

JOB NO.: TCS00694/13

AGREEMENT NO. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Control Point and Associated Works

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT Report (No.32) – March 2016

PREPARED FOR CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	Reference No.	Prepared By	Certified By
14 April 2016	TCS00694/13/600/R0227v2	Anh	Am

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Version	Date	Remarks
1	11 April 2016	First Submission
2	14 April 2016	Amended against the IEC's comments on 13 April 2016



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14 April 2016

Our ref:

7076192/ L20308/AB/AW/MC/rw

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By Email & Post

Attention: Mr Simon LEUNG

Dear Sirs

Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Control Point and Associated Works Independent Environmental Checker – Investigation Monthly EM&A Report (No. 32) – March 2016

With reference to the Monthly EM&A Report No. 32 for March 2016 (Version 2) certified by the ET Leader, please be noted that we have no adverse comments on the captioned submission. We herewith verify the captioned submission in accordance with Condition 5.4 of the Environmental Permit No. EP-404/2011/C.

Thank you for your attention and please do not hesitate to contact the undersigned on tel. 3995-8120 or by email to antony.wong@smec.com; or our Mr Man CHEUNG on tel. 3995 8132 or by email to man.cheung@smec.com.

Yours faithfully for and on behalf of SMEC Asia Limited

Antony WONG

Independent Environmental Checker

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## **EXECUTIVE SUMMARY**

ES01 This is the **32<sup>nd</sup>** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1 to 31 March 2016** (hereinafter 'the Reporting Period').

### **ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES**

- ES02 To facilitate the project management and implementation, Liantang/Heung Yuen Wai Boundary Control Point and Associated Works of the Project is divided to six CEDD contracts including Contract 2 (CV/2012/08), Contract 3 (CV/2012/09), Contract 4 (TCSS), Contract 5 (CV/2013/03), Contract 6 (CV/2013/08) and Contract 7 (NE/2014/03) and an ArshSD contract (Contract SS C505).
- ES03 In the Reporting Period, the construction works under Liantang/Heung Yuen Wai Boundary Control Point and Associated Works of the Project currently included Contract 2, Contract 3, Contract 5, Contract 6, Contract 7 and Contract SS C505. Environmental monitoring activities under the EM&A programme in the Reporting Period are summarized in the following table.

Environmontal	Environmontal Monitoring	<b>Reporting Period</b>		
Aspect	Parameters / Inspection	Number of Monitoring Locations to undertake	Total Occasions	
Air Quality	1-hour TSP	9	156	
All Quality	24-hour TSP	9	50	
Construction Noise	L <sub>eq(30min)</sub> Daytime	10	55	
		WM1 & WM1-C,	15 <sup>(*)</sup>	
	Water in-situ measurement and/or sampling	WM2A & WM2A-C	13(*)	
Water Quality		WM2B & WM2B-C	21(*)	
		WM3 &WM3-C	13(*)	
		WM4, WM4-CA &WM4-CB	13(*)	
		Contract 2	4	
	IEC, ET, the Contractor	Contract 3	4	
Joint Site Inspection / Audit	and RE joint site	Contract 5	5	
	Environmental Inspection	Contract 6	5	
	and Auditing	Contract 7	5	
		Contract SS C505	5	

(\*) *Monitoring day (included additional monitoring day due to exceedance)* 

## BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES04 In the Reporting Period, no air quality and construction noise exceedance was registered for the Project. For water quality monitoring, a total of forty-two (42) Action/ Limit Levels (AL/LL) exceedances, namely twenty (26) LL exceedances of turbidity and nineteen (19) AL/LL exceedances of Suspended Solids. The summary of exceedance in the Reporting Period is shown below.

Environmentel	Monitoring	Action Limit		Event & Action		
Aspect	Parameters	Level	Linnt Level	NOE Issued	Investigation Result	Corrective Actions
Air Quality	1-hour TSP	0	0	0		
All Quality	24-hour TSP	0	0	0		
Construction Noise	L <sub>eq(30min)</sub> Daytime	0	0	0		
Water Quality	DO	0	0	0		



Environmentel	Monitoring Astion		T imit	Event & Action		
Aspect	Parameters	Level	Limit Level	NOE Issued	Investigation Result	Corrective Actions
	Turbidity	0	23	23	<ul> <li>Channel clearing was carried out on 5, 8, 9 and 10 March 2016 to remove the silt cumulated at the</li> </ul>	<ul> <li>CCKJV should ensure the turbid water at the adjacent open channel was entirely blocked by</li> </ul>
	SS	1	18	19	channel bed. The exceedances were due to insufficient mitigation measures during channel clearing.	the sand bag barrier or other means to prevent it flowing further downstream before carry out the channel cleaning.

#### **ENVIRONMENTAL COMPLAINT**

ES05 In this Reporting Period, one (1) documented environmental complaint was received for Contract 2 regarding generation of fugitive dust when heavy dump truck travelling along in Sha Tau Kok Road on 8 March 2016. Investigation report for complaint had conducted by ET and submitted to relevant parties.

#### NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES06 No environmental summons or successful prosecutions were recorded in the Reporting Period.

#### **REPORTING CHANGE**

ES07 In the Reporting Period, the revised EM&A Programme was approved by EPD on 29 March 2016.

