		
7 & 12		covered	tarpaulin sheets.	by contractor		
Dec 12		properly.				
		Exposed area	Contractor was	The bund along	7 Dec 12	N/A
		observed near	reminded to provide	the edge of		
29 Nov		the existing	bund near the edge	exposed area		
29 NOV 12	Observation	river.	of exposed area to	was provided		
12			prevent the muddy	by contractor.		
			water from entering			
			into the river.			
		Boulder	Contractor was	To be followed	N/A	N/A
		breaking	reminded that noise	during next		
12, 19 &	Reminder	activities were	barriers should be	inspection.		
24 Dec 12	Kellillidel	observed.	provided adequately			
			and located			
			properly.			
		Damaged	Contractor was	To be followed	N/A	N/A
		tarpaulin	reminded to replace	during next		
24 Dec 12	Observation	sheets were	the tarpaulin sheets	inspection.		
		observed.	and covered			
			properly.			

#### 13.2 Compliance with Legal and Contractual Requirement

There was no non-compliance recorded for the month of December 2012.

#### 13.3 Implementation Status and Effectiveness of Mitigation Measures

Contractor has implemented mitigation measures to address those problems as advised by ET. Some of the measures taken by the contractor were considered as effective to minimize negative impact to the environment. Ongoing investigation will be carried out to observe performance and effectiveness of those measures. Outstanding environmental items will be inspected in next month. As there were some ongoing follow up practices, contractor was reminded to regularly review and rectify the discrepancy once found and maintain good site condition. The contractor implemented various environmental mitigation measures as recommended in the Environmental Permit.

#### 14 Future Key Issues and Recommendations

According to the forecasted site activities, key environmental issues to be considered should at least include the following items:

- Site water control and relevant protective measures
- Dust suppression
- Noise control
- Control and disposal for construction wastes generated from works

Tree protective measures for tree planting and transplanting should be implemented such as tree protection zone and regular watering.

#### Conclusions

Tree retain, transplanting works and stream course diversion works were major site activities being carried out within this reporting period.

Regular site meetings and inspection audits led by the seniors for discussing site environmental matters were held among Contractor and the ET on weekly basis. Also monthly site meeting and inspection audits with the above parties, IEC and EPD were carried out on 12<sup>th</sup> Dec 2012.

No exceedance was recorded for Noise, Water and Air during the reporting period.

Also, there was no notification of summons, formal prosecution or complaints being recorded during the reporting period.

ET has reminded the contractor to provide environmental pollution control measures wherever necessary, and to keep a good environmental management at site practice.

The ET will continue to implement the environmental monitoring & audit programme in accordance with the PS and Environmental Permit requirements.

# Appendix A

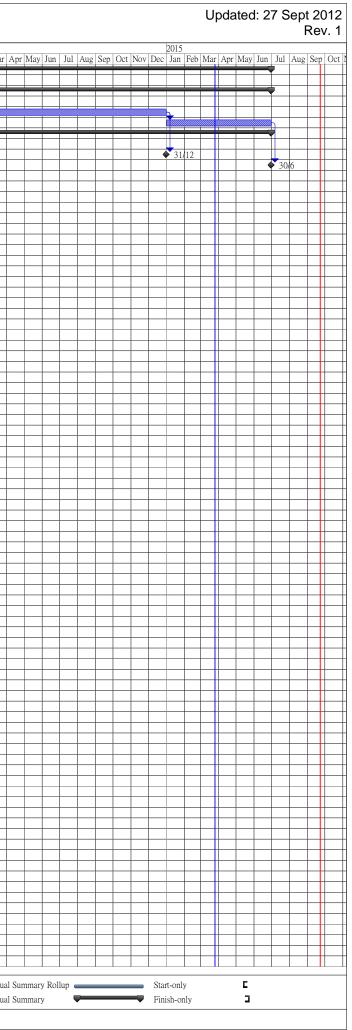
Construction Master Programme and Site Location Plan



Your complimentary use period has ended. Thank you for using

### **Outline Works Programme**

	omplete PDF Complete.	Duration		Start	Finish	A	4 NT	2013	Man	And In I			201	
He	re to upgrade to	1033 days		Sat 1/9/12	Tue 30/6/15	Aug Sep O	t Nov	Dec Jan Feb	Mar Apr N	/lay Jun Ju	II Aug Sep	Oct Nov I	Dec Ja	n Fe
ite	d Pages and Expanded Features	0 days		Sat 1/9/12	Sat 1/9/12	1/9								
		1033 days		Sat 1/9/12	Tue 30/6/15				÷					+
	Site Formation, Stream Course Diversion and Foundation	410 days		Sat 1/9/12	Tue 15/10/13									
	Superstructure (Obtain OP)	442 days		Wed 16/10/13	Wed 31/12/14									<b>—</b>
	Superstructure (Obtain CC)	181 days		Thu 1/1/15	Tue 30/6/15									$\rightarrow$
(	Contract Completion Date	623 days		Tue 15/10/13	Tue 30/6/15		_					♦ 15/10		
	Site Formation, Stream Course Diversion and Foundation	0 days		Tue 15/10/13	Tue 15/10/13		_					◆ 15/10		
	Superstructure (Obtain OP) Superstructure (Obtain CC)	0 days 0 days		Wed 31/12/14 Tue 30/6/15	Wed 31/12/14 Tue 30/6/15		-					+		+-
	Supersu ucture (Obtain CC)	0 days		Tue 50/0/15	100 50/0/15				+			+		
Ţ	Pre-construction Works	150 days		Sat 1/9/12	Mon 28/1/13				+			++		+
	Free Felling / Transplant	150 days		Sat 1/9/12	Mon 28/1/13				+++			++		+
	Submission of Method Statement for Tree Felling and Transplant and Approval	21 days		Sat 1/9/12	Fri 21/9/12				+-++			+		
	Finalization of Tree Felling Plan and Approval from Government Depart	0 days		Sun 9/9/12	Sun 9/9/12	×9/9								+
	Protection and Fencing for Retain and Transplant Trees	21 days		Mon 10/9/12	Sun 30/9/12	×9/9								-
	Tree Felling within Site Boundary	49 days		Mon 17/9/12	Sun 4/11/12									-
	Trees in Zone A and C which affect the Commencement of Stream Course Diversion Works	7 days		Mon 17/9/12	Sun 23/9/12									
	Trees in Zone B	20 days		Mon 24/9/12	Sat 13/10/12		_							
	Trees in Zone C	10 days		Sun 14/10/12	Tue 23/10/12	6	5							
	Trees in Zone D	7 days		Wed 24/10/12	Tue 30/10/12									
	Trees in Zone A	5 days		Wed 31/10/12	Sun 4/11/12		ĥ					+		$\perp$
	Tree Felling outside Site Boundary	71 days		Sun 16/9/12	Sun 25/11/12							+		
	Submission of Tree Felling Plan Amendment to DLO and Approval	30 days		Sun 16/9/12	Mon 15/10/12							+		+
	Tree Felling	21 days		Mon 5/11/12	Sun 25/11/12				++			++		
	Tree Transplant	120 days		Mon 1/10/12	Mon 28/1/13				++++		+	+		+
	ite Formation and Foundation Works	313 days		Sat 1/9/12	Wed 10/7/13							++-+		+
	3D Submission	94 days		Mon 10/9/12	Wed 10///13 Wed 12/12/12			•	+-++			++		+
-	Zone A & B	30 days		Mon 10/9/12	Tue 9/10/12		-		+++		++	+-++		+
	Submission of BD Amendment	0 days		Mon 10/9/12	Mon 10/9/12	◆ <u>1</u> 0/9			++			++		+
	BD Comment	30 days		Mon 10/9/12	Tue 9/10/12									-
	BD Approval	0 days		Tue 9/10/12	Tue 9/10/12		9/10							1
	Zone C	30 days	N	Mon 12/11/12	Wed 12/12/12									+
	Submission of BD Amendment	0 days		Mon 12/11/12	Mon 12/11/12		• 1	2/11						
	BD Comment	30 days		Tue 13/11/12	Wed 12/12/12			Bh						
	BD Approval	0 days		Wed 12/12/12	Wed 12/12/12		T	◆12/12						
	Stream Course Diversion Works	313 days		Sat 1/9/12	Wed 10/7/13						1			
	Preparation Works and Monitoring Point Set-up	14 days		Sat 1/9/12	Fri 14/9/12									_
	Additional Drainage Verification	50 days		Mon 24/9/12	Mon 12/11/12									+
	Subletting	21 days		Mon 24/9/12	Sun 14/10/12				++			++		+
	Survey Re-design of Drainage at Zone C	14 days 15 days		Mon 15/10/12 Mon 29/10/12	Sun 28/10/12 Mon 12/11/12				+			+		+
	Sheet Piling Works	105 days		Sat 15/9/12	Fri 28/12/12				++			++		+
	Installation Works	75 days		Sat 15/9/12	Wed 28/11/12				++			++		+
-	Zone A1 to A5, B1 to B4 (not include Area still under BD Amendment)	30 days		Sat 15/9/12	Sun 14/10/12				+			+		+
	Zone A1 to A5, B1 to B4 (Area under BD Amendment)	15 days		Mon 15/10/12	Mon 29/10/12				+-+-+			++		+
	Zone B5	30 days		Tue 30/10/12	Wed 28/11/12									-
	BA14 Submission and Aknowledgement	60 days		Tue 30/10/12	Fri 28/12/12		<b>•</b>							+
	Zone A1 to A5, B1 to B4 (not include Area still under BD Amendment)	30 days		Tue 30/10/12	Wed 28/11/12			_						T
	Zone B5	30 days		Thu 29/11/12	Fri 28/12/12		Ó							
	Excavation, Construction Works and Soil Backfill	299 days		Sat 15/9/12	Wed 10/7/13						1			
	Zone A	167 days		Sat 15/9/12	Thu 28/2/13				<b></b>					
	Zone Al	105 days		Sat 15/9/12	Fri 28/12/12			<u> </u>						$ \rightarrow$
	Zone A2	70 days		Thu 25/10/12	Wed 2/1/13			<u> </u>						$\rightarrow$
	Zone A3	105 days		Wed 14/11/12	Tue 26/2/13				<u>}</u>					_
	Zone A4	40 days		Sun 20/1/13	Thu 28/2/13									_
	Zone A5 Zone B	30 days		Wed 30/1/13 Mon 1/10/12	Thu 28/2/13 Sun 21/4/13			<b>\</b>	≞			++		+
	Zone B1	203 days		Mon 1/10/12 Mon 1/10/12								++		+
	Zone B1 Zone B2	50 days 50 days		Thu 11/10/12	Mon 19/11/12 Thu 29/11/12				+++			++		+
	Zone B2 Zone B3	85 days		Fri 30/11/12	Fri 22/2/13							+-+-+		+
	Zone B5 Zone B4	30 days		Sat 23/2/13	Sun 24/3/13				╈╧┼─┼			++		+
	Zone B5	40 days		Wed 13/3/13	Sun 21/4/13					$\pm$	++-	+		+
	Zone C	180 days		Thu 13/12/12	Mon 10/6/13				╪╤╤╪╤╧╞					+
	Zone C1 (within site boundary)	100 days		Thu 13/12/12	Fri 22/3/13									1
	Excavation, Construction Works and Soil Backfill	100 days		Thu 13/12/12	Fri 22/3/13									
	Zone C2 (outside site boundary)	180 days		Thu 13/12/12	Mon 10/6/13				┿━╋╋					
	Application of Excavation Permit and Approval	90 days		Thu 13/12/12	Tue 12/3/13				<b>₩</b> _					
	Sheet Piling and Laterial Support	30 days		Wed 13/3/13	Thu 11/4/13							$\downarrow$		
	Manhole and Pipe Installation	60 days		Fri 12/4/13	Mon 10/6/13				-    ਁ			+		$\downarrow$
	BA14 Submission and Aknowledgement	30 days		Tue 11/6/13	Wed 10/7/13							+		$\downarrow$
0.7	all Nail Chart Diling Execution and Charles Erected	505 days		Man 1/10/12	M 17/0/14									
	Soil Nail, Sheet Piling, Excavation and Shoring, Foundation	505 days 172 days		Mon 1/10/12 Mon 1/10/12	Mon 17/2/14 Thu 21/3/13	X					$\mp$	+++		7
- 1	Design and Submission	172 days		Mon 1/10/12 Mon 1/10/12	Thu 21/3/13 Thu 21/3/13							++		-
	Design Drawing Available for Soil Nail, Shetting Piling, Excavation and Lateral Support (By Consultant)	0 days		Mon 1/10/12	Mon 1/10/12		/10		++-++++++++++++++++++++++++++++++++++++		+	+		-
	Soil Nail, Sheet Piling, Excavation & Laternal Support	157 days		Mon 15/10/12	Thu 21/3/13	<u> </u>	, 10		╪╤┼┼┼┼			+-++		$\neg$
	BD Amendment Submission for ELS Works (Stage 1)	30 days		Mon 15/10/12	Wed 14/11/12						++-			+
	BD Amendment Submission	0 days		Mon 15/10/12	Mon 15/10/12	1	15/10							+
	BD Comment	30 days		Tue 16/10/12	Wed 14/11/12									
	BD Approval	0 days		Wed 14/11/12	Wed 14/11/12		<b></b>	4/11						
	BD Submission for ELS Works (Stage 2)	95 days		Mon 15/10/12	Fri 18/1/13									
	BD Submission	0 days		Mon 15/10/12	Mon 15/10/12		5/10							
	BD Comment	60 days		Tue 16/10/12	Fri 14/12/12		1	🕒 📔						
														—
_	ng Construction Co., Ltd.	nary Inactive T	ask	•	In	active Milesto	ne	$\diamond$	1	Manual Task	K			
20					T.,									
Se	Milestone   Critic	al Inactive T	ask	L	In	active Summa	ry		I	Duration-onl	ly			





Your complimentary

use period has Complete Thank you fo PDF Com	using	Outline Works P	ogramme	Updated: 27 Sep
ere to upgrade to	piete.	Duration Start Finish	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 May Jun Jul Aug Sep Oct Nov	2015 vv Dec Jan Feb Mar Apr May Jun Jul Aug
ed Pages and Expanded Features		0 days Fri 14/12/12 Fri 14/1 30 days Thu 20/12/12 Fri 18/		
		0 days Fri 18/1/13 Fri 18/	13	
BD Amendment Submission for Raft Footing BD Amendment Submission		97 days Fri 14/12/12 Thu 21/ 0 days Fri 14/12/12 Fri 14/1		
BD Comment		60 days Sat 15/12/12 Tue 12/		
BD Approval		0 days Tue 12/2/13 Tue 12/		
Consent Application		30 days Wed 20/2/13 Thu 21/		
Consent Obtained		0 days Thu 21/3/13 Thu 21/		
Socket H-Pile & Pile Cap		97 days Fri 14/12/12 Thu 21/		
BD Amendment Submission BD Comment		0 days Fri 14/12/12 Fri 14/1		
BD Comment BD Approval		60 days Sat 15/12/12 Tue 12/ 0 days Tue 12/2/13 Tue 12/		
Consent Application		30 days Wed 20/2/13 Thu 21/		
Consent Obtained		0 days Thu 21/3/13 Thu 21/		
Procurement		135 days Mon 1/10/12 Tue 12/		
Tender Preparation and Subletting for Soil Nail and Exe		60 days Mon 1/10/12 Thu 29/1		
Tender Preparation and Subletting for Sheet Piling and		60 days Tue 16/10/12 Fri 14/1		
Tender Preparation and Subletting for Formwork, Reinf		60 days Sat 15/12/12 Tue 12/		
Tender Preparation and Subletting for Socket H-Pile W Tender Preparation and Subletting for Formwork, Reinf	rks	60 days Sat 15/12/12 Tue 12/		
Preparation Works and Mobilization	icement Fixing and Concreting works	60 days Thu 15/11/12 Sun 13/ 90 days Fri 30/11/12 Wed 27/		
Preparation Works and Mobilization for Soil Nail & Ex	avation	15 days Fri 30/11/12 Fri 14/1		
Preparation Works and Mobilization for Sheet Piling an	ELS Works	15 days Sat 15/12/12 Sat 29/1		
Preparation Works and Mobilization for Socket H-Pile		15 days Wed 13/2/13 Wed 27/		
Construction Works		430 days Sat 15/12/12 Mon 17/2		
Zone A (Tower 7 to Tower 19)		351 days Sat 15/12/12 Sat 30/1	13	
Zone A1		195 days Sat 15/12/12 Thu 27/		
Excavation and Soil Nailing Plate Load Test for Soil Stratum and Report Submis	ion to PD	120 days Sat 15/12/12 Sat 13/ 7 days Sun 14/4/13 Sat 20/		<u> </u>
Apply Consent for Foundation	עם טו ווט	7 days Sun 14/4/13 Sat 20/ 28 days Sun 21/4/13 Sat 18/		
Construction of Raft Footing		40 days Sun 21/4/15 Sat 16/		+ + + + + + + + + + + + + + + + + + + +
Zone A2		155 days Fri 1/3/13 Fri 2/		
Excavation and Soil Nailing		90 days Fri 1/3/13 Wed 29/		
Plate Load Test for Soil Stratum and Report Submis	ion to BD	7 days Thu 30/5/13 Wed 5/		
Apply Consent for Foundation		28 days Thu 6/6/13 Wed 3/		
Construction of Raft Footing		30 days Thu 4/7/13 Fri 2/		
Zone A3		155 days Mon 22/4/13 Mon 23/		
Excavation and Soil Nailing		90 days Mon 22/4/13 Sat 20/ 7 days Sun 21/7/13 Sat 27/		
Plate Load Test for Soil Stratum and Report Submis Apply Consent for Foundation		7 days Sun 21/7/13 Sat 27/ 28 days Sun 28/7/13 Sat 24/		
Construction of Raft Footing		30 days Sun 25/8/13 Mon 23/		
Zone A4		254 days Fri 22/3/13 Sat 30/1		
Pre-drilling, Socket H-Pile Installation		90 days Fri 22/3/13 Wed 19/		
Loading Test		14 days Thu 20/6/13 Wed 3/		
Submission of BA14 and Consent Application for P	e Cap Construction	28 days Thu 4/7/13 Wed 31/		
Open Cut Excavation		30 days Thu 4/7/13 Fri 2/		
Part of Pile Cap Construction Soil Nail & Excavation		30 days         Sat 3/8/13         Sun 1/           90 days         Thu 4/7/13         Tue 1/1		
Sheet Piling		30 days Thu 20/6/13 Fri 19/		
ELS		60 days Mon 2/9/13 Thu 31/1		
Remaining Pile Cap and Basement Slab Construction		30 days Fri 1/11/13 Sat 30/1		
Zone B B (Tower 20 to Tower 27)		415 days Sun 30/12/12 Mon 17/2		
Zone B1		180 days Sun 30/12/12 Thu 27/		
Open Cut Excavation & Portion of Footing Construct		100 days Sun 30/12/12 Mon 8/		
Plate Load Test for Soil Stratum and Report Submis	ion to BD	7 days Tue 9/4/13 Mon 15/		
Apply Consent for Foundation		28 days Tue 16/4/13 Mon 13/		
Construction of Raft Footing Zone B2		45 days Tue 14/5/13 Thu 27/ 110 days Mon 25/3/13 Fri 12/		
Open Cut Excavation		45 days Mon 25/3/13 Wed 8/		
Plate Load Test for Soil Stratum and Report Submis	ion to BD	7 days Thu 9/5/13 Wed 15/		
Apply Consent for Foundation		28 days Thu 16/5/13 Wed 12/		
Construction of Raft Footing		30 days Thu 13/6/13 Fri 12/		
Zone B3		125 days Tue 9/4/13 Sun 11/		
Sheet Piling, Excavation and Lateral Support		60 days Tue 9/4/13 Fri 7/		
Plate Load Test for Soil Stratum and Report Submis	ION TO RD	7 days Sat 8/6/13 Fri 14/		+ + + + + + + + + + + + + + + + + + + +
Apply Consent for Foundation Construction of Raft Footing		28 days Sat 15/6/13 Fri 12/ 30 days Sat 13/7/13 Sun 11/		+ + + + + + + + + + + + + + + + + + + +
Zone B4		125 days Sat 15/7/15 Sun 11/ 125 days Sat 8/6/13 Thu 10/10		
Sheet Piling, Excavation and Lateral Support		60 days Sat 8/6/13 Tue 6/		
Plate Load Test for Soil Stratum and Report Submis	ion to BD	7 days Wed 7/8/13 Tue 13/		
Apply Consent for Foundation		28 days Wed 14/8/13 Tue 10/		
Construction of Raft Footing		30 days Wed 11/9/13 Thu 10/1		
Zone B5		125 days Wed 16/10/13 Mon 17/		
Sheet Piling, Excavation and Lateral Support		60 days Wed 16/10/13 Sat 14/1		<u> </u>
Plate Load Test for Soil Stratum and Report Submis Apply Consent for Foundation	עם טו ווטו	7 days Sun 15/12/13 Sat 21/1 28 days Sun 22/12/13 Sat 18/		
Construction of Raft Footing		28 days Sun 22/12/13 Sat 18/ 30 days Sun 19/1/14 Mon 17/		+ + + + + + + + + + + + + + + + + + + +
Zone C (Tower 1 to Tower 6)		272 days Fri 22/3/13 Wed 18/1		
Zone C1		147 days Fri 22/3/13 Thu 15/		
Pre-drilling, Socket H-Pile Installation and Excavation	n	75 days Fri 22/3/13 Tue 4/		
Loading Test		14 days Wed 5/6/13 Tue 18/	13	
Submission of BA14 and Consent Application for P	e Cap Construction	28 days Wed 19/6/13 Tue 16/		
Pile Cap and Basement Slab Construction		30 days Wed 17/7/13 Thu 15/		<u> </u>
Zone C2		147 days Fri 22/3/13 Thu 15/		
	Task Summary	Inactive Task	Inactive Milestone 🔷 Manual Task 🏾 🗖 Manual Summary Rollup 🛶 🚽	Start only
	Task Summary			Finish-only
eng Construction Co., Ltd.	Milestone   Critical	Inactive Task	Inactive Summary Duration-only Manual Summary	