#### SITE INSPECTION

- ES08 In this Reporting Period, joint site inspection to evaluate the site environmental performance at *Contract 2* has been carried out by the RE, IEC, ET and the Contractor on **4**, **11**, **18 and 24** March **2016**. No non-compliance was noted.
- ES09 In the Reporting Period, joint site inspection to evaluate the site environmental performance at *Contract 3* has been carried out by the RE, IEC, ET and the Contractor on **7**, **16**, **21** and **30** March **2016**. No non-compliance was noted.
- ES10 In the Reporting Period, joint site inspection to evaluate the site environmental performance at *Contract 5* has been carried out by the RE, IEC, ET and the Contractor on **1**, **8**, **15**, **22** and **29** March 2016. No non-compliance was noted.
- ES11 In the Reporting Period, joint site inspection to evaluate the site environmental performance at *Contract 6* has been carried out by the RE, IEC, ET and the Contractor on **3**, **10**, **17**, **24** and **31** March 2016. No non-compliance was noted.
- ES12 In the Reporting Period, joint site inspection to evaluate the site environmental performance at *Contract SS C505* has been carried out by the RE, IEC, ET and the Contractor on **2**, **9**, **16**, **23** and **30 March 2016**. No non-compliance was noted.
- ES13 In the Reporting Period, joint site inspection to evaluate the site environmental performance at *Contract* 7 has been carried out by the RE, IEC, ET and the Contractor on 1, 8, 15, 22 and 29 March 2016. No non-compliance was noted.

## FUTURE KEY ISSUES

ES14 In upcoming wet season, preventive measures for muddy water or other water pollutants from site surface flow to local stream such as Kong Yiu Channel, Ma Wat Channel, Ping Yuen River or

public area would be the key issue. The Contractors should paid special attention on water quality mitigation measures and fully implement according ISEMM of the EM&A Manual, in particular for Contract 6.

- ES15 Construction noise would be a key environmental issue during construction work of the Project. Noise mitigation measures such as using quiet plants should be implemented in accordance with the EM&A requirement.
- ES16 Since most of construction sites under the Project are located adjacent to villages, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission.



# **Table of Contents**

1	INTROD	DUCTION	1
	1.1	PROJECT BACKGROUND	1
	1.2	Report Structure	1
2	PROJEC	T ORGANIZATION AND CONSTRUCTION PROGRESS	3
	2.1	CONSTRUCTION CONTRACT PACKAGING	3
	2.2	PROJECT ORGANIZATION	5
	2.3	CONCURRENT PROJECTS	7
	2.4	CONSTRUCTION PROGRESS	7
	2.5	SUMMARY OF ENVIRONMENTAL SUBMISSIONS	9
3	SUMMA	RY OF IMPACT MONITORING REQUIREMENTS	13
	3.1	General	13
	3.2	MONITORING PARAMETERS	13
	3.3	MONITORING LOCATIONS	13
	3.4	MONITORING FREQUENCY AND PERIOD	15
	3.5	MONITORING EQUIPMENT	16
	3.6	MONITORING METHODOLOGY	18
	3.7	EQUIPMENT CALIBRATION	20
	3.8	DERIVATION OF ACTION/LIMIT (A/L) LEVELS	20
	3.9	DATA MANAGEMENT AND DATA QA/QC CONTROL	21
4	AIR QUA	ALITY MONITORING	22
	4.1	General	22
	4.2	AIR QUALITY MONITORING RESULTS IN REPORTING MONTH	22
5	CONSTR	RUCTION NOISE MONITORING	25
	5.1	General	25
	5.2	NOISE MONITORING RESULTS IN REPORTING MONTH	25
6	WATER	OUALITY MONITORING	25
v	6.1	GENERAL	26
	6.2	RESULTS OF WATER QUALITY MONITORING	26
7	WA STE		20
/	VVASIE	Genedal Waste Management	<b>30</b>
	7.1	RECORDS OF WASTE OUANTITIES	30
	1.2	RECORDS OF WASTE QUANTILES	50
8	SITE INS	SPECTION	31
	8.1	REQUIREMENTS	31
	8.2	FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH	31
9	ENVIRO	NMENTAL COMPLAINT AND NON-COMPLIANCE	36
	9.1	ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION	36
10	IMPLEN	IENTATION STATUS OF MITIGATION MEASURES	39
	10.1	GENERAL REQUIREMENTS	39
	10.2	TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH	39
	10.3	KEY ISSUES FOR THE COMING MONTH	41
11	CONCU	USIONS AND DECOMMENDATIONS	17
11	11 1	CONCLUSIONS	42
	11.1	RECOMMENDATIONS	42
	11.4	RECONNENDATIONS	42



# LIST OF TABLES

LIST OF TAD	
TABLE 3-1	SUMMARY OF EM&A REQUIREMENTS
TABLE 3-2	IMPACT MONITORING STATIONS - AIR QUALITY
TABLE 3-3	IMPACT MONITORING STATIONS - CONSTRUCTION NOISE
TABLE 3-4	IMPACT MONITORING STATIONS - WATER QUALITY
TABLE 3-5	AIR QUALITY MONITORING EQUIPMENT
TABLE 3-6	CONSTRUCTION NOISE MONITORING EQUIPMENT
TABLE 3-7	WATER QUALITY MONITORING EQUIPMENT
TABLE 3-8	ACTION AND LIMIT LEVELS FOR AIR QUALITY MONITORING
TABLE 3-9	ACTION AND LIMIT LEVELS FOR CONSTRUCTION NOISE
TABLE 3-10	ACTION AND LIMIT LEVELS FOR WATER QUALITY
TABLE 4-1	SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS – AM1A
TABLE 4-2	SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS – AM2
TABLE 4-3	SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS – AM3
TABLE 4-4	SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS – AM4B
TABLE 4-5	SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS – AM5A
TABLE 4-6	SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS – AM6
TABLE 4-7	SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS – AM7A
TABLE 4-8	SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS – AM8
TABLE 4-9	SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS – AM9B
TABLE 5-1	SUMMARY OF CONSTRUCTION NOISE MONITORING RESULTS (CONTRACT 3 AND 5)
TABLE 5-2	SUMMARY OF CONSTRUCTION NOISE MONITORING RESULTS (CONTRACT 2 AND 6)
TABLE 6-1	SUMMARY OF WATER QUALITY MONITORING RESULTS FOR CONTRACT 2 AND 3
TABLE 6-2	SUMMARY OF WATER QUALITY MONITORING RESULTS FOR CONTRACT 5 AND SS C505
TABLE 6-3	SUMMARY OF WATER QUALITY MONITORING RESULTS FOR CONTRACT 6
TABLE 6-4	SUMMARY OF WATER QUALITY MONITORING RESULTS FOR CONTRACT 2 AND 6
TABLE 6-5	BREACHES OF WATER QUALITY MONITORING CRITERIA IN REPORTING PERIOD
TABLE 6-6	SUMMARY OF WATER QUALITY EXCEEDANCE IN THE REPORTING PERIOD
TABLE 7-1	SUMMARY OF QUANTITIES OF INERT C&D MATERIALS
TABLE 7-2	SUMMARY OF QUANTITIES OF C&D WASTES
TABLE 8-1	SITE OBSERVATIONS FOR CONTRACT 2
TABLE 8-2	SITE OBSERVATIONS FOR CONTRACT 3
TABLE 8-3	SITE OBSERVATIONS FOR CONTRACT 5
TABLE 8-4	SITE OBSERVATIONS FOR CONTRACT 6
TABLE 8-5	SITE OBSERVATIONS FOR CONTRACT SS C505
TABLE 8-6	SITE OBSERVATIONS FOR CONTRACT 7
TABLE 9-1	STATISTICAL SUMMARY OF ENVIRONMENTAL COMPLAINTS
TABLE 9-2	STATISTICAL SUMMARY OF ENVIRONMENTAL SUMMONS

- TABLE 9-3
   STATISTICAL SUMMARY OF ENVIRONMENTAL PROSECUTION
- TABLE 10-1
   ENVIRONMENTAL MITIGATION MEASURES

# LIST OF APPENDICES

APPENDIX A LAYOUT PLAN OF THE PRO
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- APPENDIX B ORGANIZATION CHART
- APPENDIX C 3-MONTH ROLLING CONSTRUCTION PROGRAM
- APPENDIX D DESIGNATED MONITORING LOCATIONS AS RECOMMENDED IN THE APPROVED EM&A



#### MANUAL

APPENDIX E	MONITORING LOCATIONS FOR IMPACT MONITORING
------------	--

APPENDIX F CALIBRATION CERTIFICATE OF MONITORING EQUIPMENT AND HOKLAS-ACCREDITATION CERTIFICATE OF THE TESTING LABORATORY

- APPENDIX G EVENT AND ACTION PLAN
- APPENDIX H IMPACT MONITORING SCHEDULE
- APPENDIX I DATABASE OF MONITORING RESULT
- APPENDIX J GRAPHICAL PLOTS FOR MONITORING RESULT
- APPENDIX K METEOROLOGICAL DATA
- APPENDIX L WASTE FLOW TABLE
- APPENDIX M IMPLEMENTATION SCHEDULE FOR ENVIRONMENTAL MITIGATION MEASURES
- APPENDIX N INVESTIGATION REPORT FOR EXCEEDANCE