Your complimentary

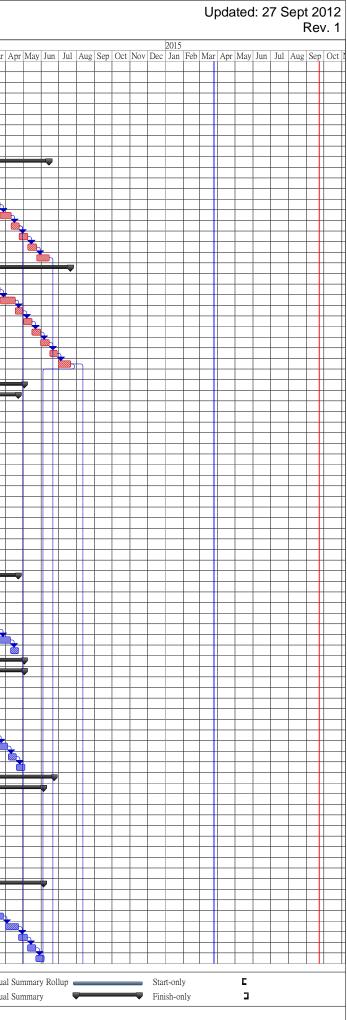
complete <i>use period has ended.</i> <i>Thank you for using</i> <i>PDF Complete.</i>	Outline Works Programme	Updated: 27 Sep
ere to upgrade to	Duration         Start         Finish         2013         2014           75         Duration         Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May         Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May	y Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Au
ed Pages and Expanded Features	75 days         Fri 22/3/13         Tue 4/6/13         Image: Comparison of the field	
Pile Cap and Basement Slab Construction	28 days         Wed 19/6/13         Tue 16/7/13         Image: Comparison of the compari	
Open Cut Excavation	60 days Fri 22/3/13 Mon 20/5/13	
Plate Load Test for Soil Stratum and Report Submission to BD Apply Consent for Foundation	7 days         Tue 21/5/13         Mon 27/5/13         Image: Comparison of the comparis	
Pile Cap and Basement Slab Construction	28 days         Tue 28/5/13         Mon 24/6/13         Image: Constraint of the constra	
Zone C3 Pre-drilling, Socket H-Pile Installation and Excavation	147 days         Wed 5/6/13         Tue 29/10/13         Control	
Loading Test	14 days Mon 19/8/13 Sun 19/13	
Submission of BA14 and Consent Application for Pile Cap Construction	28 days Mon 2/9/13 Sun 29/9/13	
Pile Cap and Basement Slab Construction Zone C4	30 days         Mon 30/9/13         Tue 29/10/13	
Pre-drilling, Socket H-Pile Installation and Excavation	75 days Wed 5/6/13 Sun 18/8/13	
Loading Test Submission of BA14 and Consent Application for Pile Cap Construction	14 days         Mon 19/8/13         Sun 1/9/13         Sun 29/9/13         Sun 29/9/13 <t< td=""><td></td></t<>	
Pile Cap and Basement Slab Construction	30 days Mon 30/9/13 Tue 29/10/13	
Open Cut Excavation Plate Load Test for Soil Stratum and Report Submission to BD	60 days         Wed 5/6/13         Sat 3/8/13         Control         Control <thcontrol< th="">         Control</thcontrol<>	
Apply Consent for Foundation	28 days Sun 11/8/13 Sat 7/9/13	
Pile Cap and Basement Slab Construction Zone C5	30 days Sun 8/9/13 Mon 7/10/13	
Sheet Piling, Excavation and Lateral Support	125 days         Fri 16/8/13         Wed 18/12/13         Comparison         Comparison <thcomparison< th="">         Comparison         Compari</thcomparison<>	
Plate Load Test for Soil Stratum and Report Submission to BD	7 days Tue 15/10/13 Mon 21/10/13	
Apply Consent for Foundation Construction of Raft Footing	28 days         Tue 22/10/13         Mon 18/11/13         Image: Constraint of the second se	
Superstructure (R.C. Works) BD Submission	676 days       Fri 14/9/12       Mon 21/7/14         326 days       Fri 14/9/12       Mon 5/8/13	
GBP Submission	326 days Fri 14/9/12 Mon 5/8/13	
1st BD Submission for GBP BD Comment	0 days Fri 14/9/12 Fri 14/9/12 ◆14/9 60 days Fri 14/9/12 Mon 12/11/12	
Withdraw and Re-submit for GBP	0 days Sat 1/12/12 Sat 1/12/12 Sat 1/12/12	
BD Comment Approval of GBP	60  days Sun 2/12/12 Wed 30/1/13	
Cosent Application	30 days Wed 20/2/13 Thu 21/3/13	
Consent Obtained	0 days Thu 21/3/13 Thu 21/3/13 <b>C</b>	
BD Major Amendment BD Comment	0 days Sun 31/3/13 Sun 31/3/13	
BD Approval	0 days Thu 30/5/13 Thu 30/5/13	
Cosent Application Consent Obtained	30 days         Sun 7/7/13         Mon 5/8/13	
Structural Drawing Submission	228 days Thu 20/12/12 Mon 5/8/13	
BD Submission	0 days Thu 20/12/12 Thu 20/12/12 Thu 20/12/12 Thu 20/12/12	
BD Comment BD Approval	60 days Fri 21/12/12 Mon 18/2/13 0 days Mon 18/2/13 Mon 18/2/13 ↓ 18/2	
Consent Application	30  days Wed $20/2/13$ Thu $21/3/13$	
Consent Obtained BD Major Amendment	0 days Thu 21/3/13 Thu 21/3/13	
BD Comment	60 days Thu 2/5/13 Sun 30/6/13	
BD Approval	0 days     Sun 30/6/13     Sun 30/6/13     Sun 30/6/13       30 days     Sun 7/7/13     Mon 5/8/13     Sun 30/6/13       0 days     Sun 7/7/13     Mon 5/8/13     Sun 30/6/13	
Cosent Application Consent Obtained	30 days         Sun 7/7/13         Mon 5/8/13	
Precast Façade Submission	165 days Thu 20/12/12 Mon 3/6/13	
BD Submission BD Comment	0 days         Thu 20/12/12         Thu 20/12/12         20/12         1 <th1< th="">         1         <th1< th=""> <th< td=""><td></td></th<></th1<></th1<>	
BD Approval	0 days Mon 18/2/13 Mon 18/2/13	
Consent Application Consent Obtained	30 days     Wed 20/2/13     Thu 21/3/13       0 days     Thu 21/3/13	
BD Amendment	0 days Sat 4/5/13 Sat 4/5/13 Sat 4/5/13	
BD Comment	30 days Sun 5/5/13 Mon 3/6/13	
BD Approval Tender Preparation and Subletting	0 days Mon 3/6/13 Mon 3/6/13 114 days Mon 4/2/13 Tue 28/5/13	
Tender Preparation and Subletting for Precast Façade and Window (if any)	60 days Mon 4/2/13 Thu 4/4/13	
Tender Preparation and Subletting for Structural Works Precast Façade	60 days         Sat 30/3/13         Tue 28/5/13           146 days         Fri 5/4/13         Wed 28/8/13	
Shop Drawing Submission and Approval	28 days Fri 5/4/13 Thu 2/5/13	
Mould Fabrication and Trail Panel Construction (if necessary) Mass Production of Mould and Construction of 1st Batch of Precast Façade	28 days         Fri 3/5/13         Thu 30/5/13         Image: Comparison of the second secon	
Mass Production of Mould and Construction of 1st Batch of Precast Paçade Mobilization and Preparation Works	30 days Wed 29/5/13 Thu 27/6/13	
Construction Works	389 days Fri 28/6/13 Mon 21/7/14	
Zone A (Tower 7 to Tower 19) Type 6 Tower	510 days FrI 20/0/15 Molt 21/1/14	
Zone A1 (Tower 11, 12 & 13)	166 days Fri 28/6/13 Wed 15/1/14	
Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab	52 days         Fri 28/6/13         Wed 28/8/13         Comment	
1/F to 2/F Slab	18 days Thu 19/9/13 Fri 11/10/13	
2/F to 3/F Slab 3/F to 4/F Slab	12 days         Sat 12/10/13         Sat 26/10/13         Image: Control of the control of	
4/F to 5/F Slab	12 days Mon 11/11/13 Sat 23/11/13	
5/F to 6/F Slab 6/F to R/F Slab	12 days         Mon 25/11/13         Sat 7/12/13         Image: Control of the state	
R/F	18 days Mon 23/12/13 Wed 15/1/14	
Zone A2 (Tower 7, 8, 9 & 10)	166 days Sat 3/8/13 Fri 28/2/14	
Task	Summary Inactive Task ? Inactive Milestone $\diamond$ Manual Task Manual Summa	ry Rollup Start-only <b>C</b>
eng Construction Co., Ltd.	Critical Inactive Task Inactive Summary United to Infection Inactive Summary United to Infection Inactive Summary III Inactive Summary IIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	
intilestone 🗘		