## **1** INTRODUCTION

## 1.1 **PROJECT BACKGROUND**

- 1.1.1 Civil Engineering and Development Department is the Project Proponent and the Permit Holder of Agreement No. CE 45/2008 (CE) Liantang / Heung Yuen Wai Boundary Control Point and Associated Works, which is a Designated Project to be implemented under Environmental Permit number EP-404/2011/C granted on 12 March 2015.
- 1.1.2 The Project consists of two main components: Construction of a Boundary Control Point (hereinafter referred as "BCP"); and Construction of a connecting road alignment. Layout plan of the Project is shown in *Appendix A*.
- 1.1.3 The proposed BCP is located at the boundary with Shenzhen near the existing Chuk Yuen Village, comprising a main passenger building with passenger and cargo processing facilities and the associated customs, transport and ancillary facilities. The connecting road alignment consists of six main sections:
  - 1) Lin Ma Hang to Frontier Closed Area (FCA) Boundary this section comprises at-grade and viaducts and includes the improvement works at Lin Ma Hang Road;
  - Ping Yeung to Wo Keng Shan this section stretches from the Frontier Closed Area Boundary to the tunnel portal at Cheung Shan and comprises at-grade and viaducts including an interchange at Ping Yeung;
  - 3) North Tunnel this section comprises the tunnel segment at Cheung Shan and includes a ventilation building at the portals on either end of the tunnel;
  - 4) Sha Tau Kok Road this section stretches from the tunnel portal at Wo Keng Shan to the tunnel portal south of Loi Tung and comprises at-grade and viaducts including an interchange at Sha Tau Kok and an administration building;
  - 5) South Tunnel this section comprises a tunnel segment that stretches from Loi Tung to Fanling and includes a ventilation building at the portals on either end of the tunnel as well as a ventilation building in the middle of the tunnel near Lau Shui Heung;
  - 6) Fanling this section comprises the at-grade, viaducts and interchange connection to the existing Fanling Highway.
- 1.1.4 Action-United Environmental Services & Consulting has been commissioned as an Independent ET to implement the relevant EM&A program in accordance with the approved EM&A Manual, as well as the associated duties. As part of the EM&A program, the baseline monitoring has carried out between **13 June 2013** and **12 July 2013** for all parameters including air quality, noise and water quality before construction work commencement. The Baseline Monitoring Report summarized the key findings and the rationale behind determining a set of Action and Limit Levels (A/L Levels) from the baseline data. Also, the Project baseline monitoring report which verified by the IEC has been submitted to EPD on **16 July 2013** for endorsement. The major construction works of the Project was commenced on **16 August 2013** in accordance with the EP Section 5.3 stipulation.
- 1.1.5 This is **32<sup>nd</sup>** monthly EM&A report presenting the monitoring results and inspection findings for reporting period from **1** to **31 March 2016**.

## **1.2 REPORT STRUCTURE**

- 1.2.1 The Monthly Environmental Monitoring and Audit (EM&A) Report is structured into the following sections:-
  - Section 1 Introduction
  - Section 2 Project Organization and Construction Progress
  - Section 3 Summary of Impact Monitoring Requirements
  - Section 4 Air Quality Monitoring
  - Section 5 Construction Noise Monitoring
  - Section 6 Water Quality Monitoring



Section 7	Waste Management
Section 8	Site Inspections
Section 9	Environmental Complaints and Non-Compliance
Section 10	Implementation Status of Mitigation Measures
Section 11	Conclusions and Recommendations

# 2 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

## 2.1 CONSTRUCTION CONTRACT PACKAGING

- 2.1.1 To facilitate the project management and implementation, the Project would be divided by the following contracts:
  - Contract 2 (CV/2012/08)
  - Contract 3 (CV/2012/09)
  - Contract 4 (NE/2014/02)
  - Contract 5 (CV/2013/03)
  - Contract 6 (CV/2013/08)
  - Contract 7 (NE/2014/03)
  - ArchSD Contract No. SS C505
- 2.1.2 The details of each contracts is summarized below and the delineation of each contracts is shown in *Appendix A*.

# Contract 2 (CV/2012/08)

- 2.1.3 Contract 2 has awarded in December 2013 and construction work was commenced on 19 May 2014. Major Scope of Work of the Contract 2 is listed below:
  - construction of an approximately 5.2km long dual two-lane connecting road (with about 0.4km of at-grade road and 4.8km of tunnel) connecting the Fanling Interchange with the proposed Sha Tau Kok Interchange;
  - construction of a ventilation adit tunnel and the mid-ventilation building;
  - construction of the north and south portal buildings of the Lung Shan Tunnel and their associated slope works;
  - provision and installation of ventilation system, E&M works and building services works for Lung Shan tunnel and Cheung Shan tunnel and their portal buildings;
  - construction of Tunnel Administration Building adjacent to Wo Keng Shan Road and the associated E&M and building services works; and
  - construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

# Contract 3 (CV/2012/09)

- 2.1.4 Contract 3 was awarded in July 2013 and construction work was commenced on 5 November 2013. Major Scope of Work of the Contract 3 is listed below:
  - construction of four link roads connecting the existing Fanling Highway and the south portal of the Lung Shan Tunnel;
  - realignment of the existing Tai Wo Service Road West and Tai Wo Service Road East;
  - widening of the existing Fanling Highway (HyD's entrustment works);
  - demolishing existing Kiu Tau vehicular bridge and Kiu Tau footbridge and reconstruction of the existing Kiu Tau Footbridge (HyD's entrustment works); and
  - construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

# Contract 4 (NE/2014/02)

2.1.5 Contract 4 has not yet been awarded. The work of the Contract 4 includes provision and installation of Traffic Control and Surveillance System and the associated electrical and mechanical works for the Project.

# Contract 5 (CV/2013/03)

- 2.1.6 Contract 5 has awarded in April 2013 and construction work was commenced in August 2013. Major Scope of Work of the Contract 5 is listed below:
  - site formation of about 23 hectares of land for the development of the BCP;

- construction of an approximately 1.6 km long perimeter road at the BCP including a 175m long depressed road;
- associated diversion/modification works at existing local roads and junctions including Lin Ma Hang Road;
- construction of pedestrian subway linking the BCP to Lin Ma Hang Road;
- provision of resite area with supporting infrastructure for reprovisioning of the affected village houses; and
- construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

# Contract 6 (CV/2013/08)

- 2.1.7 Contract 6 has awarded in June 2015 and construction work was commenced on 23 October 2015. Major Scope of Work of the Contract 6 would be included below:
  - construction of an approximately 4.6km long dual two-lane connecting road (with about 0.6km of at-grade road, 3.3km of viaduct and 0.7km of tunnel) connecting the BCP with the proposed Sha Tau Kok Road Interchange and the associated ventilation buildings;
  - associated diversion/modification works at access roads to the resite of Chuk Yuen Village;
  - provision of sewage collection, treatment and disposal facilities for the BCP and the resite of Chuk Yuen Village;
  - construction of a pedestrian subway linking the BCP to Lin Ma Hang Road;
  - provisioning of the affected facilities including Wo Keng Shan Road garden; and
  - construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