Your complimentary use period has ended. At Thank you for using

### **Outline Works Programme**

lere ted i	PDF Complete.         to upgrade to         Pages and Expanded Features         2/F to 3/F Slab         3/F to 4/F Slab         4/F to 5/F Slab         6/F to K/F Slab         6/F to K/F Slab         6/F to K/F Slab         7/F to 3/F Slab         7/F to 3/F Slab         6/F to K/F Slab         6/F to K/F Slab         7/F to 3/F Slab         7/F to 1/F Slab         7/F to 3/F Slab         7/F to 4/F Slab         7/F to	Duration           52 days           18 days           12 days           18 days           207 days           52 days           18 days           12 days           18 days           18 days           12 days           <	Start Sat 3/8/13 Sat 5/10/13 Mon 28/10/13 Mon 18/11/13 Mon 12/13 Thu 21/14 Thu 21/14 Thu 21/14 Thu 21/14 Thu 21/14 Thu 21/14 Thu 24/9/13 Tue 24/9/13 Tue 24/9/13 Thu 16/1/14 Thu 6/2/14 Thu 6/2/14 Thu 6/2/14 Thu 6/2/14 Thu 24/9/13 Thu 24/9/13 Thu 24/9/13 Sat 22/3/14 Thu 10/4/14 Fri 9/5/14 Sat 12/3/14 Sat 13/14 Sat 31/5/14 Fri 25/14 Fri 25/14 Fri 25/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Finish         Au           Fri 4/10/13         Sat 26/10/13           Sat 26/10/13         Sat 16/11/13           Sat 16/11/13         Sat 14/12/13           Tue 31/12/13         Wed 15/1/14           Wed 15/1/14         Wed 29/1/14           Fri 28/2/14         Sat 14/6/14           Mon 25/11/13         Wed 5/2/14           Fri 21/3/14         Fri 21/3/14           Fri 21/3/14         Fri 21/3/14           Fri 23/5/14         Sat 14/6/14           Mon 21/7/14         Mon 21/7/14           Wed 16/4/14         Wed 30/4/14           Fri 30/5/14         Fri 30/5/14           Fri 30/5/14         Sat 14/6/14           Mon 21/7/14         Wed 16/4/14           Sat 14/6/14         Sat 28/6/14           Mon 21/7/14         Sat 3/5/14	ju Sep         Oct         Nov         Dec         Jan         Feb           ig         Sep         Oct         Nov         Dec         Jan         Feb           i         I         I         I         I         I         I         I           i         I         I         I         I         I         I         I           i         I <tdi< th=""><th>Mar     Apr     May     Jun     Jul     Aug     Sep     Oct       -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -       -     -     -<!--</th--><th></th></th></tdi<>	Mar     Apr     May     Jun     Jul     Aug     Sep     Oct       -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -       -     -     -     -     -     -     -     -     -     -       -     -     - </th <th></th>	
	2F to 3/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         4/F to 5/F Slab         6/F to R/F Slab         7/P         7/P         7/P         7/F to 6/F Slab         6/F to R/F Slab         7/P	18 days           18 days           12 days           18 days           207 days           52 days           18 days           12 days           18 days           18 days           18 days           12 days <t< td=""><td>Sat 5/10/13 Mon 28/10/13 Mon 28/10/13 Mon 18/11/13 Mon 2/12/13 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Sat 2/1/14 Thu 10/4/14 Thu 2/4/14 Thu 2/4/14 Thu 2/4/14 Thu 2/4/14 Thu 2/4/14 Thu 2/4/14 Sat 2/3/14 Thu 17/4/14 Fri 2/5/14 Fri 2/5/14 Fri 2/5/14 Fri 2/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13</td><td>Fri 4/10/13 Sat 26/10/13 Sat 16/11/13 Sat 30/11/13 Sat 14/12/13 Tue 31/12/13 Wed 15/1/14 Wed 29/1/14 Wed 29/1/14 Wri 28/2/14 Sat 14/6/14 Wri 21/3/14 Fri 21/3/14 Wed 9/4/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Wed 30/4/14 Tri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14</td><td></td><td></td><td></td></t<>	Sat 5/10/13 Mon 28/10/13 Mon 28/10/13 Mon 18/11/13 Mon 2/12/13 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Thu 2/1/14 Sat 2/1/14 Thu 10/4/14 Thu 2/4/14 Thu 2/4/14 Thu 2/4/14 Thu 2/4/14 Thu 2/4/14 Thu 2/4/14 Sat 2/3/14 Thu 17/4/14 Fri 2/5/14 Fri 2/5/14 Fri 2/5/14 Fri 2/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Fri 4/10/13 Sat 26/10/13 Sat 16/11/13 Sat 30/11/13 Sat 14/12/13 Tue 31/12/13 Wed 15/1/14 Wed 29/1/14 Wed 29/1/14 Wri 28/2/14 Sat 14/6/14 Wri 21/3/14 Fri 21/3/14 Wed 9/4/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Wed 30/4/14 Tri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
	2/F to 3/F Slab         3/F to 4/F Slab         4/F to 5/F Slab         5/F to 6/F Slab         6/F to R/F Slab         R/F         Zone A3 (Tower 14, 15 & 16)         Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works)         G/F to 1/F Slab         1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         5/F to 6/F Slab         6/F to R/F Slab         6/F to R/F Slab         5/F to 6/F Slab         6/F to R/F Slab         7/F to 2/F Slab         7/F to 7/F Slab         5/F to 6/F Slab         5/F to 6/F Slab         5/F to 7/F Slab         5/F t	18 days           12 days           207 days           52 days           18 days           12 days           18 days           18 days           12 days <t< td=""><td>Mon 28/10/13 Mon 18/11/13 Mon 16/12/13 Thu 2/1/14 Thu 16/17/14 Thu 2/1/14 Thu 2/1/14 Thu 24/9/13 Thu 24/9/13 Thu 16/17/14 Thu 6/27/14 Thu 6/27/14 Sat 8/3/14 Sat 8/3/14 Sat 8/3/14 Sat 22/3/14 Thu 10/4/14 Thu 24/47/14 Sat 22/3/14 Thu 17/4/14 Sat 22/3/14 Thu 17/4/14 Fri 16/5/14 Fri 25/14 Fri 25/14 Fri 25/14 Sat 31/5/14 Mon 30/6/14 Sat 31/5/14 Mon 30/6/14</td><td>Sat 16/11/13 Sat 30/11/13 Sat 14/12/13 Tue 31/12/13 Wed 15/1/14 Wed 29/1/14 Fri 28/2/14 Sat 14/6/14 Mon 25/11/13 Wed 5/2/14 Fri 7/3/14 Fri 7/3/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 3/2/14 Fri 21/3/14 Wed 30/4/14 Wed 30/4/14 Wed 30/4/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14</td><td></td><td></td><td></td></t<>	Mon 28/10/13 Mon 18/11/13 Mon 16/12/13 Thu 2/1/14 Thu 16/17/14 Thu 2/1/14 Thu 2/1/14 Thu 24/9/13 Thu 24/9/13 Thu 16/17/14 Thu 6/27/14 Thu 6/27/14 Sat 8/3/14 Sat 8/3/14 Sat 8/3/14 Sat 22/3/14 Thu 10/4/14 Thu 24/47/14 Sat 22/3/14 Thu 17/4/14 Sat 22/3/14 Thu 17/4/14 Fri 16/5/14 Fri 25/14 Fri 25/14 Fri 25/14 Sat 31/5/14 Mon 30/6/14 Sat 31/5/14 Mon 30/6/14	Sat 16/11/13 Sat 30/11/13 Sat 14/12/13 Tue 31/12/13 Wed 15/1/14 Wed 29/1/14 Fri 28/2/14 Sat 14/6/14 Mon 25/11/13 Wed 5/2/14 Fri 7/3/14 Fri 7/3/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 3/2/14 Fri 21/3/14 Wed 30/4/14 Wed 30/4/14 Wed 30/4/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
	2/F to 3/F Slab         3/F to 4/F Slab         4/F to 5/F Slab         5/F to 6/F Slab         6/F to R/F Slab         R/F         Zone A3 (Tower 14, 15 & 16)         Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works)         G/F to 1/F Slab         1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         5/F to 6/F Slab         6/F to R/F Slab         6/F to R/F Slab         5/F to 6/F Slab         6/F to R/F Slab         7/F to 2/F Slab         7/F to 7/F Slab         5/F to 6/F Slab         5/F to 6/F Slab         5/F to 7/F Slab         5/F t	12 days         18 days         52 days         18 days         12 days         18 days         12 days <td< td=""><td>Mon 18/11/13 Mon 2/12/13 Mon 16/12/13 Thu 2/1/14 Thu 16/1/14 Thu 20/1/14 Thu 24/9/13 Thu 16/1/14 Thu 6/2/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Sat 24/5/14 Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 16/5/14 Sat 31/5/14 Sat 31/</td><td>Sat 30/11/13 Sat 14/12/13 Tue 31/12/13 Wed 15/1/14 Wed 29/1/14 Fri 28/2/14 Sat 14/6/14 Mon 25/11/13 Wed 5/2/14 Fri 7/3/14 Fri 7/3/14 Fri 21/3/14 Wed 3/4/14 Wed 23/4/14 Wed 23/4/14 Fri 23/5/14 Fri 23/5/14 Fri 23/5/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Wed 30/4/14 Fri 30/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14</td><td></td><td></td><td></td></td<>	Mon 18/11/13 Mon 2/12/13 Mon 16/12/13 Thu 2/1/14 Thu 16/1/14 Thu 20/1/14 Thu 24/9/13 Thu 16/1/14 Thu 6/2/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Sat 24/5/14 Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 16/5/14 Sat 31/5/14 Sat 31/	Sat 30/11/13 Sat 14/12/13 Tue 31/12/13 Wed 15/1/14 Wed 29/1/14 Fri 28/2/14 Sat 14/6/14 Mon 25/11/13 Wed 5/2/14 Fri 7/3/14 Fri 7/3/14 Fri 21/3/14 Wed 3/4/14 Wed 23/4/14 Wed 23/4/14 Fri 23/5/14 Fri 23/5/14 Fri 23/5/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Wed 30/4/14 Fri 30/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
	3/F to 4/F Slab         4/F to 5/F Slab         5/F to 6/F Slab         6/F to R/F Slab         R/F         Zone A3 (Tower 14, 15 & 16)         Basement to G/F Slab (including U/G Drainage & Utilities Installation Works)         G/F to 1/F Slab         2/F to 3/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         5/F to 6/F Slab         6/F to R/F Slab         7/F to 7/F Slab         7/F to 6/F Slab         6/F to R/F Slab         7/F to 1/F Slab         7/F to 6/F Slab         6/F to 1/F Slab         7/F to 7/F Slab         1/F to 2/F Slab         1/F	12 days         18 days         207 days         52 days         18 days         18 days         12 days         18 days         18 days         12 days         246 days         237 days         150 days         26 days	Mon 2/12/13 Mon 16/12/13 Thu 2/1/14 Thu 16/1/14 Thu 30/1/14 Tue 24/9/13 Tue 24/9/13 Tue 24/9/13 Tue 24/9/13 Tue 24/9/14 Sat 2/3/14 Thu 16/1/14 Sat 2/3/14 Thu 10/4/14 Sat 22/3/14 Thu 10/4/14 Sat 22/3/14 Mon 2/12/13 Mon 2/12/13 Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 2/5/14 Fri 2/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Sat 14/12/13 Tue 31/12/13 Wed 15/1/14 Wed 29/1/14 Fri 28/2/14 Sat 14/6/14 Mon 25/11/13 Wed 5/2/14 Fri 7/3/14 Fri 7/3/14 Fri 21/3/14 Wed 9/4/14 Wed 9/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 3/2/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
	4/F to 5/F Slab         5/F to 6/F Slab         6/F to 8/F Slab         R/F         Zone A3 (Tower 14, 15 & 16)         Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works)         G/F to 1/F Slab         1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         4/F to 5/F Slab         5/F to 6/F Slab         6/F to R/F Slab         5/F to 6/F Slab         6/F to R/F Slab         8/F         7/F to S/F Slab         8/F         8/F         8/F         7/F to 1/F Slab         1/F to 2/F Slab         1/F to 2/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         5/F to 6/F Slab         6/F to R/F Slab         1/F to Z/F Slab         1/F	12 days           12 days           12 days           12 days           18 days           207 days           52 days           18 days           12 days           18 days           12 days           246 days           237 days           150 days           26 days           52 days	Mon 16/12/13 Thu 2/1/14 Thu 2/1/14 Thu 30/1/4 Thu 30/1/4 Tue 24/9/13 Thu 6/2/14 Sat 8/3/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Thu 24/4/14 Thu 24/4/14 Fri 9/5/14 Sat 12/3/14 Sat 1/3/14 Sat 1/3/14 Sat 31/5/14 Thu 17/4/14 Fri 2/5/14 Fri 2/5/14 Fri 2/5/14 Fri 2/5/14 Fri 2/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Tue 31/12/13 Wed 15/1/14 Wed 29/1/14 Fri 28/2/14 Sat 14/6/14 Mon 25/11/13 Wed 5/2/14 Fri 21/3/14 Fri 21/3/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Wed 30/4/14 Wed 30/4/14 Fri 21/3/14 Wed 30/4/14 Fri 30/5/14 Fri 30/5/14 Sat 14/6/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image         Image <t< td=""><td></td><td></td></t<>		
	5/F to 6/F Slab         6/F to R/F Slab         R/F         Zone A3 (Tower 14, 15 & 16)         Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works)         G/F to 1/F Slab         1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         5/F to 6/F Slab         6/F to R/F Slab         6/F to R/F Slab         7/F to 7/F Slab         7/F to 7/F Slab         8/F         2/F to 7/F Slab         8/F         6/F to R/F Slab         6/F to R/F Slab         7/F to 1/F Slab         7/F to 1/F Slab         7/F to 1/F Slab         7/F to 1/F Slab         1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         5/F to 6/F Slab         6/F to R/F Slab         6/F to R/F Slab         7/F to 7/F Slab <td>12 days           12 days           18 days           207 days           52 days           18 days           18 days           12 days           18 days           18 days           18 days           12 days           12 days           12 days           12 days           12 days           18 days           12 days           246 days           237 days           150 days           26 days           52 days  </td> <td>Thu 2/1/14 Thu 16/1/14 Thu 30/1/14 Tuc 24/9/13 Thu 6/1/14 Thu 6/2/14 Thu 6/2/14 Thu 16/1/14 Sat 8/3/14 Sat 8/3/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Thu 24/3/14 Sat 24/3/14 Mon 2/12/13 Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13</td> <td>Wed 15/1/14 Wed 29/1/14 Fri 28/2/14 Sat 14/6/14 Mon 25/11/13 Wed 5/2/14 Fri 7/3/14 Fri 7/3/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 3/2/14 Fri 21/3/14 Wed 30/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14</td> <td></td> <td></td> <td></td>	12 days           12 days           18 days           207 days           52 days           18 days           18 days           12 days           18 days           18 days           18 days           12 days           12 days           12 days           12 days           12 days           18 days           12 days           246 days           237 days           150 days           26 days           52 days	Thu 2/1/14 Thu 16/1/14 Thu 30/1/14 Tuc 24/9/13 Thu 6/1/14 Thu 6/2/14 Thu 6/2/14 Thu 16/1/14 Sat 8/3/14 Sat 8/3/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Thu 24/3/14 Sat 24/3/14 Mon 2/12/13 Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Wed 15/1/14 Wed 29/1/14 Fri 28/2/14 Sat 14/6/14 Mon 25/11/13 Wed 5/2/14 Fri 7/3/14 Fri 7/3/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 3/2/14 Fri 21/3/14 Wed 30/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
	6/F to R/F Slab         R/F         Zone A3 (Tower 14, 15 & 16)         Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works)         G/F to 1/F Slab         1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         5/F to 6/F Slab         6/F to R/F Slab         7/F to 4/F Slab         7/F to 1/F Slab         1/F to 3/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         5/F to 6/F Slab         6/F to R/F Slab         1/F to 2/F Slab         1/F to 2/F Slab         1/F to 2/F Slab         1/F t	12 days           18 days           207 days           52 days           18 days           12 days           18 days           18 days           18 days           12 days           246 days           237 days           150 days           26 days           52 days	Thu 16/1/14 Thu 30/1/14 Tue 24/9/13 Thu 24/9/13 Thu 16/1/14 Thu 6/2/14 Sat 8/3/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Fri 9/5/14 Sat 24/5/14 Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Wed 29/1/14 Fri 28/2/14 Sat 14/6/14 Mon 25/11/13 Wed 5/2/14 Fri 7/3/14 Fri 7/3/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Wed 16/4/14 Wed 30/4/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Fri 30/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
	R/F         Zone A3 (Tower 14, 15 & 16)         Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works)         G/F to 1/F Slab         1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         4/F to 5/F Slab         5/F to 6/F Slab         6/F to R/F Slab         6/F to R/F Slab         7/F to 1/F Slab         7/F to 1/F Slab         8/F         2/00 A4 (Tower 17, 18 & 19)         Basement to C/F Slab         7/F to 2/F Slab         7/F to 3/F Slab         7/F to 3/F Slab         7/F to 3/F Slab         7/F to 5/F Slab         7/F to 6/F Slab         7/F to 6/F Slab         7/F to 7/F Slab	18 days           207 days           52 days           18 days           18 days           12 days           18 days           18 days           12 days           24 days           24 days           246 days           237 days           150 days           26 days           52 days	Thu 30/1/14 Tue 24/9/13 Tue 24/9/13 Thu 16/1/14 Thu 6/2/14 Sat 8/3/14 Sat 22/3/14 Thu 21/14 Thu 24/1/14 Thu 24/1/14 Fri 9/5/14 Sat 22/3/14 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Fri 28/2/14 Sat 14/6/14 Mon 25/11/13 Wed 5/2/14 Fri 7/3/14 Fri 21/3/14 Wed 9/4/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Wed 16/4/14 Wed 30/4/14 Fri 30/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
	Zone A3 (Tower 14, 15 & 16) Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 6/F to R/F Slab 6/F to R/F Slab R/F Zone A4 (Tower 17, 18 & 19) Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab 6/F to R/F Slab 5/F to 6/F Slab 6/F to R/F Slab 7/F to 6/F Slab (including U/G Drainage & Utilities Installaion Works) 7/F to 1/F Slab 7/F to 1/F Slab 7/F to 1/F Slab (including U/G Drainage & Utilities Installaion Works) 7/F to 1/F Slab (including U/G Drainage & Utilities Installaion Works) 7/F to 1/F Slab (including U/G Drainage & Utilities Installaion Works) 7/F to 1/F Slab (including U/G Drainage & Utilities Installaion Works) 7/F to 1/F Slab	207 days 52 days 18 days 18 days 12 days 12 days 12 days 12 days 12 days 12 days 12 days 12 days 18 days 52 days 18 days 18 days 12 days	Tue 24/9/13 Tue 24/9/13 Thu 16/1/14 Thu 6/214 Sat 8/3/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Thu 24/4/14 Fri 0/5/14 Mon 2/12/13 Mon 2/12/13 Mon 2/12/13 Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Thu 17/4/14 Fri 2/5/14 Fri 2/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Sat 14/6/14 Mon 25/11/13 Wed 5/21/4 Fri 7/3/14 Fri 21/3/14 Wed 9/4/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Wed 16/4/14 Wed 16/4/14 Fri 21/3/14 Fri 21/3/14 Wed 16/4/14 Fri 20/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: sector		
	Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 6/F to R/F Slab 6/F to R/F Slab R/F Zone A4 (Tower 17, 18 & 19) Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab 5/F to 6/F Slab 6/F to R/F Slab 5/F to 6/F Slab 6/F to R/F Slab 1/F to 2/F Slab 5/F to 6/F Slab 6/F to R/F Slab 1/F to 2/F Slab 5/F to 6/F Slab 6/F to R/F Slab 1/F to 2/F Slab (including U/G Drainage & Utilities Installaion Works) 6/F to 1/F Slab (including U/G Drainage & Utilities Installaion Works) 6/F to 1/F Slab (including U/G Drainage & Utilities Installaion Works) 6/F to 1/F Slab (including U/G Drainage & Utilities Installaion Works) 1/F to 2/F Slab (including U/G Drainage & Utilities Installaion Works) 1/F to 2/F Slab	52 days           18 days           18 days           18 days           12 days           18 days           180 days           52 days           18 days           18 days           12 days           18 days           246 days           237 days           150 days           26 days           52 days	Tue 24/9/13 Thu 16/1/14 Thu 6/2/14 Sat 8/3/14 Sat 22/3/14 Thu 10/4/14 Thu 21/4/14 Fri 9/5/14 Sat 24/5/14 Mon 2/12/13 Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Mon 25/11/13 Wed 5/2/14 Fri 71/14 Fri 21/3/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 3/2/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: sector		
	G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab R/F Zone A4 (Tower 17, 18 & 19) Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 3/F to 4/F Slab 5/F to 6/F Slab 5/F to 6/F Slab 6/F to R/F Slab R/F Cone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to J/F Slab LG/F to J/F Slab 1/F to 2/F Slab LG/F to J/F Slab 1/F to 2/F Slab	18 days           18 days           12 days           18 days           180 days           52 days           18 days           12 days           246 days           237 days           150 days           26 days           52 days	Thu 16/1/14 Thu 6/2/14 Sat 8/3/14 Sat 8/3/14 Sat 2/3/14 Thu 10/4/14 Thu 2/4/1/4 Thu 2/4/1/4 Sat 24/5/14 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Mon 16/5/14 Mon 16/5/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Wed 5/2/14 Fri 7/3/14 Fri 21/3/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Wed 30/4/14 Wed 30/4/14 Wed 30/4/14 Fri 30/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: sector		
	1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         4/F to 5/F Slab         5/F to 6/F Slab         6/F to R/F Slab         R/F         Zone A4 (Tower 17, 18 & 19)         Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works)         G/F to 1/F Slab         1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         3/F to 5/F Slab         3/F to 6/F Slab         5/F to 6/F Slab         6/F to R/F Slab         K/F         Cone B (Tower 20 to Tower 27)         Type 3 Tower         Zone B1 (Tower 21)         Basement to LG/F Slab         LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works)         G/F to 1/F Slab         LG/F to 1/F Slab         1/F to 2/F Slab	18 days           12 days           18 days           18 days           18 days           12 days           246 days           237 days           150 days           26 days           52 days	Thu 6/2/14 Sat 8/3/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Fri 9/5/14 Sat 24/5/14 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Fri 7/3/14 Fri 21/3/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: sector		
Z	2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 6/F to 7/F Slab 6/F to R/F Slab R/F Zone A4 (Tower 17, 18 & 19) Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 6/F to R/F Slab R/F cone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to I/F Slab LG/F to I/F Slab 1/F to 2/F Slab	12 days           18 days           18 days           18 days           12 days           246 days           237 days           150 days           26 days           52 days	Sat 8/3/14 Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Fri 9/5/14 Sat 24/5/14 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Fri 21/3/14 Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Wed 16/4/14 Wed 30/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: Section of the sectio		
Z	3/F to 4/F Slab 4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab R/F Zone A4 (Tower 17, 18 & 19) Basement to C/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab cone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to I/F Slab LG/F to I/F Slab 1/F to 2/F Slab	12 days           12 days           12 days           12 days           12 days           12 days           18 days           18 days           18 days           18 days           18 days           12 days           13 days           246 days           237 days           150 days           26 days           52 days	Sat 22/3/14 Thu 10/4/14 Thu 24/4/14 Thi 9/5/14 Sat 24/5/14 Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Wed 9/4/14 Wed 23/4/14 Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Mon 3/2/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: Section of the sectio		
	5/F to 6/F Slab 6/F to R/F Slab R/F Zone A4 (Tower 17, 18 & 19) Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 3/F to 4/F Slab 3/F to 6/F Slab 5/F to 6/F Slab 6/F to R/F Slab R/F Xone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	12 days           12 days           12 days           12 days           18 days           180 days           52 days           18 days           18 days           12 days           18 days           246 days           237 days           150 days           26 days           52 days	Thu 10/4/14 Thu 24/4/14 Fri 9/5/14 Sat 24/5/14 Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Thu 8/5/14 Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Mon 3/2/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: Section of the sectio		
	6/F to R/F Slab R/F Zone A4 (Tower 17, 18 & 19) Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab R/F cone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	12 days           18 days           180 days           52 days           18 days           18 days           18 days           18 days           12 days           246 days           237 days           150 days           26 days           52 days	Fri 9/5/14 Sat 24/5/14 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Fri 23/5/14 Sat 14/6/14 Mon 21/7/14 Mon 3/2/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: Section of the sectio		
	R/F         Zone A4 (Tower 17, 18 & 19)         Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works)         G/F to 1/F Slab         1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         3/F to 4/F Slab         5/F to 6/F Slab         6/F to R/F Slab         6/F to R/F Slab         6/F to R/F Slab         7/F         0/F to S/F Slab         6/F to R/F Slab         7/F         0/F to R/F Slab         0/F to C/F Slab         0/F to C/F Slab         0/F to C/F Slab         1/F to 2/F Slab         1/F to 2/F Slab         1/F to 2/F Slab	18 days           180 days           52 days           52 days           18 days           18 days           12 days           13 days           246 days           237 days           150 days           26 days           52 days	Sat 24/5/14 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Sat 14/6/14 Mon 3/2/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: Section of the sectio		
Z	Zone A4 (Tower 17, 18 & 19) Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab R/F Cone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	180 days           52 days           18 days           18 days           12 days           18 days           246 days           237 days           150 days           26 days           52 days	Mon 2/12/13 Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Mon 21/7/14 Mon 3/2/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: Section of the sectio		
Z	Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab R/F to ne B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	52 days 18 days 18 days 12 days 12 days 12 days 12 days 12 days 12 days 12 days 24 days 246 days 237 days 150 days 25 days	Mon 2/12/13 Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Mon 3/2/14 Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: Section of the sectio		
	G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to 4/F Slab 3/F to 4/F Slab 5/F to 6/F Slab 6/F to R/F Slab 6/F to R/F Slab R/F Cone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	18 days           18 days           12 days           246 days           237 days           150 days           26 days           52 days	Sat 1/3/14 Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Fri 21/3/14 Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14	Image: Section of the sectio		
	1/F to 2/F Slab         2/F to 3/F Slab         3/F to 4/F Slab         4/F to 5/F Slab         5/F to 6/F Slab         6/F to R/F Slab         6/F to R/F Slab         R/F         cone B (Tower 20 to Tower 27)         Type 3 Tower         Zone B1 (Tower 21)         Basement to LG/F Slab         LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works)         G/F to 1/F Slab         1/F to 2/F Slab	18 days           12 days           13 days           246 days           237 days           150 days           26 days           52 days	Sat 22/3/14 Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Wed 16/4/14 Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
Zı	2/F to 3/F Slab 3/F to 4/F Slab 4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab R/F Type 3 Tower Zone B1 (Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	12 days 12 days 12 days 12 days 12 days 12 days 18 days 246 days 237 days 150 days 26 days 52 days	Thu 17/4/14 Fri 2/5/14 Fri 16/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Wed 30/4/14 Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
	3/F to 4/F Slab 4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab R/F tone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to LG/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	12 days 12 days 12 days 12 days 12 days 18 days 246 days 237 days 150 days 26 days 52 days	Fri 2/5/14 Fri 16/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Thu 15/5/14 Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
Z	4/F to 5/F Slab 5/F to 6/F Slab 6/F to R/F Slab R/F Cone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	12 days 12 days 12 days 18 days 246 days 237 days 150 days 26 days 52 days	Fri 16/5/14 Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Fri 30/5/14 Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
	5/F to 6/F Slab 6/F to R/F Slab R/F Cone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	12 days 12 days 18 days 246 days 237 days 150 days 26 days 52 days	Sat 31/5/14 Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Sat 14/6/14 Sat 28/6/14 Mon 21/7/14			
	6/F to R/F Slab R/F ione B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	12 days 18 days 246 days 237 days 150 days 26 days 52 days	Mon 16/6/14 Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Sat 28/6/14 Mon 21/7/14			
Ζ.	R/F tone B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	18 days 246 days 237 days 150 days 26 days 52 days	Mon 30/6/14 Fri 28/6/13 Fri 28/6/13 Fri 28/6/13	Mon 21/7/14			
	ione B (Tower 20 to Tower 27) Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	246 days 237 days 150 days 26 days 52 days	Fri 28/6/13 Fri 28/6/13 Fri 28/6/13				`
Ζι	Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	237 days 150 days 26 days 52 days	Fri 28/6/13 Fri 28/6/13	Sat 3/5/14			. 11 1 1
	Type 3 Tower Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	237 days 150 days 26 days 52 days	Fri 28/6/13 Fri 28/6/13	Sat 3/5/141		┼─┼─┼─ <u>┹┶╊╫╫</u>	
	Zone B1 (Tower 21) Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to I/F Slab 1/F to 2/F Slab	150 days 26 days 52 days	Fri 28/6/13	Tue 22/4/14			
	Basement to LG/F Slab LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	26 days 52 days		Tue 22/4/14 Tue 24/12/13			
	LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works) G/F to 1/F Slab 1/F to 2/F Slab	52 days	Fri 28/6/13	Mon 29/7/13			
	G/F to 1/F Slab 1/F to 2/F Slab		Tue 30/7/13	Sat 28/9/13			.╢─┨─╢──
	1/F to 2/F Slab	18 days	Mon 30/9/13	Tue 22/10/13			
		18 days	Wed 23/10/13	Tue 12/11/13			
	2/F to 3/F Slab	12 days	Wed 13/11/13	Tue 26/11/13			
	3/F to R/F Slab	12 days	Wed 27/11/13	Tue 10/12/13			
	R/F	12 days	Wed 11/12/13	Tue 24/12/13			
	Zone B2 (Tower 20)	150 days	Sat 13/7/13	Fri 10/1/14			
	Basement to LG/F Slab	26 days	Sat 13/7/13	Mon 12/8/13			
	LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works)	52 days	Tue 13/8/13	Tue 15/10/13			
	G/F to 1/F Slab	18 days	Wed 16/10/13	Tue 5/11/13			
	1/F to 2/F Slab	18 days	Wed 6/11/13	Tue 26/11/13			
	2/F to 3/F Slab	12 days	Wed 27/11/13	Tue 10/12/13			
	3/F to R/F Slab	12 days	Wed 11/12/13	Tue 24/12/13			
	R/F	12 days	Fri 27/12/13	Fri 10/1/14			
	Zone B4 (Tower 22)	150 days	Fri 11/10/13	Tue 22/4/14			
	Basement to LG/F Slab	26 days	Fri 11/10/13	Mon 11/11/13			
	LG/F to G/F Slab (including U/G Drainage & Utilities Installaion Works)	52 days	Tue 12/11/13	Tue 14/1/14			
	G/F to 1/F Slab	18 days	Wed 15/1/14	Tue 4/2/14			
	1/F to 2/F Slab	18 days	Wed 5/2/14	Thu 6/3/14			+
	2/F to 3/F Slab	12 days	Fri 7/3/14	Thu 20/3/14		┼─┼─┼─┼─╫╫╢─┼──	+
	3/F to R/F Slab	12 days	Fri 21/3/14	Tue 8/4/14			
	R/F	12 days	Wed 9/4/14	Tue 22/4/14			
	Type 7 Tower	209 days	Mon 12/8/13	Sat 3/5/14			
	Zone B3 (Tower 23, 24, 25, 26 & 27)	209 days	Mon 12/8/13	Sat 3/5/14			
	Basement to Clubhouse Slab	26 days	Mon 12/8/13	Tue 10/9/13			
	Basement to G/F Slab (including U/G Drainage & Utilities Installaion Works)	52 days	Wed 11/9/13	Wed 13/11/13		┤─┼┼┼┼╢╨╨┉┉┉	┦
	G/F to 1/F Slab	18 days	Fri 27/12/13	Fri 17/1/14		┼─┼─┼─┼─╫┼╢─┼──	
	1/F to 2/F Slab 2/F to 3/F Slab	18 days	Sat 18/1/14 Tue 18/2/14	Mon 17/2/14 Mon 3/3/14		┼─┼─┼─╫┼╢─┼──	
	3/F to 3/F Slab	12 days 12 days	Tue 18/2/14 Tue 4/3/14	Mon 3/3/14 Mon 17/3/14			+++++
	3/F to 5/F Slab	12 days 12 days	Tue 18/3/14	Thu 3/4/14			
	5/F to R/F Slab	12 days	Sat 5/4/14	Fri 18/4/14			
	R/F	12 days	Sat 3/4/14 Sat 19/4/14	Sat 3/5/14		┼┼┼┼┼╫╫┼─	+++++++++++++++++++++++++++++++++++++++
7	ione C (Tower 1 to Tower 6)	246 days	Fri 16/8/13	Mon 23/6/14		┤─ <del>┤╶┤╶┤╶╢<b>╛╧╧╼</b>╧</del>	
니	Type 1 Tower	240 days 232 days	Fri 16/8/13	Thu 5/6/14			
	Zone CI (Tower I)	142 days	Fri 16/8/13	Tue 4/2/14			
	Cap / Basement to LG/F (including U/G Drainage & Utilities Installaion Works)	52 days	Fri 16/8/13	Fri 18/10/13			
	Cap' backetter to G/F Slab	18 days	Sat 19/10/13	Fri 8/11/13			
	G/F to 1/F Slab	18 days	Sat 9/11/13	Fri 29/11/13			
	1/F to 2/F Slab	18 days	Sat 30/11/13	Fri 20/12/13			
	2/F to 3/F Slab	12 days	Sat 21/12/13	Tue 7/1/14			
	3/F to R/F Slab	12 days	Wed 8/1/14	Tue 21/1/14			
	R/F	12 days	Wed 22/1/14	Tue 4/2/14			
	Zone C3 (Tower 2)	171 days	Wed 30/10/13	Thu 5/6/14			<del>v∐= =  =</del> Ϊ
	Cap / Basement to LG/F (including U/G Drainage & Utilities Installaion Works)	52 days	Wed 30/10/13	Tue 31/12/13			
		18 days	Wed 5/2/14	Thu 6/3/14			
	LG/F to G/F Slab	18 days	Fri 7/3/14	Thu 27/3/14			
	LG/F to G/F Slab G/F to 1/F Slab	18 days	Tue 1/4/14	Tue 22/4/14			
	LG/F to G/F Slab	12 days	Wed 23/4/14	Wed 7/5/14			
	LG/F to G/F Slab G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab		Thu 8/5/14	Thu 22/5/14			
	LG/F to G/F Slab G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to R/F Slab	12 days	D : 00 / 5 / 1				
	LG/F to G/F Slab G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab		Fri 23/5/14	Thu 5/6/14			
	LG/F to G/F Slab G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to R/F Slab	12 days	Fn 23/5/14				
Seng	LG/F to G/F Slab G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to R/F Slab R/F	12 days 12 days		Thu 5/6/14	ve Milestone 🗇	Manual Task	
-	LG/F to G/F Slab G/F to 1/F Slab 1/F to 2/F Slab 2/F to 3/F Slab 3/F to R/F Slab	12 days	C 🔍	Thu 5/6/14 Inactiv	ive Milestone $\diamond$	Manual Task	