# Contract 7 (NE/2014/03)

- 2.1.8 Contract 7 has awarded in December 2015 and the construction works of Contract 7 was commenced on 15 February 2016. Major Scope of Work of the Contract 7 would be included below:
  - construction of the Hong Kong Special Administrative Region (HKSAR) portion of four vehicular bridge
  - construction of one pedestrian bridge crossing Shenzhen (SZ) River (cross boundary bridges)

# ArchSD Contract No. SS C505

- 2.1.9 SS C505 has awarded in July 2015 and construction work was commenced on 1 September 2015. Major Scope of Work of the SS C505 would be included below:
  - passenger-related facilities including processing kiosks and examination facilities for private cars and coaches, passenger clearance building and halls, the interior fitting works for the pedestrian bridge crossing Shenzhen River, etc.;
  - cargo processing facilities including kiosks for clearance of goods vehicles, customs inspection platforms, X-ray building, etc.;
  - accommodation for the facilities inside of the Government departments providing services in connection with the BCP;
  - transport-related facilities inside the BCP including road networks, public transport interchange, transport drop-off and pick-up areas, vehicle holding areas and associated road furniture etc;
  - a public carpark; and
  - other ancillary facilities such as sewerage and drainage, building services provisions and electronic systems, associated environmental mitigation measure and landscape works.

## 2.2 **PROJECT ORGANIZATION**

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

## Civil Engineering and Development Department (CEDD)

2.2.2 CEDD is the Project Proponent and the Permit Holder of the EP of the development of the Project and will assume overall responsibility for the project. An Independent Environmental Checker (IEC) shall be employed by CEDD to audit the results of the EM&A works carried out by the ET.

## Architectural Services Department (ArchSD)

2.2.3 ArchSD acts as the works agent for Development Bureau (DEVB), for Contract SS C505 Liantang/ Heung Yuen Wai Boundary Control Point (BCP) – BCP Buildings and Associated Facilities.

## Environmental Protection Department (EPD)

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

## Ronald Lu & Partners (Hong Kong) Ltd (The Architect)

- 2.2.5 Ronald Lu & Partners (Hong Kong) Ltd is appointed by ArchSD as an Architect for Contract SS C505 Liantang/ Heung Yuen Wai Boundary Control Point (BCP) BCP Buildings and Associated Facilities. It responsible for overseeing the construction works of Contract SS C505 and for ensuring that the works are undertaken by the Contractor in accordance with the specification and contract requirements. The duties and responsibilities of the Architect with respect to EM&A are:
  - Monitor the Contractors' compliance with contract specifications, including the implementation and operation of the environmental mitigation measures and their effectiveness
  - Monitor Contractors' and ET's compliance with the requirements in the Environmental Permit (EP) and EM&A Manual
  - Facilitate ET's implementation of the EM&A programme
  - Participate in joint site inspection by the ET and IEC
  - Oversee the implementation of the agreed Event / Action Plan in the event of any exceedance
  - Adhere to the procedures for carrying out complaint investigation
  - Liaison with DSD, Engineer/Engineer's Representative, ET, IEC and the Contractor of the "Construction of the DSD's Regulation of Shenzhen River Stage 4 (RSR 4)" Project discussing regarding the cumulative impact issues.

## Engineer or Engineers Representative (ER)

- 2.2.6 The ER is responsible for overseeing the construction works and for ensuring that the works are undertaken by the Contractor in accordance with the specification and contract requirements. The duties and responsibilities of the ER with respect to EM&A are:
  - Monitor the Contractors' compliance with contract specifications, including the implementation and operation of the environmental mitigation measures and their effectiveness
  - Monitor Contractors's, ET's and IEC's compliance with the requirements in the Environmental Permit (EP) and EM&A Manual
  - Facilitate ET's implementation of the EM&A programme
  - Participate in joint site inspection by the ET and IEC
  - Oversee the implementation of the agreed Event / Action Plan in the event of any exceedance
  - Adhere to the procedures for carrying out complaint investigation
  - Liaison with DSD, Engineer/Engineer's Representative, ET, IEC and the Contractor of the "Construction of the DSD's Regulation of Shenzhen River Stage 4 (RSR 4)" Project



discussing regarding the cumulative impact issues.

### The Contractor(s)

- 2.2.7 There will be one contractor for each individual works contract. Once the contractors are appointed, EPD, ET and IEC will be notified the details of the contractor.
- 2.2.8 The Contractor for Contracts under CEDD should report to the ER. For ArchSD Contract, the Contractor should report to the Architect or Architect's Representative (AR). The duties and responsibilities of the Contractor are:
  - Comply with the relevant contract conditions and specifications on environmental protection
  - Employ an Environmental Team (ET) to undertake monitoring, laboratory analysis and reporting of EM &A Facilitate ET's monitoring and site inspection activities
  - Participate in the site inspections by the ET and IEC, and undertake any corrective actions
  - Provide information / advice to the ET regarding works programme and activities which may contribute to the generation of adverse environmental impacts
  - Submit proposals on mitigation measures in case of exceedances of Action and Limit levels in accordance with the Event / Action Plans
  - Implement measures to reduce impact where Action and Limit levels are exceeded
  - Adhere to the procedures for carrying out complaint investigation

## Environmental Team (ET)

- 2.2.9 Once the ET is appointed, the EPD, CEDD, ER, Architect and IEC will be notified the details of the ET.
- 2.2.10 The ET shall not be in any way an associated body of the Contractor(s), and shall be employed by the Project Proponent/Contractor to conduct the EM&A programme. The ET should be managed by the ET Leader. The ET Leader shall be a person who has at least 7 years' experience in EM&A and has relevant professional qualifications. Suitably qualified staff should be included in the ET, and resources for the implementation of the EM&A programme should be allocated in time under the Contract(s), to enable fulfillment of the Project's EM&A requirements as specified in the EM&A Manual during construction of the Project. The ET shall report to the Project Proponent and the duties shall include:
  - Monitor and audit various environmental parameters as required in this EM&A Manual
  - Analyse the environmental monitoring and audit data, review the success of EM&A programme and the adequacy of mitigation measures implemented, confirm the validity of the EIA predictions and identify any adverse environmental impacts arising
  - Carry out regular site inspection to investigate and audit the Contractors' site practice, equipment/plant and work methodologies with respect to pollution control and environmental mitigation, and effect proactive action to pre-empt problems
  - Monitor compliance with conditions in the EP, environmental protection, pollution prevention and control regulations and contract specifications
  - Audit environmental conditions on site
  - Report on the environmental monitoring and audit results to EPD, the ER, the Architect, the IEC and Contractor or their delegated representatives
  - Recommend suitable mitigation measures to the Contractor in the case of exceedance of Action and Limit levels in accordance with the Event and Action Plans
  - Liaise with the IEC on all environmental performance matters and timely submit all relevant EM&A proforma for approval by IEC
  - Advise the Contractor(s) on environmental improvement, awareness, enhancement measures etc., on site
  - Adhere to the procedures for carrying out complaint investigation
  - Liaison with the client departments, Engineer/Engineer's Representative, ET, IEC and the Contractor(s) of the concurrent projects as listed under Section 2.3 below regarding the cumulative impact issues.



# Independent Environmental Checker (IEC)

- 2.2.11 One IEC will be employed for this Project. Once the IEC is appointed, EPD, ER, the Architect and ET will be notified the details of the IEC.
- 2.2.12 The Independent Environmental Checker (IEC) should not be in any way an associated body of the Contractor or the ET for the Project. The IEC should be employed by the Permit Holder (i.e., CEDD) prior to the commencement of the construction of the Project. The IEC should have at least 10 years' experience in EM&A and have relevant professional qualifications. The appointment of IEC should be subject to the approval of EPD. The IEC should:
  - Provide proactive advice to the ER and the Project Proponent on EM&A matters related to the project, independent from the management of construction works, but empowered to audit the environmental performance of construction
  - Review and audit all aspects of the EM&A programme implemented by the ET
  - Review and verify the monitoring data and all submissions in connection with the EP and EM&A Manual submitted by the ET
  - Arrange and conduct regular, at least monthly site inspections of the works during construction phase, and ad hoc inspections if significant environmental problems are identified
  - Check compliance with the agreed Event / Action Plan in the event of any exceedance
  - Check compliance with the procedures for carrying out complaint investigation
  - Check the effectiveness of corrective measures
  - Feedback audit results to ET by signing off relevant EM&A proforma
  - Check that the mitigation measures are effectively implemented
  - Verify the log-book(s) mentioned in Condition 2.2 of the EP, notify the Director by fax, within one working day of receipt of notification from the ET Leader of each and every occurrence, change of circumstances or non-compliance with the EIA Report and/or the EP, which might affect the monitoring or control of adverse environmental impacts from the Project
  - Report the works conducted, the findings, recommendation and improvement of the site inspections, after reviewing ET's and Contractor's works, and advices to the ER and Project Proponent on a monthly basis
  - Liaison with the client departments, Engineer/Engineer's Representative, the Architect, ET, IEC and the Contractor of the concurrent projects as listed under Section 2.3 below regarding the cumulative impact issues.

## 2.3 CONCURRENT PROJECTS

- 2.3.1 The concurrent construction works that may be carried out include, but not limited to, the following:
  - (a) Regulation of Shenzhen River Stage IV;
  - (b) Widening of Fanling Highway Tai Hang to Wo Hop Shek Interchange Contract No. HY/2012/06;
  - (c) Construction of BCP facilities in Shenzhen.

## 2.4 CONSTRUCTION PROGRESS

2.4.1 In the Reporting Period, the major construction activity conducted under the Project is located in Contracts 2, 3, 5, 6, 7 and SS C505 and they are summarized in below. Moreover, the 3-month rolling construction program of the Contracts 2, 3, 5, 6 and SS C505 and initial construction program for Contract 7 are enclosed in *Appendix C*.