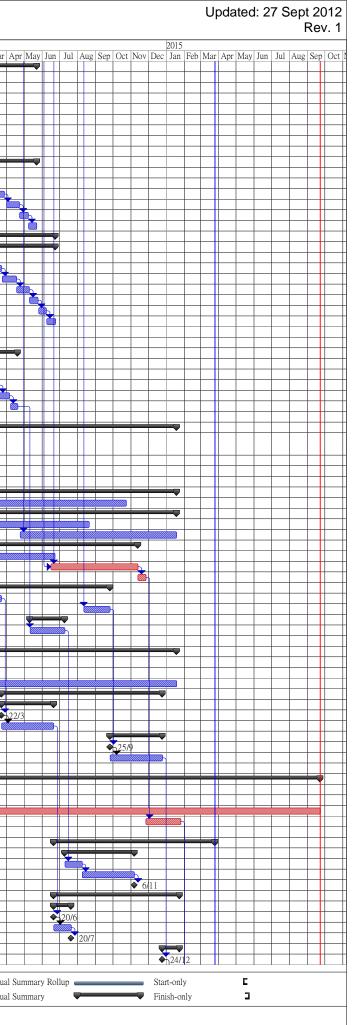




Your complimentary use period has ended. Thank you for using

### **Outline Works Programme**

Here to upgrade to				Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov
	220 days	Fri 16/8/13	Thu 22/5/14	
ted Pages and Expanded Features	142 days	Fri 16/8/13	Tue 4/2/14	
stallaion Works)	52 days	Fri 16/8/13	Fri 18/10/13	
LG/F to G/F Slab	18 days	Sat 19/10/13	Fri 8/11/13	
G/F to 1/F Slab	18 days	Sat 9/11/13	Fri 29/11/13	
1/F to 2/F Slab	18 days	Sat 30/11/13	Fri 20/12/13	3
2/F to 3/F Slab	12 days	Sat 21/12/13	Tue 7/1/14	4
3/F to R/F Slab	12 days	Wed 8/1/14	Tue 21/1/14	4
R/F	12 days	Wed 22/1/14	Tue 4/2/14	
Zone C4 (Tower 3)	159 days	Wed 30/10/13	Thu 22/5/14	
Cap / Basement to LG/F (including U/G Drainage & Utilities Installaion Works)	52 days	Wed 30/10/13	Tue 31/12/13	
LG/F to G/F Slab	18 days	Wed 5/2/14	Thu 6/3/14	
GF to UF Stab	18 days	Fri 7/3/14	Thu 27/3/14	
1/F to 2/F Slab	18 days	Tue 1/4/14	Tue 22/4/14	
2/F to R/F Slab	12 days	Wed 23/4/14		
R/F	12 days	Thu 8/5/14	Thu 22/5/14	
Type 4 Tower	187 days	Thu 19/12/13	Mon 23/6/14	
Zone C5 (Tower 5 & 6)	142 days	Thu 19/12/13	Mon 23/6/14	4
Cap / Basement to LG/F (including U/G Drainage & Utilities Installaion Works)	52 days	Thu 19/12/13	Sat 1/3/14	4
LG/F to G/F Slab	18 days	Mon 3/3/14	Sat 22/3/14	
G/F to 1/F Slab	18 days	Mon 24/3/14	Thu 17/4/14	
1/F to 2/F Slab	18 days	Fri 18/4/14		
2/F to 3/F Slab	12 days	Sat 10/5/14	Sat 24/5/14	
3/F to R/F Slab	12 days	Mon 26/5/14	Sat 7/6/14	
R/F	12 days	Mon 9/6/14	Mon 23/6/14	4
Transformer Room at Northern Area	60 days	Sat 9/11/13	Tue 7/1/14	
G/F to R/F Slab	60 days	Sat 9/11/13	Tue 7/1/14	
Retai	95 days	Wed 15/1/14	Sat 19/4/14	
G/F to 1/F Slab		Wed 15/1/14 Wed 15/1/14		
	18 days		Sat 1/2/14	
1/F to 2/F Slab	18 days	Mon 3/2/14	Tue 4/3/14	
2/F to 3/F Slab	12 days	Wed 5/3/14	Tue 18/3/14	
3/F to R/F Slab	12 days	Wed 19/3/14	Sat 5/4/14	4
R/F	12 days	Mon 7/4/14	Sat 19/4/14	
7) Finishing Works	720 days	Tue 29/1/13	Sun 18/1/15	5
Tender Preparation and Subletting for Specialist Works Sub-contractors (In-situ Window & Door, Metal & Glass Balustrade, Glass & Curtain Wall, etc)	60 days	Tue 29/1/13	Fri 29/3/13	
Co-ordination Works, Shop Drawing Submission and BD Submission (affect Structure Works)	90 days	Sat 30/3/13	Thu 27/6/13	3
Tender Preparation and Subletting for General Finishing Works Sub-contractors	60 days	Sat 1/6/13	Tue 30/7/13	3
Preparation Works, Submission & Material Delivery	30 days	Wed 31/7/13	Thu 29/8/13	
Finishing Works	507 days	Fri 30/8/13	Sun 18/1/15	
Internal Finishing Works for Basement	420 days	Fri 30/8/13	Thu 23/10/14	
Internal Finishing Works for Towers	421 days	Sun 24/11/13	Sun 18/1/15	
Internal Wall Finishing Works (1st Batch of Towers)	270 days	Sun 24/11/13	Wed 20/8/14	4
Internal Wall Finishing Works (2nd Batch of Towers)	270 days	Thu 24/4/14	Sun 18/1/15	
External Wall Finishing Works	323 days	Wed 25/12/13		
		Wed 25/12/13 Wed 25/12/13		
External Wall Finishing Works (1st Batch of Towers)	180 days		Sun 22/6/14	
External Wall Finishing Works (2nd Batch of Towers)	150 days	Mon 16/6/14	Wed 12/11/14	
Removal of Bamboo Scaffolding	14 days	Thu 13/11/14		
Finishing Works for Lift Machine Room	232 days	Thu 6/2/14	Thu 25/9/14	
1st Batch of Lift	45 days	Thu 6/2/14	Sat 22/3/14	
2nd Batch of Lift	45 days	Tue 12/8/14	Thu 25/9/14	
Finishng Works for Transformer Rooms	60 days	Sun 11/5/14		
Finishng Works for Transformer Rooms	60 days	Sun 11/5/14	Wed 9/7/14	4
8) E&M Installation	720 days	Tue 29/1/13	Sun 18/1/15	5
Tender Preparation and Subletting	60 days	Tue 29/1/13	Fri 29/3/13	3
CSD Co-ordination for U/G and Basement	90 days	Sat 30/3/13	Thu 27/6/13	3
E&M Installation Works	507 days	Fri 30/8/13	Sun 18/1/15	
Lift Installation	277 days	Sat 22/3/14	Wed 24/12/14	
Int Instantation Ist Batch of Lift				
	90 days	Sat 22/3/14	Fri 20/6/14	
Handover of Lift Shaft & Lift Machine Room	0 days	Sat 22/3/14	Sat 22/3/14	
Lift Installation	90 days	Sun 23/3/14		
2nd Batch of Lift	90 days	Thu 25/9/14	Wed 24/12/14	
Handover of Lift Shaft & Lift Machine Room	0 days	Thu 25/9/14	Thu 25/9/14	4
Lift Installation	90 days	Fri 26/9/14	Wed 24/12/14	
	, c anyo	2000000		
9) Fitting Works and External Works	905 days	Mon 1/4/13	Tue 22/9/15	
Tender Preparation and Subletting for Fitting Out Works	60 days	Mon 1/4/13		
Co-ordination Works and Submission (for design affecting finishing and E&M works)	60 days	Fri 31/5/13	Mon 29/7/13	
Fitting Works and External Walls	567 days	Wed 5/3/14	Tue 22/9/15	
Hand Landscape	60 days	Thu 27/11/14	Sun 25/1/15	5
10) Statutory Inspection	278 days	Fri 20/6/14	Wed 25/3/15	
CLP	120 days	Thu 10/7/14	Thu 6/11/14	
Handover of Transformer Rooms	30 days	Thu 10/7/14	Fri 8/8/14	
Installation of Trasnformer and Cable Laying & Lead-in	90 days	Sat 9/8/14	Thu 6/11/14	
Power Energization	0 days	Thu 6/11/14	Thu 6/11/14	4
EMSD Inspection	217 days	Fri 20/6/14	Fri 23/1/15	
Ist Batch of Lift	30 days	Fri 20/6/14	Sun 20/7/14	
Submission of Form 5	0 days	Fri 20/6/14	Fri 20/6/14	
EMBD Inspection	30 days	Sat 21/6/14		
Issuance of Form 6	0 days	Sun 20/7/14		
2nd Batch of Lift	30 days	Wed 24/12/14	Fri 23/1/15	
	0 days	Wed 24/12/14	Wed 24/12/14	4
Submission of Form 5				
Submission of Form 5				
Teelr Summer -	Inactive Task	<b>↓</b>	Ir	Inactive Milestone $\diamond$ Manual Task
	Inactive Task			Inactive Milestone $\diamond$ Manual Task Inactive Summary Duration-only



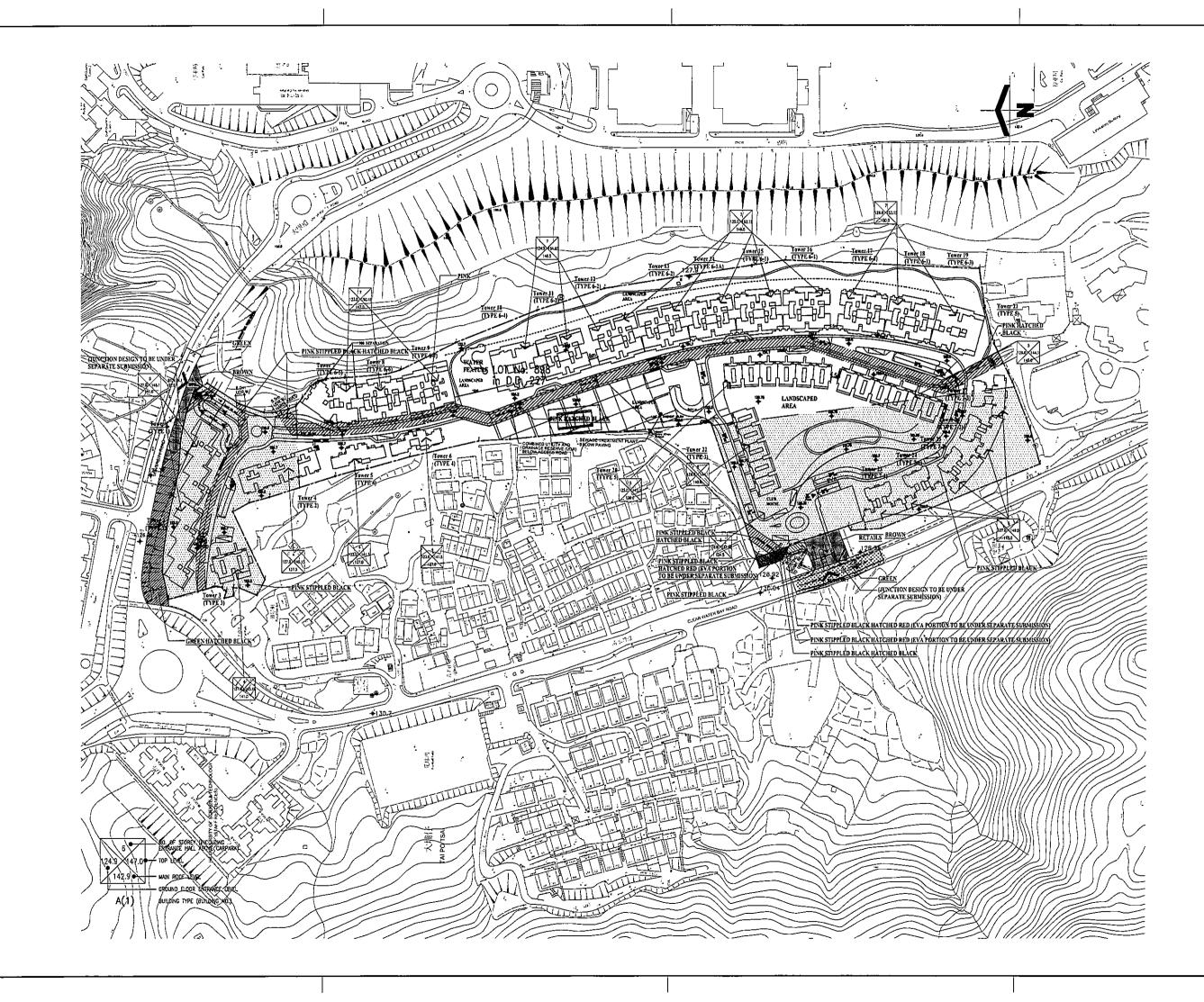


Your complimentary

Complete Use period has ended. Thank you for using	Outline	Works P	ogramme				Up	odated: 27 Sept 201 Rev.
PDF Complete. –	Duration	Start Finish	2013		2014		2015	
Click Here to upgrade to			Aug Sep Oct Nov Dec Jan	Feb Mar Apr I	May Jun Jul Aug Sep Oct Nov Dec Jan Feb	Mar Apr May Jun Jul Aug Sep C	ct Nov Dec Jan Feb Mar	Apr May Jun Jul Aug Sep O
	30 days	Thu 25/12/14 Fri 23/1	15					
Unlimited Pages and Expanded Features	0 days	Fri 23/1/15 Fri 23/1	/15				◆ 23/1	
	35 days	Sun 25/1/15 Sun 1/3						
428 Submission of Form 501	0 days	Sun 25/1/15 Sun 25/1	15				◆ 25/1	
429 FS Inspection	7 days	Mon 9/2/15 Sun 15/2	15					
430 Issuance of FS Certificate	0 days	Sun 1/3/15 Sun 1/3	15				• 1/3	
431 BD Inspection	38 days	Sun 15/2/15 Wed 25/3	15					
432 Submission of BA13	0 days	Sun 15/2/15 Sun 15/2	15				◆15/2	
433 BD Inspection	7 days	Mon 23/2/15 Sun 1/2	15					
434 Withdraw and Re-submit for BA13	0 days	Sun 1/3/15 Sun 1/3	15					
435 BD Re-inpection	3 days	Mon 9/3/15 Wed 11/2	15					
436 Issuance of OP Certificate	0 days	Wed 25/3/15 Wed 25/3	15				•	25/3
437								
438 11) Works After OP	181 days	Thu 26/3/15 Tue 22/9	15					
439 Works after OP	181 days	Thu 26/3/15 Tue 22/9	15					

Hip Seng Construction Co., Ltd.	Task Milestone	<b></b>	Summary Critical	 ve Task ve Task 🛛	♥	Inactive Milestone Inactive Summary	♦	Manual Task Duration-only	Manual S
* All public hoildays are excluded					Page 6				

al Summary Rollup	Start-only	Ľ	
al Summary	Finish-only	3	



				NUMBE			¢4		
NEAD AND SHALL DISC COPT		PLANER.						7	
								ĺ	
pert.		RE	VISI	ONS			H	F	
d number of the	_		et and			H	+	F	
						П	+	-	
							-		
							<del>┝╺┥╸╬╸╵╶╏╸╎╸┥┥┥┇╺┝╺┝╸╹╸╹</del> ╴╵┈┝╸╋╸╋		
							┝┥┥┿╬┥╎╌╬╍╎┯┽╸╬┿┥┥┙┆╸┋╶╎┙┥╋╋		
							<del>┥┥┥╗╬┑</del> ╎╶╏╶╎┙┽┥╶╏╵┿┥┥╵╏╶╵┈┝┙┝┫╸┨╸┨╸╎╸╎╸╎╸╹		
							<del>╸┥┥╕╬╸</del> ┥╶┝╬╼╎╾┽┥┥┙┙┙┙┙┙┙┙┙┙┙┙┙┙┙╴╴╴╴╴╴		
CONG 1 OFFICE									
CONG 1 OFFICE									
CHIEF		0 0 IAL 89	DEN SAI, 18 II		EN KL	SN 27			
CHIEF		0 0 IAL 89	DEN SAI, 18 II	Prei- Véloi Sai N D.I	EN KL	SN 27			
tours tours		D ( IAL 69 LA		PREI- SAI N D.I					

# **Appendix B**

Key Personal Contact Information Chart

### Key Personal Contact Information Chart

Organization Name	Role	Name	Telephone	Fax
				Number
ENVIRON Hong Kong	Independent	Mr. Tong	3743 0705	3548 6988
Limited	Environmental	Cheng		
	Checker (IEC)			
Hip Seng Construction	Main Contractor	Mr. Martin	3110 2608	3110 2606
Company Limited		Wong		
Environmental Pioneers	Environmental Team	Ms. Goldie	2556 9172	2856 2010
& Solutions Limited	(ET)	Fung		

# Appendix C

Calibration Certificates for Measuring Instruments



Certificate No.	21290		Page	1 of	2 Pages
Customer :	Environmental Pioneers and So	olutions Limited			
Address :	Flat A, 19/F., Chai Wan Industr	ial Centre Building, 2	1 Lee Chung Stre	eet, Chai V	Van, HK.
Order No. :	Q20468		Date of receipt	:	2-Mar-12
Item Tested					
Description :	Sound Level Calibrator				
Manufacturer :	Svantek				
Model :	SV30A		Serial No.	: 7908	
Test Conditi	ons	,			
Date of Test :	5-Mar-12		Supply Voltage	<b>;</b>	
Ambient Temp	erature : (23 ± 3)°C		Relative Humic	<b>lity:</b> (50 ±	25) %
Test Specific	cations				
Calibration chec	: <b>k</b>				
	Procedure : F21, Z02.				
Test Results	;				
All results were	within the IEC 942 Class 1 spec	ification.			
	shown in the attached page(s).				
Main Test equip	ment used:				
Equipment No.	Description	<u>Cert. No.</u>		Traceable	<u>to</u>
S014	Spectrum Analyzer	13535		NIM-PRC	& SCL-HKSAR
S024	Sound Level Calibrator	15136		NIM-PRC	& SCL-HKSAR
S041	Universal Counter	15610		SCL-HKS	AR
S206	Sound Level Meter	16338		SCL-HKS	AR

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

The test equipment used for calibration are traceable to International System of Units (SI). The test results apply to the above Unit-Under-Test only

Calibrated by :

P. F. Wona

Approved by : \_

Date: 7-Mar-12

 This Certificate is issued by:
 Di

 Hong Kong Calibration Ltd.
 Di

 Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

 Tel: 2425 8801

 Fax: 2425 8646



#### Certificate No. 21290

Page 2 of 2 Pages

Results :

#### 1. Level Accuracy

UUT Nominal Value (dB)	Measured Value (dB)	IEC 942 Class 1 Spec.
94	94.10	± 0.3 dB
114	114.18	

Uncertainty :  $\pm 0.1 \text{ dB}$ 

#### 2. Frequency

UUT Nominal Value	Measured Value	IEC 942 Class 1 Spec.
1 kHz	1.000 kHz	± 2 %

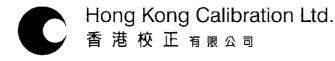
Uncertainty :  $\pm$  3.6 x 10<sup>-6</sup>

- 3. Level Stability : 0.0 dB IEC 942 Class 1 Spec. : ± 0.1 dB Uncertainty : ± 0.01 dB
- 4. Total Harmonic Distortion : < 0.8 % IEC 942 Class 1 Spec. : < 3 % Uncertainty : ± 2.3 % of reading

#### Remark : 1. UUT : Unit-Under-Test

- 2. The above measured values are the mean of 3 measurements.
- 3. The uncertainty claimed is for a confidence probability of not less than 95%.
- 4. Atmospheric Pressure : 1001 hPa.

----- END -----



Certificate No. 21289	Page 1 of 3 Pages
Customer: Environmental Pioneers and Solutions Limited	
Address : Flat A, 19/F., Chai Wan Industrial Centre Building	, 21 Lee Chung Street, Chai Wan, HK.
Order No.: Q20468	Date of receipt : 2-Mar-12
Item Tested	· · · · ·
Description : Digital Sound Level Meter Manufacturer : SVAN Model : 949	Serial No. : 8571
Test Conditions	
Date of Test: 5-Mar-12 Ambient Temperature: (23 ± 3)°C	Supply Voltage : Relative Humidity : (50 ± 25) %
Test Specifications	
Calibration check. Ref. Document/Procedure: Z01.	
Test Results	
All results were within the IEC 651 Type 1 & IEC 804 Type 1 spec The results are shown in the attached page(s).	ification after adjustment.
Main Test equipment used:	
Equipment No. Description Cert. No.	Traceable to
S017AMulti-Function Generator07279S024Sound Level Calibrator15136	SCL-HKSAR NIM-PRC & SCL-HKSAR

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

The test equipment used for calibration are traceable to International System of Units (SI). The test results apply to the above Unit-Under-Test only

Calibrated by :

P. F. Wong

Approved by :

Date: 7-Mar-12

Dorothy Cheuk

This Certificate is issued by: Hong Kong Calibration Ltd. Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong. Tel: 2425 8801 Fax: 2425 8646

The copyright of this certificate is owned by Hong Kong Calibration Ltd.. It may not be reproduced except in full.



Certificate No. 21289

Page 2 of 3 Pages

Results :

#### 1. SPL Accuracy

	UUT Set	ting			UUT Rea	ding (dB)
Level Range	Octave Filter	Weight	Response	Applied Value (dB)	Before	After
			-		adjust	adjust
105 dB	OFF	Α	Fast	94.0	*92.0	94.0
			Slow			94.0
		С	Fast			94.0
130 dB	OFF	Α	Fast	94.0		94.0
			Slow			94.0
		С	Fast			94.0
	OFF	Α	Fast	114.0		114.1
			Slow			114.1
		С	Fast			114.1

IEC 651 Type 1 Spec. :  $\pm$  0.7 dB Uncertainty :  $\pm$  0.1 dB

Level Stability : 0.0 dB
 IEC 651 Type 1 Spec. : ± 0.3 dB
 Uncertainty : ± 0.01 dB

#### 3. Linearity

#### 3.1 Level Linearity

UUT Range	Applied			IEC 651 Type 1 Spec.
(dB)	Value (dB)	UUT Reading (dB)	Variation (dB)	(inside Primary)
130	114.0	114.0	0.0	± 0.7 dB
	104.0	104.0	0.0	
	94.0	94.0 (Ref.)		
105	84.0	84.0	0.0	
	74.0	74.0	0.0	
	64.0	64.0	0.0	
	54.0	54.0	0.0	

Uncertainty :  $\pm 0.1 \text{ dB}$ 



#### Certificate No. 21289

Page 3 of 3 Pages

#### 3.2 Differential level linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec.
130	84.0	84.0	0.0	± 0.4 dB
	94.0	94.0 (Ref.)	0.0	
i i	95.0	95.0	0.0	± 0.2 dB

Uncertainty :  $\pm 0.1 \text{ dB}$ 

#### 4. Frequency Weighting

. .

A weighting		
Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-40.4	- 39.4 dB, ± 1.5 dB
63 Hz	-27.2	- 26.2 dB, ± 1.5 dB
125 Hz	-17.0	$-16.1 \text{ dB}, \pm 1 \text{ dB}$
250 Hz	-9.4	- 8.6 dB, $\pm 1$ dB
500 Hz	-2.6	$- 3.2  dB, \pm 1  dB$
1 kHz	0.0 (Ref)	$0 dB, \pm 1 dB$
2 kHz	+1.8	$+ 1.2  dB, \pm 1  dB$
4 kHz	+1.8	$+ 1.0  dB, \pm 1  dB$
8 kHz	-0.4	- 1.1 dB, + 1.5 dB ~ -3 dB
16 kHz	-6.3	$- 6.6 \text{ dB}, + 3 \text{ dB} \sim -\infty$

Uncertainty :  $\pm 0.1 \text{ dB}$ 

#### 5. Time Averaging

Applied Burst duty Factor	Applied Leq. Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	50.0		
1/10	50.0	50.2	± 0.5 dB
1/10 <sup>2</sup>	50.0	49.8	
1/10 <sup>3</sup>	50.0	50.1	± 1.0 dB
1/10	50.0	49.9	<u> </u>

Uncertainty :  $\pm 0.1 \text{ dB}$ 

Remarks : 1. UUT : Unit-Under-Test

- 2. The uncertainty claimed is for a confidence probability of not less than 95%.
- 3. Atmospheric Pressure : 1 001 hPa.
- 4. \*Out of specification.

----- END -----



#### ISO9001 certified

### FACTORY CALIBRATION DATA OF THE SVAN 955 No. 27301

### with preamplifier SVANTEK type SV12L No. 25734 and microphone ACO type 7052E No. 49607

#### 1. CALIBRATION (electrical)

LEVEL METER; Characteristic: Z; fsin=1000Hz

Nominal result [dB]	Indication [dB]	Error [dB]
114.0	114.0	0.0

#### 2. CALIBRATION (acoustical)

LEVEL METER; Range: High; Reference frequency: 1000Hz; Sound Pressure Level: 113.89 dB.

Characteristic	Correct value [dB]	Indication [dB]	Error [dB]
Z	113.63	113.56	-0.07
Α	113.63	113.58	-0.05
C	113.63	113.58	-0.05

Calibration measured with the microphone ACO type 7052E No. 49607. Calibration factor: 1.16 dB.

#### 3. LINEARITY TEST<sup>\*</sup> (electrical)

LEVEL METER; Characteristic: A; f sin= 31.5 Hz

Nominal result [dB]	25.0	26.0	28.0	30.0	40.0	60.0	80.0	98.0
Error [dB]	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0

LEVEL METER; Characteristic: A; f sin= 1000 Hz

Nominal result [dB]	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	120.0	138.0
Error [dB]	0.1	0.1	0.1	0.0	0.0	-0.1	0.0	0.0		0.0

LEVEL METER; Characteristic: A; f sin= 8000 Hz

Nominal result [dB]	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	120.0	137.0
Error [dB]	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0

#### 4. TONEBURST RESPONSE<sup>\*</sup> (electrical)

LEVEL METER; Characteristic: A; f sin # 4000 Hz; Burst duration: 2s;

Steady level nominal result = 135dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
	Fast	Indication [dB]	135.0	134.9	134.0	132.4	130.2	126.7	123,8	120.9	117.0	113.9	110.9	107.9
MAX -	rasi	Error [dB]	0.0	0,0	0.0	0.0	0,0	0.0	-0.1	0.0	0,0	-0.1	-0.1	-0.1
102 51	Slow	Indication [dB]	132.9	130,9	127.5	124.7	121.8	117.9	114,9	111.9	107.9		-	•
	010 #	Error [dB]	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0,1	-	-	-
SEL	_	Indication [dB]	135.0	132.0	128.0	125.0	122,0	118.0	115.0	112.0	108.0	104.9	101.9	98.9
	-	Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0,1	-0.1	-0.1

Steady level nominal result = 55dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2
	Fast	Indication [dB]	55.0	54.9	54.0	52.4	50,1	46.7	43.8	40.9	36.9
MAX	1 d3t	Error [dB]	0.0	0.0	0.0	0.0	-0.1	0,0	-0,1	0.0	-0.1
	Slow	Indication [dB]	52.9	50.8	47.4	44.6	41.7	37.8	34.8	31,9	27.8
	5104	Error [dB]	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.2
SEL	_	Indication [dB]	55.0	51.9	48.0	45.0	42.0	38.0	35.0	32.0	28.0
000		Error [dB]	0.0	<b>-0</b> .1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Steady level nominal result = 35dB

Result	Detector	Duration [ms]	1000	500	200
	Fast	Indication [dB]	35.0	34.9	34.0
MAX	1 4.51	Error [dB]	0,0	-0.0	0.0
WICHA	Slow	Indication [dB]	32.9	30.8	27.4
	510 W	Error [dB]	-0.1	-0.1	-0.2
SEL		Indication [dB]	35.0	32.0	28,1
JLL	-	Error [dB]	0.0	0.0	0.1

#### 5. FREQUENCY RESPONSE<sup>\*</sup> (electrical)

LEVEL METER; Characteristic: Z; Nominal result (1kHz)=135 dB;

. . .

ΠI	MI	TTI	m		Π	ÎÎÎ	ſ	pon 	M	ĨĨ	ĥ		iti a	ÎŤÌ	
	1		Ж	-	Π	Ш			ШŤ	Ш	T		T	Ħ	11E
		X			11	Tİİ	1			 	T		Ì	tti	
		$\boldsymbol{\lambda}$			Ħ								1		1000
											T			İ	
			TIII									00:0		Π	

#### 6. INTERNAL NOISE LEVEL\* (electrical - compensated)

LEVEL METER; B	acklight - off	f; Calibration fa	ctor: 0dB
Characteristic	Z	A	С
Indication [dB]	≤ 25	≤ 1 <b>4</b>	≤ 15

\* measured with preamplifier SVANTEK type SV12L No. 25734.

#### 7. INTERNAL NOISE LEVEL (acoustical - compensated)

Characteristic	A
Indication [dB]	<15

Noise measured in special chamber, with reference microphone G.R.A.S type 40AN No. 73421

#### Measured Response (f-frequency, A-attenuation)

f [Hz]	A [dB]	f [Hz]	A [dB]	f[Hz]	A [dB]
10	0.9	63	0.0	4000	0.0
12.5	0.6	125	0.0	8000	0.1
16	0.4	250	0.0	16000	0.0
20	0,3	500	0.0	.20000	0.2
25	0.2	1000	0.0		
31.5	0.i	2000	0.0		

All frequencies are nominal center values for the 1/3 octave band

ENVIRONMENTAL CONDITIONS				
Temperature	Relative humidity	Ambient pressure		
24.2 °C	14 %	1027 hPa		

	TEST EQUIPMENT			
Item	Manufacturer	Model	Serial no.	Description
1.	SVANTEK	SVAN 401	87	Signal generator
2.	SVANTEK	SVAN 912A	6120	Sound & Vibration Analyser
3.	KEITHLEY	2000	0910165	Digital multimeter
4.	SVANTEK	SV30A	5369	Acoustic calibrator
5.	SVANTEK	ST02	-	Microphone equivalent electrical impedance (18pF)

#### **CONFORMITY & TEST DECLARATION**

1. Herewith Svantek company declares that this instrument has been calibrated and tested in compliance with the internal ISO9001 procedures and meets all specification given in the Manual(s) or respectively surpass them.

2. The acoustic calibration was performed using the Sound Calibrator and is traceable to the GUM (Central Office of Measures) reference standard - sound level calibrator type 4231 No 2292773.

3. The information appearing on this sheet has been compiled specifically for this instrument. This form is produced with advanced equipment & procedures which permit comprehensive quality assurance verification of all data supplied herein.

4. This calibration sheet shall not be reproduced except in full, without written permission of the SVANTEK Ltd.

Thela Calibration specialist: Anna Talecka ...

Test date: 2012-01-31



ALS Technichem (HK) Pty Ltd

### **REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION**

CONTACT: MR ALLEN CHAN CLIENT: ENVIRONMENTAL PIONEERS & SOLUTIONS LTD ADDRESS: FLAT 19A, CHAI WAN INDUSTRIAL CENTRE BUILDING, 20 LEE CHUNG STREET, CHAI WAN, HONG KONG. 
 WORK ORDER:
 HK1227602

 LABORATORY:
 HONG KONG

 DATE RECEIVED:
 15/10/2012

 DATE OF ISSUE:
 16/10/2012

#### PROJECT:

#### **COMMENTS**

It is certified that the item under calibration/checking has been calibrated/checked by corresponding calibrated equipment in the laboratory. Maximum Tolerance and calibration frequency stated in the report, unless otherwise stated, the internal aceptance criteria of ALS will be followed.

Scope of Test:	Conductivity, Dissolved Oxygen, pH, Ten	nperature and Turbidity
Description:	Multi-meter	
Brand Name:	TOA-DKK	
Model No.:	WMS-24	
Serial No.:	685940	
Equipment No.:		
Date of Calibration:	15 October, 2012	

#### **NOTES**

This is the Final Report and supersedes any preliminary report with this batch number. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

#### **ISSUING LABORATORY: HONG KONG**

Address

Kwai Chung HONG KONG

ALS Technichem (HK) Pty Ltd 11/F Chung Shun Knitting Centre 1-3 Wing Yip Street

Phone: Fax: Email:

852-2610 1044 852-2610 2021 <u>hongkong@alsglobal.com</u>

Mr Chan Kwok Fai, Godfrey Laboratory Manager - Hong Kong

This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.