## Contract 2 (CV/2012/08)

2.4.2 The contract commenced in May 2014. In this Reporting Period, construction activities conducted are listed below:



Mid-Vent	• Tube excavation (NB + SB)
Portal	• Adit invert slab
	Ventilation building superstructure
North Portal	Slope stabilization and retaining wall
	• Northbound top heading excavation and tunnel enlargement
	Tunnel Boring Machine (TBM) excavation
South Portal	• Southbound and Northbound Drill and Blast (D&B) excavation
	Building works foundation and substructure
Admin Building	Building works foundation

# Contract 3 (CV/2012/09)

2.4.3 The Contract commenced in November 2013. In this Reporting Period, construction activities conducted are listed below:

- Cable detection and trial trenches
- FRP Lining on existing water main
- Filling works at Tong Hang East
- Storm drain laying
- Noise barrier construction
- Pier / pier table construction
- Pile cap works
- Portal beam construction
- Pre-drilling
- Retaining Wall construction
- Road works at Fanling Highway
- Sewer works
- Tree felling works
- Utilities duct laying
- Viaduct segment erection
- Slope works
- Waterworks

# Contract 4 (Contract number to be assigned)

2.4.4 The contract has not yet been awarded.

# Contract 5 (CV/2013/03)

- 2.4.5 The Contract awarded in April 2013 and commenced on August 2013. In this Reporting Period, construction activities conducted are listed below:
  - Construction of rising main (VO61) at existing Lin Ma Hang (LMH) Road
  - Drainage works of Depressed Road at BCP3
  - Additional works (Access Works) for Village House at RS4
  - Drainage works at existing LMH Road
  - Brick laying at footpath of proposed LMH road
  - Preparation works for planting at proposed LMH road
  - Installation of Underground Utility (UU) at proposed and existing LMH road
  - Irrigation at proposed LMH Road
  - Water works at existing LMH Road
  - Bituminous laying at L15 road existing & proposed LMH road

# Contract 6 (CV/2013/08)

- 2.4.6 Contract 6 has awarded in June 2015 and construction work was commenced on 23 October 2015. In this Reporting Period, construction activities conducted are listed below:
  - Site Clearance



- Slope Works
- Site Accesses Construction
- Ground Investigation (GI) Works
- Soil nail
- Bored piling
- H-piling
- Pile cap construction
- Road surfacing

## Contract 7 (NE/2014/03)

- 2.4.7 Contract 7 has awarded in December 2015 and construction work was commenced on 15 February 2015. In this Reporting Period, construction activities conducted are listed below:
  - Erection of Engineer's Site Office
  - Ground Investigation Works for Bridge A-E
  - Piling Works for Bridge B-D

## Contract SS C505

- 2.4.8 Contract SS C505 has awarded in July 2015 and construction work was commenced on 1 September 2015. In this Reporting Period, construction activities conducted are listed below:
  - General Site Setup
  - Building no. 5 and 9 construction
  - Assembly of Crawler Crane
  - H-pile works
  - Tower crane construction
  - Erection of Welfare Shelter
  - Underground drainage works
  - Column and conduit works
  - Weighbridge works
  - Prototype "A" Construction works
  - Mock Up Curtain Wall works
  - Pile Cap construction
  - Bored Pile works and pre-drill works
  - Bridge construction works

## 2.5 SUMMARY OF ENVIRONMENTAL SUBMISSIONS

- 2.5.1 In according to the EP, the required documents have submitted to EPD which listed in below:
  - Project Layout Plans of Contracts 2, 3, 5, 6, 7 and SS C505
    - Landscape Plan
    - Topsoil Management Plan
    - Environmental Monitoring and Audit Programme
  - Baseline Monitoring Report (TCS00690/13/600/R0030v3) for the Project
  - Waste Management Plan of the Contracts 2, 3, 5, 6 and SS C505
  - Contamination Assessment Plan (CAP) for Po Kat Tsai, Loi Tung and the workshops in Fanling
  - Contamination Assessment Report (CAR) for Po Kat Tsai, Loi Tung and the workshops in Fanling
  - Vegetation Survey Report
  - Woodland Compensation Plan
  - Habitat Creation Management Plan
  - Wetland Compensation Plan
- 2.5.2 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project of each contracts are presented in *Table 2-1*.



## Table 2-1 Status of Environmental Licenses and Permits of the Contracts

Thomas	Description	License/Permit Status				
Item	Description	Ref. no.	Effective Date	Expiry Date		
		Contract 2				
1	Air pollution Control (Construction Dust) Regulation	Ref No.: 368864	31 Dec 2013	Till Contract ends		
2	Chemical Waste Producer Registration	<i>North Portal</i> Waste Producers Number: No.5213-652-D2523-01	25 Mar 2014	Till Contract ends		
		<i>Mid-Vent Portal</i> Waste Producers Number: No.5213-634-D2524-01	25 Mar 2014	Till Contract ends		
		<i>South Portal</i> Waste Producers Number: No.5213-634-D2526-01	9 Apr 2014	Till Contract ends		
3	Water Pollution	No.WT00018374-2014	3 Mar 2014	28 Feb 2019		
	Control Ordinance -	No.: W5/1I389	28 Mar 2014	31 Mar 2019		
	Discharge License	No.: W5/1I390	19 June 2014	31 Mar 2019		
		No. WT00023063-2015	18 Dec 2015	31 Mar 2019.		
		No.: W5/1I392	28 Mar 2014	31 Mar 2019		
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7019105	8 Jan 2014	Till Contract ends		
5	Construction Noise	GW-RN0738-15	18 Nov 2015	8 May 2016		
	Permit	GW-RN0795-15	7 Dec 2015	6 Jun 2016		
		GW-RN0893-15	01-Jan-2016	27-Jun-2016		
		GW-RN0057-16	28-Feb-2016	27-May-2016		
		GW-RN0059-16	24-Feb-2016	23-Apr-2016		
		GW-RN0067-16	28-Feb-2016	27-May-2016		
		GW-RN0068-16	23-Feb-2016	22-Apr-2016		
		GW-RN0071-16	02-Feb-16	31-Jul-2016		
		GW-RN0077-16	07-Feb-2016	06-Aug-2016		
		GW-RN0167-16	18-Mar-2016	17-May-2016		
		GW-RN0199-16	24-Mar-2016	17-Sep-2016		
		Contract 3	17.1.1.0010	T:11 C		
1	Air pollution Control (Construction Dust) Regulation	Kei. No: 362101	1 / Jul 2013	ends		
2	Chemical Waste Producer Registration	Waste Producers Number: No.:5113-634-C3817-01	7 Oct 2013	Till Contract ends		
3	Water Pollution Control Ordinance - Discharge License	No.:WT00016832 – 2013	28 Aug 13	31 Aug 2018		
4	Waste Disposal Regulation - Billing Account for Disposal	Account No. 7017914	2 Aug 13	Till Contract ends		