Page 1 of 3

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 💭

www.alsglobal.com

**RIGHT SOLUTIONS RIGHT PARTNER** 

### **REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION**

Work Order:HK1227602Date of Issue:16/10/2012Client:ENVIRONMENTAL PIONEERS & SOLUTIONS LTD



Description:	Multi-meter
Brand Name:	TOA-DKK
Model No.:	WMS-24
Serial No.:	685940
Equipment No.:	
Date of Calibration:	15 October, 2012

Date of next Calibration:

15 January, 2013

#### **Parameters:**

Conductivity Method Ref: APHA (21st edition), 2510B Expected Reading (uS/cm) Displayed Reading (uS/cm) Tolerance (%) 146.9 141.0 -4.0 6667 6460 -3.1 12890 12900 0.1 58670 59000 0.6 Tolerance Limit (%) 10.0

#### Dissolved Oxygen Method Ref: APHA (21st edition), 45000: G

canou henza interest cultion, i sociol e				
Displayed Reading (mg/L)	Tolerance (mg/L)			
3.42	-0.13			
5.00	-0.01			
7.93	-0.02			
Tolerance Limit (±mg/L)	0.20			
	Displayed Reading (mg/L) 3.42 5.00 7.93			

pH Value

#### Method Ref: APHA (21st edition), 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)	
4.0 7.0	4.00 7.00	0.00 0.00	
10.0	10.03	0.03	
	Tolerance Limit (±unit)	0.20	

#### Temperature

#### Method Ref: Section 6 of International Accreditation New Zealand Technical

Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C )	Displayed Reading (°C )	Tolerance (°C )
10.0	10.1	0.1
23.5	23.5	0.0
40.5	40.7	0.2
	Tolerance Limit (°C)	2.0

Mr Chan Kwok Fai, Godfrey Laboratory Manager - Hong Kong

### **REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION**

Work Order: Date of Issue: Client:

HK1227602 16/10/2012 **ENVIRONMENTAL PIONEERS & SOLUTIONS LTD** 



Description: Multi-meter Brand Name: Model No.: Serial No.: Equipment No.: ---Date of Calibration:

TOA-DKK **WMS-24** 685940 15 October, 2012

Date of next Calibration:

15 January, 2013

#### **Parameters:**

Turbidity Method Ref: APHA (21st edition), 2130B Expected Reading (NTU) Displayed Reading (NTU) Tolerance (%) 0 0.0 ---4 3.7 -7.5 41.8 4.5 40 80 82.6 3.2 8.2 400 432.8 800 793.6 -0.8 10.0 Tolerance Limit (±%)

Mr chan Kwok Fai, Godfrey Laboratory Manager Hong Kong

ALS Technichem (HK) Pty Ltd **ALS Environmental** 



SIBATA SCIENTIFIC TECHNOLOGY LTD.

1-1-62, Nakane, Soka, Saitama, 340-0005 Japan TEL: 048-933-1582 FAX: 048-933-1591

### **CALIBRATION CERTIFICATE**

Date: January 11, 2012

Equipment Name	:	Laser Dust Monitor, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	095027
Sensitivity	:	0.001 mg/m3
Sensitivity Adjustment	:	463 CPM
Scale Setting	:	January 5, 2012

We hereby certify that the avobe mentioned instrment has been calibrated satisfactory.

Sincerely

SIBATA SCIENTIFIC TEC 'ONH Kentaro Togo

Overseas Sales Division



Certificate No.	24181		Page	e 1 of 2	Pages
Customer :	Environmental Pioneers and Solution	ons Limited			
Address :	Flat A, 19/F., Chai Wan Industria	al Centre Building, 2	21 Lee Chung St	reet, Chai Wa	n, HK.
Order No. :		-	Date of receip		3-Jul-12
Item Tested			<b>*.</b>		
Description :	: Laser Dust Monitor				
Manufacturer	: SIBATA				
Model :	LD-3B		Serial No.	: 954254	
Test Conditi	ions				
Date of Test :	5-Jul-12 ~13-Jul-12		Supply Voltage	e :	
Ambient Temp	erature : (23 ± 3)°C		Relative Humi		) %
Test Specifi	cations				, 
Test Results	/Procedure : Manufacturer recom	mended method (gr	avimetric), Z28.		iginin me
The results are	shown in the attached page(s).				
Main Test equip	oment used:				
Equipment No.	Description	<u>Cert. No.</u>		Traceable to	
S136B	Stop Watch	13184		NIM-PRC	
S156	Analytical Balance	00352		NIM-PRC	
S201	Std. Test Dust	61291		NIST	
S207B	Std. Flowmeter	20588		NIM-PRC	
will not include allow overloading, mis-ha	this Calibration Certificate only relate to t wance for the equipment long term drift, v indling, or the capability of any other labor age resulting from the use of the equipme	ariations with environme ratory to repeat the meas	ntal changes, vibrati	on and shock dur	ing transportation.

The test equipment used for calibration are traceable to International System of Units (SI). The test results apply to the above Unit-Under-Test only

Calibrated by : Dorothy Cheuk	Approved by :	PALOUR re Kwan
This Certificate is issued by:	Date: 23-Jul-12	
Hong Kong Calibration Ltd.		
Unit 88, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong K	ong.	
Tel: 2425 8801 Fax: 2425 8646		

The copyright of this certificate is owned by Hong Kong Calibration Ltd.. It may not be reproduced except in full.



Certificate No. 24181

Page 2 of 2 Pages

Results :

Applied Value (µg/m <sup>3</sup> )	UUT Measured Value (K=1.3) ( $\mu$ g/m <sup>3</sup> ), (cpm)
1225.3	1266.2

Remarks : 1. UUT : Unit-Under-Test

2. Uncertainty  $\pm$  15 %, for a confidence probability of not less than 95%.

3. The results were the mean of 3 measurements,

4. ISO 12103-1 A1 respirable standard test dust was used for the calibration.

5. The K-Factor had been adjusted from 2.0 to 1.3

----- END -----



TISCH ENVIROMENTAL, INC. 145 SOUTH MIAMI AVE. VILLAGE OF CLEVES, OH 45002 513.467.9000 877.263.7610 TOLL FREE 513.467.9009 FAX WWW.TISCH-ENV.COM

#### AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - M Operator		Rootsmeter Orifice I.I		138320 1483	Ta (K) - Pa (mm) -	294 - 754.38
======= PLATE OR Run # 1 2 3 4 5	VOLUME START (m3) NA NA NA NA NA NA	VOLUME STOP (m3) NA NA NA NA NA NA	DIFF VOLUME (m3) 1.00 1.00 1.00 1.00 1.00	DIFF TIME (min) 1.4140 0.9960 0.8910 0.8510 0.7020	METER DIFF Hg (mm) 3.2 6.4 7.9 8.7 12.8	ORFICE DIFF H2O (in.) 2.00 4.00 5.00 5.50 8.00

#### DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0018 0.9976 0.9955 0.9945 0.9890	0.7085 1.0016 1.1173 1.1686 1.4088	1.4185 2.0061 2.2429 2.3524 2.8371		0.9957 0.9915 0.9894 0.9884 0.9830	0.7042 0.9955 1.1105 1.1615 1.4003	0.8829 1.2486 1.3959 1.4641 1.7657
Qstd slop intercept coefficie y axis =	t (b) = ent (r) =	2.02742 -0.02027 0.99996 Pa/760)(298/2	 Ta)]	Qa slope intercept coefficie y axis =	t (b) =	1.26953 -0.01262 0.99996 Ta/Pa)]

#### CALCULATIONS

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

Qa = Va/Time

For subsequent flow rate calculations:

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

	:	SITE		
Tai Po Tsai TE-5170 MFC	(Serial #	: 2039)	October 31, Sam Wong	2012
 	(00000000000000000000000000000000000000		 	

	CONDITIONS								
Barometric Pressure	(in Hg):	40.10	Corrected Pressure	(mm Hg):	1019				
Temperature	(deg F):	72	Temperature	(deg K):	295				
Average Press.	(in Hg):	40.10	Corrected Average	(mm Hg):	1019				
Average Temp.	(deg F):	72	Average Temp.	(deg K):	295				

CALIBRATION ORIFICE									
Make:	Tisch	Qstd Slope:	2.02742						
Model:	TE-5025A	Qstd Intercept:	-0.02027						
Serial#:	1483	Date Certified:	May 17, 2012						

	CALIBRATIONS										
Plate or Test #	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION						
1	12.00	1.997	60.0	69.79	Slope =	35.9930					
2	10.20	1.842	54.0	62.81	Intercept =	-2.8377					
3	8.00	1.633	48.0	55.83	Corr. coeff.=	0.9991					
4	5.20	1.318	38.0	44.20							
5	3.20	1.036	30.0	34.89	<pre># of Observations:</pre>	5					

Calculations

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]
Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg
For subsequent calculation of sampler flow:
1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]

	SITE		
Location: Tai Po Tsai Sampler: TE-5170 MFC	(Serial # • 1959)		October 31, 2012 Sam Wong
bampier. In Silve Inc	(berrar " : 1959)	10011.	Ball Wolly

	CONDITIONS								
Barometric Pressure	(in Hg):	40.10	Corrected Pressure	(mm Hg):	1019				
Temperature	(deg F):	72	Temperature	(deg K):	295				
Average Press.	(in Hg):	40.10	Corrected Average	(mm Hg):	1019				
Average Temp.	(deg F):	72	Average Temp.	(deg K):	295				

CALIBRATION ORIFICE									
Make:	Tisch	Qstd Slope:	2.02742						
Model:	TE-5025A	Qstd Intercept:	-0.02027						
Serial#:	1483	Date Certified:	May 17, 2012						

	CALIBRATIONS									
Plate or Test #	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION					
1	12.40	2.030	60.0	69.79	Slope =	34.8244				
2	10.60	1.878	54.0	62.81	Intercept =	-1.8685				
3	8.30	1.663	48.0	55.83	Corr. coeff.=	0.9985				
4	5.40	1.343	38.0	44.20						
5	3.20	1.036	30.0	34.89	<pre># of Observations:</pre>	5				

Calculations

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]
Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg
For subsequent calculation of sampler flow:
1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]

	SITE	
Location: Tai Po Tsai Sampler: TE-5170 MFC	(Serial # : 2042)	October 31, 2012 Sam Wong

	CONDITIONS								
Barometric Pressure	(in Hg):	40.10	Corrected Pressure	(mm Hg):	1019				
Temperature	(deg F):	72	Temperature	(deg K):	295				
Average Press.	(in Hg):	40.10	Corrected Average	(mm Hg):	1019				
Average Temp.	(deg F):	72	Average Temp.	(deg K):	295				

CALIBRATION ORIFICE						
Make:	Tisch	Qstd Slope:	2.02742			
Model:	TE-5025A	Qstd Intercept:	-0.02027			
Serial#:	1483	Date Certified:	May 17, 2012			

CALIBRATIONS							
Plate or Test #	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION		
1	12.40	2.030	57.0	66.30	Slope =	32.5711	
2	10.20	1.842	51.0	59.32	Intercept =	0.0922	
3	7.90	1.622	46.0	53.50	Corr. coeff.=	0.9985	
4	5.30	1.331	38.0	44.20			
5	3.30	1.052	29.0	33.73	<pre># of Observations:</pre>	5	

Calculations

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]
Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg
For subsequent calculation of sampler flow:
1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]

	SITE					
Location: Tai Po Tsai Sampler: TE-5170 MFC	(Serial # : 2040)		October 31, 2012 Sam Wong			

		CONI	DITIONS		
Barometric Pressure	(in Hg):	40.10	Corrected Pressure	(mm Hg):	1019
Temperature	(deg F):	72	Temperature	(deg K):	295
Average Press.	(in Hg):	40.10	Corrected Average	(mm Hg):	1019
Average Temp.	(deg F):	72	Average Temp.	(deg K):	295

CALIBRATION ORIFICE					
Make:	Tisch	Qstd Slope:	2.02742		
Model:	TE-5025A	Qstd Intercept:	-0.02027		
Serial#:	1483	Date Certified:	May 17, 2012		

CALIBRATIONS							
Plate or Test #	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION		
1	12.20	2.014	58.0	67.46	Slope =	32.7409	
2	10.20	1.842	52.0	60.48	Intercept =	0.8828	
3	7.80	1.612	46.0	53.50	Corr. coeff.=	0.9993	
4	5.20	1.318	38.0	44.20			
5	3.20	1.036	30.0	34.89	<pre># of Observations:</pre>	5	

Calculations

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]
Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg
For subsequent calculation of sampler flow:
1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]

# **Appendix D**

Construction Noise Monitoring Data

.

#### Noise Monitoring Data Sheet

Monitoring Loca	tion	N1	N2	N3	N4
Monitoring Method		Freefield	Freefield	Freefield	Façade
Date of Monitori	ng	1/12/2012	1/12/2012	1/12/2012	1/12/2012
Weather Condit	ion	Overcast	Overcast	Overcast	Overcast
Measurement S	tart Time (hh:mm)	16:26	14:12	14:05	13:30
Measurement T	ime Length (mins)	30 r	nins	30 r	nins
SLM Model & S	/N	SVA	N 955	SVA	N 955
Wind Speed (m/	/s)	<5, Southeast	<5, East	<5, East	<5, East
	L <sub>eq</sub> (dB(A))	64.9	64.0	62.5	61.2
Measurement Results	L <sub>10</sub> (dB(A))	64.5	69.3	65.0	63.9
	L <sub>90</sub> (dB(A))	53.5	55.3	57.7	54.9
Major Construct During Monitorir	ion Noise Source(s) ng	Nil	Nil	Nil	Nil
Other Noise Source(s) During Monitoring		Background noise	Background noise	Background noise	Background noise Traffic noise

<u>Name</u>

Date

Perpared by:

Lai Chi Hang

Hay

Signature

<u>1/12/2012</u>

#### Noise Monitoring Data Sheet

Monitoring Loca	tion	N1	N2	N3	N4
Monitoring Method		Freefield	Freefield	Freefield	Façade
Date of Monitori	ng	7/12/2012	7/12/2012	7/12/2012	7/12/2012
Weather Conditi	ion	Cloudy	Cloudy	Cloudy	Cloudy
Measurement S	tart Time (hh:mm)	14:17	13:45	9:50	10:24
Measurement Ti	ime Length (mins)	30 r	nins	30 r	nins
SLM Model & S/	/N	SVA	N 955	SVA	N 955
Wind Speed (m/	/s)	<5, North	<5, North	<5, Northeast	<5, Northeast
	L <sub>eq</sub> (dB(A))	61.1	65.0	68.6	61.1
Measurement Results	L <sub>10</sub> (dB(A))	64.2	67.1	72.7	64.5
	L <sub>90</sub> (dB(A))	55.0	55.3	58.9	53.1
Major Construct During Monitorir	ion Noise Source(s) Ig	Nil	Nil	Nil	Nil
Other Noise Source(s) During Monitoring		Background noise	Background noise	Background noise	Background noise Traffic noise

<u>Name</u>

Signature

Date

Perpared by:

Lai Chi Hang

Hay

7/12/2012

#### Noise Monitoring Data Sheet

Monitoring Loca	tion	N1	N2	N3	N4
Monitoring Method		Freefield	Freefield	Freefield	Façade
Date of Monitori	ng	13/12/2012	13/12/2012	13/12/2012	13/12/2012
Weather Conditi	ion	Cloudy	Cloudy	Cloudy	Cloudy
Measurement S	tart Time (hh:mm)	13:40	13:02	10:01	10:37
Measurement Ti	ime Length (mins)	30 r	nins	30 r	nins
SLM Model & S/	/N	SVA	N 955	SVA	N 955
Wind Speed (m/	/s)	<5, East	<5, East	<5, East	<5, East
	L <sub>eq</sub> (dB(A))	59.5	52.9	65.7	61.1
Measurement Results	L <sub>10</sub> (dB(A))	62.7	53.6	69.8	63.9
	L <sub>90</sub> (dB(A))	52.3	50.4	55.8	52.1
Major Construct During Monitorir	ion Noise Source(s) ng	Nil	Nil	Nil	Nil
Other Noise Source(s) During Monitoring		Background noise	Background noise	Background noise	Background noise Traffic noise

<u>Name</u>

Date

Perpared by:

Lai Chi Hang

Hay

Signature

<u>13/12/2012</u>

#### Noise Monitoring Data Sheet

Monitoring Loca	tion	N1	N2	N3	N4
Monitoring Method		Freefield	Freefield	Freefield	Façade
Date of Monitori	ng	19/12/2012	19/12/2012	19/12/2012	19/12/2012
Weather Conditi	ion	Cloudy	Cloudy	Cloudy	Cloudy
Measurement S	tart Time (hh:mm)	13:37	13:02	9:42	10:15
Measurement Ti	ime Length (mins)	30 r	nins	30 r	nins
SLM Model & S/	/N	SVAN	N 955	SVAN	N 955
Wind Speed (m/	′s)	<5, Northeast	<5, Northeast	<5, Northeast	<5, Northeast
	L <sub>eq</sub> (dB(A))	63.9	61.1	59.5	61.6
Measurement Results	L <sub>10</sub> (dB(A))	66.4	63.2	61.9	64.7
	L <sub>90</sub> (dB(A))	58.6	56.4	52.1	53.9
Major Construct During Monitorir	ion Noise Source(s) ig	Nil	Nil	Nil	Nil
Other Noise Source(s) During Monitoring		Background noise	Background noise	Background noise	Background noise Traffic noise

<u>Name</u>

<u>Signature</u>

Date

Perpared by:

Lai Chi Hang

Hay

<u>19/12/2012</u>

#### Noise Monitoring Data Sheet

Monitoring Loca	tion	N1	N2	N3	N4
Monitoring Method		Freefield	Freefield	Freefield	Façade
Date of Monitori	ng	24/12/2012	24/12/2012	24/12/2012	24/12/2012
Weather Conditi	ion	Sunny	Sunny	Sunny	Sunny
Measurement S	tart Time (hh:mm)	13:45	13:08	10:35	10:01
Measurement Ti	ime Length (mins)	30 r	nins	30 r	nins
SLM Model & S/	/N	SVA	N 955	SVAN	N 955
Wind Speed (m/	/s)	<5, East	<5, East	<5, East	<5, Northeast
	L <sub>eq</sub> (dB(A))	63.2	63.9	62.8	62.0
Measurement Results	L <sub>10</sub> (dB(A))	66.3	65.7	66.4	64.9
	L <sub>90</sub> (dB(A))	57.7	56.2	53.5	54.1
Major Construct During Monitorir	ion Noise Source(s) ng	Nil	Nil	Nil	Nil
Other Noise Source(s) During Monitoring		Background noise	Background noise	Background noise	Background noise Traffic noise

<u>Name</u>

Date

Perpared by:

Andy Tsang

Andy Trante

Signature

24/12/2012

,

#### Noise Monitoring Data Sheet

Monitoring Loca	tion	N1	N2	N3	N4
Monitoring Method		Freefield	Freefield	Freefield	Façade
Date of Monitori	ng	29/12/2012	29/12/2012	29/12/2012	29/12/2012
Weather Condit	ion	Cloudy	Cloudy	Cloudy	Cloudy
Measurement S	tart Time (hh:mm)	13:42	13:08	10:26	9:50
Measurement T	ime Length (mins)	30 r	nins	30 r	nins
SLM Model & S/	/N	SVA	N 955	SVA	N 955
Wind Speed (m/	/s)	<5, West	<5, South	<5, East	<5, East
	L <sub>eq</sub> (dB(A))	61.9	63.2	64.3	62.7
Measurement Results	L <sub>10</sub> (dB(A))	64.4	66.7	66.9	63.7
rtoouno	L <sub>90</sub> (dB(A))	52.7	55.8	58.4	54.8
Major Construct During Monitorir	ion Noise Source(s) ng	Nil	Nil	Nil	Nil
Other Noise Source(s) During Monitoring		Background noise	Background noise	Background noise	Background noise Traffic noise

<u>Name</u>

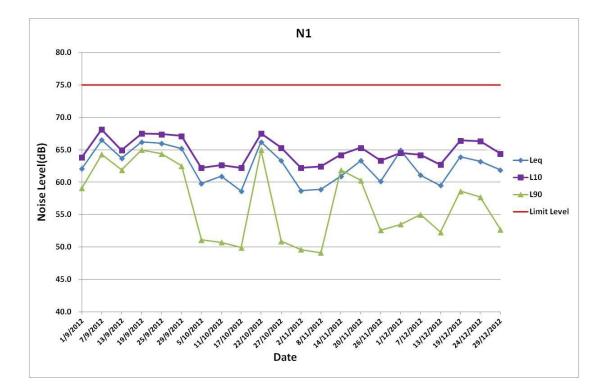
Date

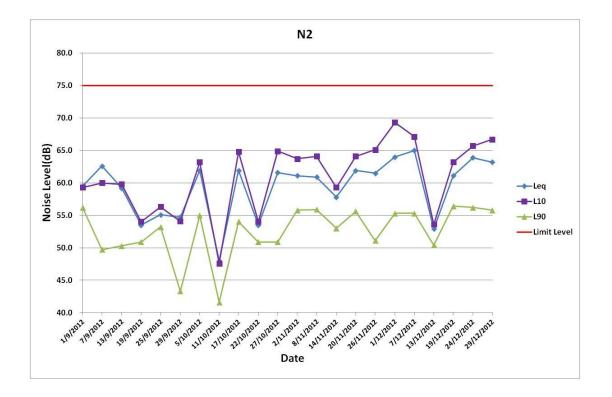
Perpared by:

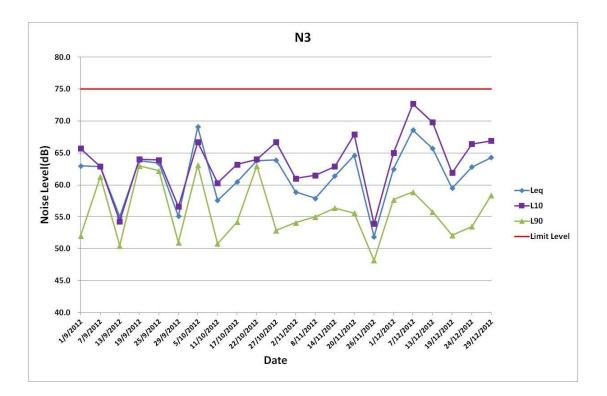
Andy Tsang

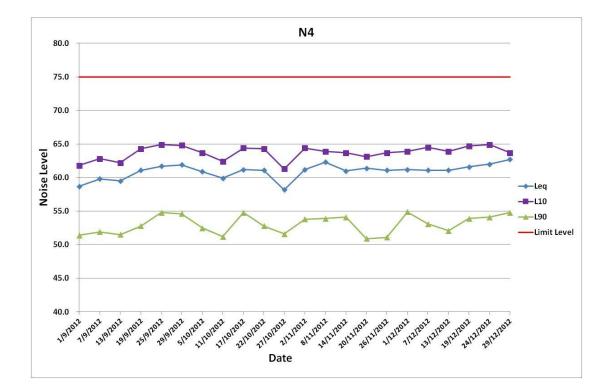
<u>Signature</u> Andry Tsant

<u>29/12/2012</u>









# Appendix E

Water Quality Monitoring Data

Date of Sampling : 3/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	11:00	11:30
Water Depth (m)	<1	<1
pH value	7.00	7.40
Temperature (°C)	23.2	22.9
Turbidity (NTU)	5.6	2.4
DO (mg/L)	7.30	7.20
DO Saturation (%)	82%	80%
Suspended Solids (mg/L)	12.0	12.0

Remark or Observation :

<u>Name</u>

<u>Signature</u>

Date

Andy Tsant

3/12/2012

Date of Sampling : 5/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.30	7.30
Temperature (°C)	22.9	22.7
Turbidity (NTU)	6.7	2.5
DO (mg/L)	6.70	7.52
DO Saturation (%)	75%	85%
Suspended Solids (mg/L)	7.0	5.0

Remark or Observation :

<u>Name</u>

<u>Signature</u>

Date

Andy Tsant

5/12/2012

Date of Sampling : 7/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.00	7.30
Temperature (°C)	23.1	23.5
Turbidity (NTU)	2.90	2.3
DO (mg/L)	8.10	8.10
DO Saturation (%)	81%	79%
Suspended Solids (mg/L)	3.0	2.0

Remark or Observation :

<u>Name</u>

<u>Signature</u>

Date

AndyTsant

7/12/2012

Date of Sampling : \_\_\_\_\_ 10/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.20	7.10
Temperature (°C)	22.6	22.2
Turbidity (NTU)	3.4	1.9
DO (mg/L)	7.10	8.00
DO Saturation (%)	74%	81%
Suspended Solids (mg/L)	7.0	2.0

Remark or Observation :

<u>Name</u>

Signature

Date

Andy Tsant

10/12/2012

Date of Sampling : 12/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.10	7.20
Temperature (°C)	23.6	23.3
Turbidity (NTU)	4.2	2.4
DO (mg/L)	7.80	7.30
DO Saturation (%)	79%	74%
Suspended Solids (mg/L)	20.0	2.0

Remark or Observation :

<u>Name</u>

Signature

Date

AndyTsant

Prepared By: Tsang King Yeun

\_\_\_\_\_

12/12/2012

Date of Sampling : \_\_\_\_\_ 14/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.10	7.40
Temperature (°C)	22.6	22.1
Turbidity (NTU)	5.9	1.7
DO (mg/L)	7.20	7.40
DO Saturation (%)	75%	76%
Suspended Solids (mg/L)	30.0	2.0

Remark or Observation :

<u>Name</u>

<u>Signature</u>

Date

AndyTsant

14/12/2012

Date of Sampling : 17/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.30	7.10
Temperature (°C)	22.6	22.8
Turbidity (NTU)	6.2	2.1
DO (mg/L)	7.90	7.00
DO Saturation (%)	80%	76%
Suspended Solids (mg/L)	10.0	5.0

Remark or Observation :

<u>Name</u>

<u>Signature</u>

Date

Andy Trank

17/12/2012

Date of Sampling : 19/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.00	7.20
Temperature (°C)	22.2	23.1
Turbidity (NTU)	3.7	1.8
DO (mg/L)	7.40	7.80
DO Saturation (%)	78%	79%
Suspended Solids (mg/L)	5.0	5.0

Remark or Observation :

<u>Name</u>

Signature

Date

AndyTsant

Prepared By: Tsang King Yeun

19/12/2012

Date of Sampling : 21/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.30	7.30
Temperature (°C)	22.9	22.1
Turbidity (NTU)	2.9	2.2
DO (mg/L)	6.90	8.20
DO Saturation (%)	69%	89%
Suspended Solids (mg/L)	6.0	7.0

Remark or Observation :

<u>Name</u>

Signature

Date

AndyTsant

21/12/2012

Date of Sampling : 24/12/2012

Weather: Sunny

Monitoring Location	W1	W2		
Time (hhmm)	10:00	10:30		
Water Depth (m)	<1	<1		
pH value	7.40	7.30		
Temperature (°C)	22	21.5		
Turbidity (NTU)	4.1	1.7		
DO (mg/L)	7.60	7.30		
DO Saturation (%)	89%	87%		
Suspended Solids (mg/L)	18.0	11.0		

Remark or Observation :

<u>Name</u>

<u>Signature</u>

Date

AndyTsant

Prepared By: Tsang King Yeun

Yeun

24/12/2012

Date of Sampling : \_\_\_\_\_ 27/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.50	7.10
Temperature (°C)	21.9	21.1
Turbidity (NTU)	3.9	5.9
DO (mg/L)	6.90	6.90
DO Saturation (%)	75%	78%
Suspended Solids (mg/L)	6.0	7.0

Remark or Observation :

<u>Name</u>

Signature

Date

AndyTsant

27/12/2012

Date of Sampling : \_\_\_\_\_ 29/12/2012

Weather: Sunny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.20	7.20
Temperature (°C)	22.1	21.5
Turbidity (NTU)	3.4	1.3
DO (mg/L)	7.30	7.10
DO Saturation (%)	88%	82%
Suspended Solids (mg/L)	11.0	2.0

Remark or Observation :

<u>Name</u>

<u>Signature</u>

Date

AndyTsante

Prepared By: Tsang King Yeun

29/12/2012

Date of Sampling : \_\_\_\_\_ 31/12/2012

Weather: Rainny

Monitoring Location	W1	W2
Time (hhmm)	10:00	10:30
Water Depth (m)	<1	<1
pH value	7.10	7.30
Temperature (°C)	21.1	21
Turbidity (NTU)	2.1	3.0
DO (mg/L)	6.40	7.70
DO Saturation (%)	74%	86%
Suspended Solids (mg/L)	11.0	2.0

Remark or Observation :

<u>Name</u>

Signature

Date

AndyTeant

31/12/2012

# ALS Technichem (HK) Pty Ltd

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



# CERTIFICATE OF ANALYSIS

Client	: ENVIRONMENTAL PIONEERS & SOLUTIONS LTD	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR ALLEN CHAN	Contact	: Chan Kwok Fai, Godfrey	Work Order	HK1231804
Address	: FLAT A, 19/F, CHAI WAN INDUSTRIAL CENTRE BUILDING, 20 LEE CHUNG STREET, CHAI WAN HONG KONG	Address	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail Telephone Facsimile	: allenchan@epsl.com.hk : +852 2558 7699 :	E-mail Telephone Facsimile	: Godfrey.Chan@alsglobal.com : +852 2610 1044 : +852 2610 2021		
Project Order number C-O-C number Site	: TAI PO TSAI : : :	Quote number	:	Date Samples Received Issue Date No. of samples received No. of samples analysed	: 03-DEC-2012 : 11-DEC-2012 : 4 : 4

#### **General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. The completion date of analysis is: 06-DEC-2012

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific comments for Work Order: HK1231804

 $\mathsf{Sample}(\mathsf{s}) \text{ were picked up from client by ALS Technichem (HK) staff in a chilled condition.}$ 

Water sample(s) analysed and reported on an as received basis.

This report may not be reproduced except with prior written approval from the testing laboratory.	This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.					
	Signatories	Position	Authorised results for			
	Fung Lim Chee, Richard	General Manager	Inorganics			

#### ALS Laboratory Group Trading Name: ALS Technichem (HK) Pty Ltd 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



Analytical Results

Sub-Matrix: WATER		Client sample ID		W1	W2	W1	W2		
	Client sampling date / time			[30-NOV-2012]	[30-NOV-2012]	[03-DEC-2012]	[03-DEC-2012]		
Compound	CAS Number	LOR	Unit	HK1231804-001	HK1231804-002	HK1231804-003	HK1231804-004		
EA/ED: Physical and Aggregate Properties									
EA025: Suspended Solids (SS)		2	mg/L	3	9	12	12		



#### Laboratory Duplicate (DUP) Report

Matrix: WATER					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)			
EA/ED: Physical and Aggregate Properties (QC Lot: 2634200)											
HK1231776-002	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	6	4	40.0			
						12		9.3			

Matrix: WATER		Method Blank (MB) Report				Laboratory Con	trol Spike (LCS) and Labo	oratory Control S	oike Duplicate (D	CS) Report	
					Spike	Spike Red	covery (%)	Recovery	Limits (%)	RF	PD (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 2634200)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	95.5		85	113		

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

• No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

# ALS Technichem (HK) Pty Ltd

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



# CERTIFICATE OF ANALYSIS

Client	: ENVIRONMENTAL PIONEERS & SOLUTIONS LTD	Laboratory	: ALS Technichem HK Pty Ltd	Page	፡ 1 of 3
Contact	: MR ALLEN CHAN	Contact	: Chan Kwok Fai, Godfrey	Work Order	HK1232459
Address	: FLAT A, 19/F, CHAI WAN INDUSTRIAL CENTRE BUILDING, 20 LEE CHUNG STREET, CHAI WAN HONG KONG	Address	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail Telephone Facsimile	: allenchan@epsl.com.hk : +852 2558 7699 :	E-mail Telephone Facsimile	: Godfrey.Chan@alsglobal.com : +852 2610 1044 : +852 2610 2021		
Project Order number C-O-C number Site	: TAI PO TSAI : : :	Quote number	:	Date Samples Received Issue Date No. of samples received No. of samples analysed	: 07-DEC-2012 : 17-DEC-2012 : 4 : 4

#### **General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. The completion date of analysis is: 12-DEC-2012

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

#### Specific comments for Work Order: HK1232459

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

This report may not be reproduced except with prior written approval from the testing laboratory.		This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.					
	Signatories	Position	Authorised results for				
	Fung Lim Chee, Richard	General Manager	Inorganics				

#### ALS Laboratory Group Trading Name: ALS Technichem (HK) Pty Ltd 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



Analytical Results

,									
Sub-Matrix: WATER Client sample ID		W1	W2	W1	W2				
Client sampling date / time			[05-DEC-2012]	[05-DEC-2012]	[07-DEC-2012]	[07-DEC-2012]			
Compound	CAS Number	LOR	Unit	HK1232459-001	HK1232459-002	HK1232459-003	HK1232459-004		
EA/ED: Physical and Aggregate Properties									
EA025: Suspended Solids (SS)		2	mg/L	7	5	3	<2		



#### Laboratory Duplicate (DUP) Report

Matrix: WATER	atrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	mber LOR Unit Original Result Duplicate Result						
EA/ED: Physical and Aggregate Properties (QC Lot: 2640905)										
HK1232155-001	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	15	16	10.2		
HK1232272-001	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	<2	<2	0.0		
EA/ED: Physical an	d Aggregate Properties	s (QC Lot: 2643361)								
HK1232325-001	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	20	20	5.0		
HK1232361-001	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	16	16	0.0		

#### Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (MB	) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Re	covery (%)	Recovery L	imits (%)	RI	PD (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (Q	C Lot: 2640905)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	100		85	113		
EA/ED: Physical and Aggregate Properties (Q	C Lot: 2643361)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	104		85	113		

#### Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

• No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

# ALS Technichem (HK) Pty Ltd

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



# CERTIFICATE OF ANALYSIS

Client	: ENVIRONMENTAL PIONEERS & SOLUTIONS	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	LTD : MR ALLEN CHAN	Contact	: Chan Kwok Fai, Godfrey	Work Order	<sup>•</sup> HK1232940
Address	<ul> <li>FLAT A, 19/F, CHAI WAN INDUSTRIAL CENTRE BUILDING,</li> <li>20 LEE CHUNG STREET,</li> <li>CHAI WAN HONG KONG</li> </ul>	Address	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		11(1202340
E-mail Telephone Facsimile	: allenchan@epsl.com.hk : +852 2558 7699 :	E-mail Telephone Facsimile	: Godfrey.Chan@alsglobal.com : +852 2610 1044 : +852 2610 2021		
Project Order number C-O-C number Site	: TAI PO TSAI : : :	Quote number	:	Date Samples Received Issue Date No. of samples received No. of samples analysed	: 12-DEC-2012 : 21-DEC-2012 : 4 : 4

#### **General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. The completion date of analysis is: 17-DEC-2012

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

#### Specific comments for Work Order: HK1232940

 $\mathsf{Sample}(\mathsf{s}) \text{ were picked up from client by ALS Technichem (HK) staff in a chilled condition.}$ 

Water sample(s) analysed and reported on an as received basis.

This report may not be reproduced except with prior written approval from the testing laboratory.		This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.					
	Signatories	Position	Authorised results for				
	Fung Lim Chee, Richard	General Manager	Inorganics				

#### ALS Laboratory Group Trading Name: ALS Technichem (HK) Pty Ltd 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



Analytical Results

,									
Sub-Matrix: WATER Client sample ID		W1	W2	W1	W2				
Client sampling date / time			[10-DEC-2012]	[10-DEC-2012]	[12-DEC-2012]	[12-DEC-2012]			
Compound	CAS Number	LOR	Unit	HK1232940-001	HK1232940-002	HK1232940-003	HK1232940-004		
EA/ED: Physical and Aggregate Properties									
EA025: Suspended Solids (SS)		2	mg/L	7	2	20	2		



#### Laboratory Duplicate (DUP) Report

Matrix: WATER			Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and	Aggregate Properties (QC I	Lot: 2651359)						
HK1232807-001	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	6	5	0.0
HK1232934-001	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	<2	<2	0.0

#### Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (ME	3) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Red	covery (%)	Recovery	Limits (%)	RI	PD (%)
Method: Compound CAS Nu	nber	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 2651359)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	94.5		85	113		

#### Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

• No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

# ALS Technichem (HK) Pty Ltd

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



# CERTIFICATE OF ANALYSIS

Client	ENVIRONMENTAL PIONEERS & SOLUTIONS	Laboratory	: ALS Technichem HK Pty Ltd	Page	፡ 1 of 3
Contact	: MR ALLEN CHAN	Contact	: Chan Kwok Fai, Godfrey	Work Order	HK1233384
Address	: FLAT A, 19/F, CHAI WAN INDUSTRIAL CENTRE BUILDING, 20 LEE CHUNG STREET, CHAI WAN HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail Telephone Facsimile	: allenchan@epsl.com.hk : +852 2558 7699 :	E-mail Telephone Facsimile	: Godfrey.Chan@alsglobal.com : +852 2610 1044 : +852 2610 2021		
Project Order number C-O-C number Site	: TAI PO TSAI : : :	Quote number	:	Date Samples Received Issue Date No. of samples received No. of samples analysed	: 17-DEC-2012 : 27-DEC-2012 : 4 : 4

#### **General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. The completion date of analysis is: 19-DEC-2012

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific comments for Work Order: HK1233384

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition. Water sample(s) analysed and reported on an as received basis.

This report may not be reproduced except with prior written approval from the testing laboratory.	This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.						
	Signatories	Position	Authorised results for				
	Fung Lim Chee, Richard	General Manager	Inorganics				

Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



Analytical Results

· ······								
Sub-Matrix: WATER			Client sample ID	W1	W2	W1	W2	
		Client sa	mpling date / time	[14-DEC-2012]	[14-DEC-2012]	[17-DEC-2012]	[17-DEC-2012]	
Compound	CAS Number	LOR	Unit	HK1233384-001	HK1233384-002	HK1233384-003	HK1233384-004	
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)		2	mg/L	30	2	10	5	



#### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)		
EA/ED: Physical an	d Aggregate Properties (QC	Lot: 2656113)								
HK1233318-007	Anonymous	EA025: Suspended Solids (SS)		2.0	mg/L	<2.0	<2.0	0.0		
HK1233324-004	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	117	123	5.0		

#### Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (ME	) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPD (%)		
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit	
EA/ED: Physical and Aggregate Properties (QC Lot: 2656113)												
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	99.0		85	113			

#### Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

• No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

# ALS Technichem (HK) Pty Ltd

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



# CERTIFICATE OF ANALYSIS

Client	ENVIRONMENTAL PIONEERS & SOLUTIONS	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR ALLEN CHAN	Contact	: Chan Kwok Fai, Godfrey	Work Order	<sup>+</sup> HK1233973
Address	<sup>:</sup> FLAT A, 19/F, CHAI WAN INDUSTRIAL CENTRE BUILDING, 20 LEE CHUNG STREET, CHAI WAN HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail Telephone Facsimile	: allenchan@epsl.com.hk : +852 2558 7699 :	E-mail Telephone Facsimile	∶ Godfrey.Chan@alsglobal.com ⊱ +852 2610 1044 ∶ +852 2610 2021		
Project Order number C-O-C number Site	: TAI PO TSAI : : :	Quote number	:	Date Samples Received Issue Date No. of samples received No. of samples analysed	: 21-DEC-2012 : 03-JAN-2013 : 4 : 4

#### **General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. The completion date of analysis is: 28-DEC-2012

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society. Specific comments for Work Order: **HK1233973** 

Sample(s) were received in an ambient condition.

Water sample(s) analysed and reported on an as received basis.

 This document has been electronically signed by those names that appear on thi out in compliance with procedures specified in the Electronic Transactions Ordina <i>Signatories</i>		Authorised results for
Fung Lim Chee, Richard	General Manager	Inorganics

#### ALS Laboratory Group Trading Name: ALS Technichem (HK) Pty Ltd 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



Analytical Results

Ib-Matrix: WATER Client sample II		Client sample ID	W1	W2	W1	W2		
	Client sampling date / time			[19-DEC-2012]	[19-DEC-2012]	[21-DEC-2012]	[21-DEC-2012]	
Compound	CAS Number	LOR	Unit	HK1233973-001	HK1233973-002	HK1233973-003	HK1233973-004	
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)		2	mg/L	5	5	6	7	

# Page Number: 3 of 3Client: ENVIRONMENTAL PIONEERS & SOLUTIONS LTDWork OrderHK1233973



## Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)			
EA/ED: Physical and	d Aggregate Properties (QC I	Lot: 2664076)									
HK1233973-001	W1	EA025: Suspended Solids (SS)		2	mg/L	5	6	22.0			
EA/ED: Physical and	Aggregate Properties (QC I	Lot: 2667119)									
HK1233952-010	Anonymous	EA025: Suspended Solids (SS)		2.0	mg/L	<2.0	<2.0	0.0			
HK1234030-002	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	12	13	0.0			

## Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (MB	) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
					Spike	Spike Re	ecovery (%)	Recovery Lin	nits (%)	RF	PD (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit	
EA/ED: Physical and Aggregate Properties (	QC Lot: 2664076)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	106		85	113			
EA/ED: Physical and Aggregate Properties (	QC Lot: 2667119)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	94.5		85	113			

## Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

• No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

# ALS Technichem (HK) Pty Ltd

## **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: ENVIRONMENTAL PIONEERS & SOLUTIONS	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
	LTD				
Contact	: MR ALLEN CHAN	Contact	: Chan Kwok Fai, Godfrey	Work Order	<sup>4</sup> HK1234375
Address	: FLAT A, 19/F, CHAI WAN INDUSTRIAL CENTRE	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing		
	BUILDING,		Yip Street, Kwai Chung, N.T., Hong Kong		
	20 LEE CHUNG STREET,				
	CHAI WAN HONG KONG				
E-mail	: allenchan@epsl.com.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2558 7699	Telephone	: +852 2610 1044		
Facsimile	:	Facsimile	: +852 2610 2021		
Project	: TAI PO TSAI	Quote number	:	Date Samples Received	: 27-DEC-2012
Order number	:			Issue Date	: 07-JAN-2013
C-O-C number	:			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

#### **General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. The completion date of analysis is: 03-JAN-2013

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society. Specific comments for Work Order: **HK1234375** 

Sample(s) were received in an ambient condition.

Water sample(s) analysed and reported on an as received basis.

pproval from the testing laboratory.	Signatories	Position	Authorised results for	
his report may not be reproduced except with prior written pproval from the testing laboratory.		names that appear on this report and are the authorised signate onic Transactions Ordinance of Hong Kong, Chapter 553, Sect		

#### ALS Laboratory Group Trading Name: ALS Technichem (HK) Pty Ltd 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company

Campbell Brothers Limited Company



Analytical Results

Sub-Matrix: WATER		Client sample ID		W1	W2	W1	W2	
	Client sampling date / time			[24-DEC-2012]	[24-DEC-2012]	[27-DEC-2012]	[27-DEC-2012]	
Compound	CAS Number	LOR	Unit	HK1234375-001	HK1234375-002	HK1234375-003	HK1234375-004	
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)		2	mg/L	18	11	6	7	



## Laboratory Duplicate (DUP) Report

Matrix: WATER			Laboratory Duplicate (DUP) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	mber LOR Unit Original Result Duplicate Result								
EA/ED: Physical an	d Aggregate Properties (	QC Lot: 2668945)										
HK1234260-002	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	<2	<2	0.0				
EA/ED: Physical an	EA/ED: Physical and Aggregate Properties (QC Lot: 2671111)											
HK1234193-001	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	3	3	0.0				
HK1234375-004	W2	EA025: Suspended Solids (SS)		2	mg/L	7	7	0.0				

## Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (MB	3) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
					Spike	Spike Re	covery (%)	Recovery Li	imits (%)	RF	D (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit	
EA/ED: Physical and Aggregate Properties	QC Lot: 2668945)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	101		85	113			
EA/ED: Physical and Aggregate Properties (	QC Lot: 2671111)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	94.0		85	113			

## Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

• No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

# ALS Technichem (HK) Pty Ltd

## **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: ENVIRONMENTAL PIONEERS & SOLUTIONS	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR ALLEN CHAN	Contact	: Chan Kwok Fai, Godfrey	Work Order	HK1234616
Address	<ul> <li>FLAT A, 19/F, CHAI WAN INDUSTRIAL CENTRE BUILDING,</li> <li>20 LEE CHUNG STREET,</li> <li>CHAI WAN HONG KONG</li> </ul>	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail Telephone Facsimile	: allenchan@epsl.com.hk : +852 2558 7699 :	E-mail Telephone Facsimile	∶ Godfrey.Chan@alsglobal.com ⊱ +852 2610 1044 ∶ +852 2610 2021		
Project Order number C-O-C number Site	: TAI PO TSAI : : :	Quote number	:	Date Samples Received Issue Date No. of samples received No. of samples analysed	: 31-DEC-2012 : 09-JAN-2013 : 4 : 4

#### **General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. The completion date of analysis is: 08-JAN-2013

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society. Specific comments for Work Order: HK1234616

Sample(s) were received in an ambient condition.

Water sample(s) analysed and reported on an as received basis.

 This report may not be reproduced except with prior written approval from the testing laboratory.
 This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

 Signatories
 Position
 Authorised results for

 Fung Lim Chee, Richard
 General Manager
 Inorganics

#### ALS Laboratory Group Trading Name: ALS Technichem (HK) Pty Ltd 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company

Campbell Brothers Limited Company



Analytical Results

,								
Sub-Matrix: WATER			Client sample ID	W1	W2	W1	W2	
	Client sampling date / time			[29-DEC-2012]	[29-DEC-2012]	[31-DEC-2012]	[31-DEC-2012]	
Compound	CAS Number	LOR	Unit	HK1234616-001	HK1234616-002	HK1234616-003	HK1234616-004	
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)		2	mg/L	11	2	11	2	



## Laboratory Duplicate (DUP) Report

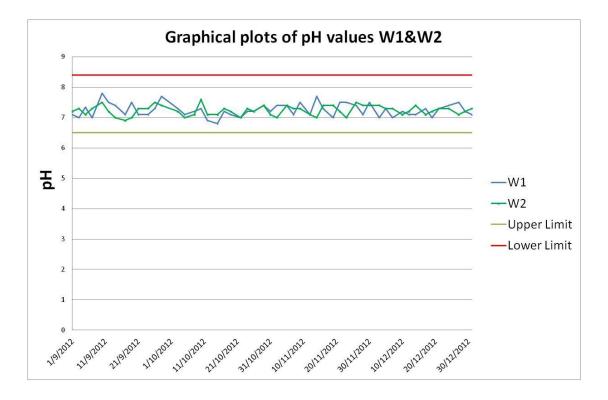
Matrix: WATER			Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)		
EA/ED: Physical an	d Aggregate Properties (QC	Lot: 2675872)								
HK1233952-013	Anonymous	EA025: Suspended Solids (SS)		2.0	mg/L	5.2	4.0	26.1		
HK1234585-007	Anonymous	EA025: Suspended Solids (SS)		2	mg/L	15	16	0.0		

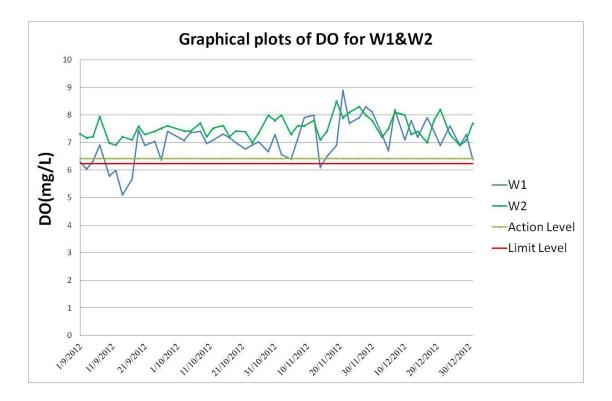
## Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

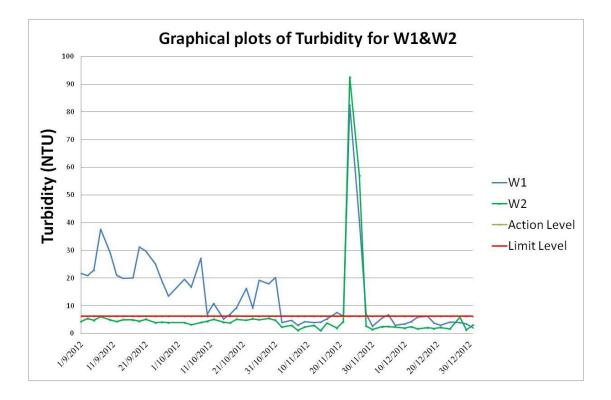
Matrix: WATER			Method Blank (ME	) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (C	C Lot: 2675872)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	96.0		88	110		

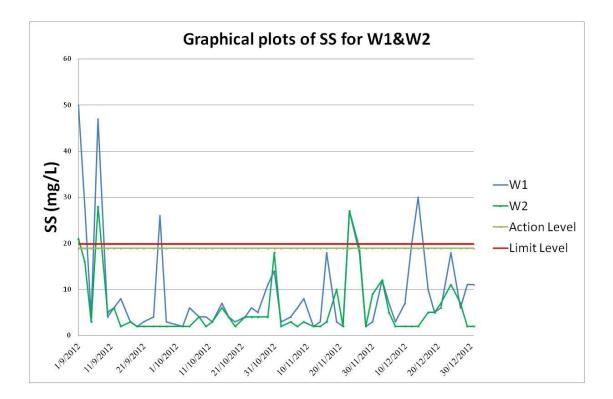
## Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

• No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.







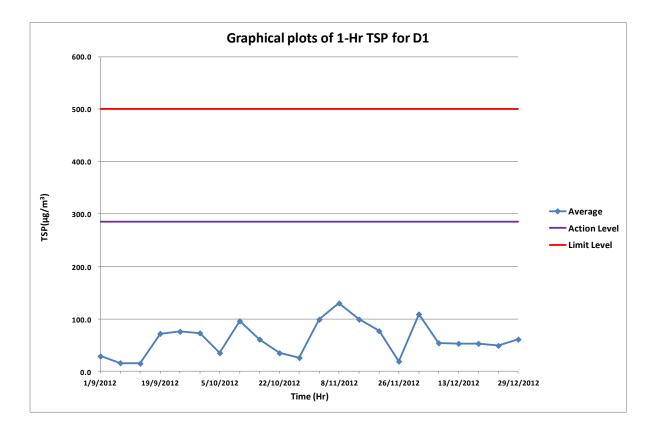


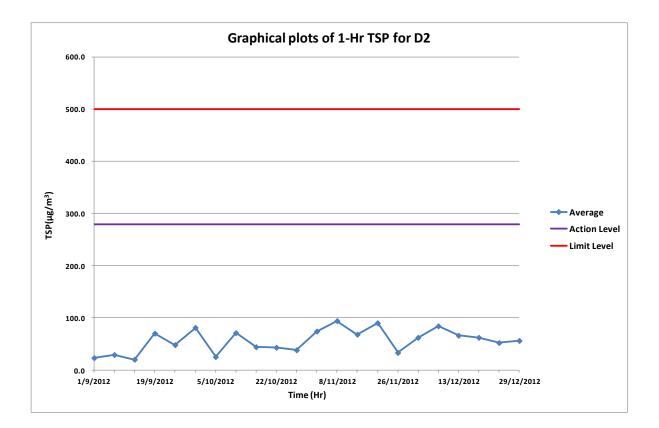
# Appendix F

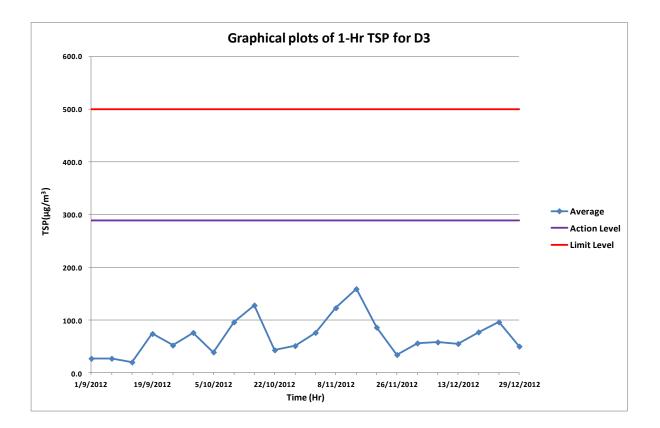
Air Quality Monitoring Data

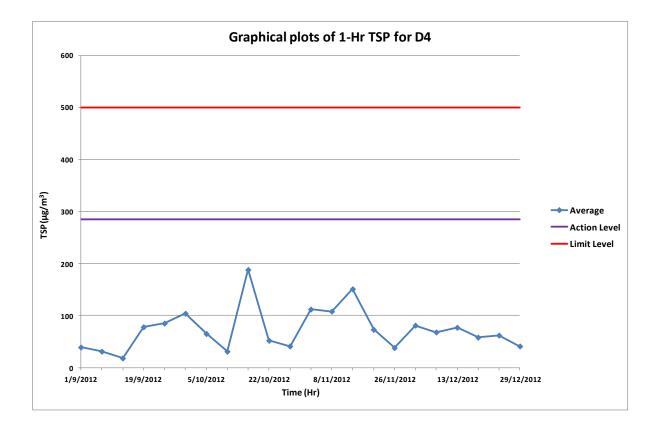
# 1-Hr TSP Monitoring Results

							Loca	tions					
			D1			D2			D3		D4		
Date	Duration	Start Time	TSP Level (ug/m3)	Average (ug/m3)	Start Time	TSP Level (ug/m3)	Average (ug/m3)	Start Time	TSP Level (ug/m3)	Average (ug/m3)	Start Time	TSP Level (ug/m3)	Average (ug/m3)
		15:13	106		8:59	65		9:05	59		13:08	60	
1/12/2012	1 Hour	16:13	112	109	9:59	68	62	10:05	48	56	14:08	78	81
		17:13	108		10:59	54		11:05	62		15:08	105	
		9:00	56		13:00	88		8:45	54		8:27	67	
7/12/2012	1 Hour	10:00	47	54	14:00	85	84	9:45	59	58	9:27	63	68
		11:00	58		15:00	78		10:45	60		10:27	74	
		8:30	71		11:46	60		12:38	50		8:31	98	
13/12/2012	1 Hour	9:30	48	53	12:46	69	66	13:38	59	55	9:31	71	77
		10:30	41		13:46	69		14:38	56		10:31	62	
		8:30	56		12:36	54		12:00	59		8:40	63	
19/12/2012	1 Hour	9:30	53	53	13:36	61	62	13:00	78	77	9:40	58	58
		10:30	50		14:36	72		14:00	95		10:40	53	
		13:45	49		9:03	53		9:01	79		13:24	60	
24/12/2012	1 Hour	14:45	47	49	10:03	47	52	10:01	99	96	14:24	65	62
		15:45	51		11:03	56		11:01	111		15:24	61	
		8:59	64		13:14	61		9:02	51		13:00	41	
29/12/2012	1 Hour	9:59	52	61	14:14	58	56	10:02	52	50	14:00	43	41
		10:59	68		15:14	49		11:02	47		15:00	38	









		Wt. of paper (g)			Elapse Time			Flov	w Rat	e (CFM)	Total Volume	TSP Concentration	Weather
Sampling Date	Paper No.	Initial Wt.	Final Wt.	Wt. of dust	Initial	Final	Sampling Hour	Initial	Final	Avg Flow Rate	(m³)	(µg/m3)	
01/12/12	204379	2.8001	2.8454	0.0453	736.87	760.93	24.06	42	42	42.0	1716.88	26.3850	Cloudy
07/12/12	204383	2.7863	2.9540	0.1677	760.93	784.99	24.06	42	42	42.0	1716.88	97.6769	Cloudy
13/12/12	204387	2.7646	2.8308	0.0662	784.99	809.02	24.03	42	42	42.0	1714.74	38.6064	Sunny
19/12/12	204391	2.7561	2.8676	0.1115	809.02	833.02	24.00	42	42	42.0	1712.60	65.1056	Cloudy
24/12/12	204395	2.7553	2.8622	0.1069	833.02	857.04	24.02	42	42	42.0	1714.03	62.3676	Cloudy
29/12/12	204401	2.7616	2.8105	0.0489	857.04	880.98	23.94	42	42	42.0	1708.32	28.6246	Cloudy

# D1 24-Hrs TSP Monitoring Results

# D2 24-Hrs TSP Monitoring Results

		Wt. of paper (g)			Elapse Time			Flow Rate (CFM)			Total Volume	TSP Concentration	Weather
Sampling Date	Paper No.	Initial Wt.	Final Wt.	Wt. of dust	Initial	Final	Sampling Hour	Initial	Final	Avg Flow Rate	(m³)	(µg/m3)	
01/12/12	204380	2.7943	2.8467	0.0524	1049.15	1072.76	23.61	42	42	42.0	1684.77	31.1021	Cloudy
07/12/12	204384	2.7873	2.9996	0.2123	1072.76	1096.48	23.72	42	42	42.0	1692.62	125.4267	Cloudy
13/12/12	204388	2.7724	2.8214	0.0490	1096.48	1120.12	23.64	42	42	42.0	1686.91	29.0471	Sunny
19/12/12	204392	2.7525	2.8580	0.1055	1120.12	1143.73	23.61	42	42	42.0	1684.77	62.6197	Cloudy
24/12/12	204396	2.7599	2.8597	0.0998	1143.73	1167.15	23.42	42	42	42.0	1671.21	59.7170	Cloudy
29/12/12	204402	2.7222	2.7718	0.0496	1167.15	1190.90	23.75	42	42	42.0	1694.76	29.2666	Cloudy

		Wt	t. of pape	r (g)	Elapse Time			Flov	w Rate	e (CFM)	Total Volume	TSP Concentration	Weather
Sampling Date	Paper No.	Initial Wt.	Final Wt.	Wt. of dust	Initial	Final	Sampling Hour	Initial	Final	Avg Flow Rate	(m³)	(µg/m3)	
01/12/12	204381	2.7952	2.9326	0.1374	1038.61	1062.74	24.13	42	42	42.0	1721.88	79.7965	Cloudy
07/12/12	204385	2.7789	2.8431	0.0642	1062.74	1086.81	24.07	42	42	42.0	1717.60	37.3778	Cloudy
13/12/12	204007	2.7113	2.7828	0.0715	1086.81	1110.85	24.04	42	42	42.0	1715.46	41.6799	Sunny
19/12/12	204393	2.7453	2.8170	0.0717	1110.85	1134.90	24.05	42	42	42.0	1716.17	41.7791	Cloudy
24/12/12	204397	2.7589	2.8758	0.1169	1134.90	1158.95	24.05	42	42	42.0	1716.17	68.1168	Cloudy
29/12/12	204399	2.7588	2.8140	0.0552	1158.95	1183.01	24.06	42	42	42.0	1716.88	32.1513	Cloudy

## D3 24-Hrs TSP Monitoring Results

# D4 24-Hrs TSP Monitoring Results

		W	t. of paper	r (g)	Elapse Time			Flow Rate (CFM)			Total Volume	TSP Concentration	Weather
Sampling Date	Paper No.	Initial Wt.	Final Wt.	Wt. of dust	Initial	Final	Sampling Hour	Initial	Final	Avg Flow Rate	(m³)	(µg/m3)	
01/12/12	204382	2.7825	2.9126	0.1301	1066.10	1090.14		42	42	42.0	1715.46	75.8398	Cloudy
07/12/12	204386	2.7776	2.7942	0.0166	1090.14	1114.27	24.13	42	42	42.0	1721.88	9.6406	Cloudy
13/12/12	204031	2.7412	2.8765	0.1353	1114.27	1138.32	24.05	43	43	43.0	1757.03	77.0049	Sunny
19/12/12	204032	2.7135	2.8395	0.1260	1138.32	1162.40	24.08	42	42	42.0	1718.31	73.3278	Cloudy
24/12/12	204033	2.6969	2.7787	0.0818	1162.40	1186.44	24.04	42	42	42.0	1715.46	47.6841	Cloudy
29/12/12	204394	2.7484	2.8372	0.0888	1186.44	1210.47	24.03	42	42	42.0	1714.74	51.7862	Cloudy