Theres	Description	License/Permit Status				
Item	Description	Ref. no.	Effective Date	Expiry Date		
	of Construction Waste					
5	Construction Noise	GW-RN0892-15	9 Jan 2016	8 July 2016		
	Permit	GW-RN0064-16	16 Feb 2016	13 Aug 2016		
		GW-RN0086-16	16 Feb 2016	7 May 2016		
		GW-RN0094-16	6 Mar 2016	22 May 2016		
		GW-RN0096-16	6 Mar 2016	12 Jun 2016		
		GW-RN0097-16	1 Mar 2016	17 Jun 2016		
		GW-RN0098-16	1 Mar 2016	4 Sep 2016		
		GW-RN0111-16	1 Mar 2016	30 Apr 2016		
		GW-RN0113-16	25 Feb 2016	24 Aug 2016		
		GW-RN0115-16	1 Mar 2016	7 May 2016		
		GW-RN0139-16	2 Mar 2016	24 Aug 2016		
		GW-RN0140-16	2 Mar 2016	24 Aug 2016		
		GW-RN0157-16	8 Mar 2016	7 Jun 2016		
		GW-RN0158-16	8 Mar 2016	31 Aug 2016		
		GW-RN0164-16	16 Mar 2016	31 Mar 2016		
		GW-RN0168-16	15 Mar 2016	14 Sep 2016		
		GW-RN0169-16	15 Mar 2016	14 Jun 2016		
		GW-RN0170-16	11 Mar 2016	10 Sep 2016		
		GW-RN0172-16	29 Mar 2016	8 Apr 2016		
		GW-RN0218-16	6 April 2016	30 Sep 2016		
		Contract 5	-	-		
1	Air pollution Control (Construction Dust) Regulation	Ref. No: 359338	13 May 2013	Till the end of Contract		
2	Chemical Waste Producer Registration	Waste Producers Number No.: 5213-642-S3735-01	8 Jun 2013	Till the end of Contract		
3	Water Pollution Control Ordinance - Discharge License	No.: W5/1G44/1	8 Jun 13	30 Jun 2018		
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7017351	29 Apr 13	Till the end of Contract		
1	Air pollution Control	Contract 6	20 Jun 2015	Till the end of		
	(Construction Dust) Regulation	KCI. INU. 390014	29 Jun 2015	Contract		
2	Chemical Waste Producer Registration	Waste Producers Number No.: 5213-652-C3969-01	31 Aug 2015	Till the end of Contract		
3	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7022707	9 Jul 2015	Till the end of Contract		



<b>T</b> 4	Description	License/Permit Status				
Item	Description	Ref. no.	Effective Date	Expiry Date		
4	Water Pollution Control Ordinance - Discharge License	Application is processing by	EPD			
5	Construction Noise Permit	GW-RN0681-15	26 Oct 2015	25 Apr 2016		
6	Construction Noise Permit	GW-RN0683-15	26 Oct 2015	25 Apr 2016		
		Contract SS C505				
1	Air pollution Control (Construction Dust) Regulation	Ref. No: 390974	13 Jul 2015	Till the end of Contract		
2	Chemical Waste Producer Registration	Waste Producer No.: 5213-642-L1048-07	16 Sep 2015	Till the end of Contract		
3	Water Pollution Control Ordinance - Discharge License	No.: WT00022774-2015	17 Nov 2015	30 Nov 2020		
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7022831	23 Jul 2015	Till the end of Contract		
5	Construction Noise	PP-RN0027-15	5 Oct 2015	2 Apr 2016		
	Permit	PP-RN0002-16	23 Jan 2016	22 Mar 2016		
		PP-RN0007-16	10 Mar 2016	9 May 2016		
		GW-RN0023-16	23 Jan 2016	22 Mar 2016		
		GW-RN0197-16	23 Jan 2016	22 May 216		
		GW-RN0209-16	23 Jan 2016	22 May 216		
		Contract 7	-	-		
1	Air pollution Control (Construction Dust) Regulation	Ref. No: 397015	21 Dec 2015	Till the end of Contract		
2	Chemical Waste Producer Registration	Application is processing by	EPD			
3	Water Pollution Control Ordinance - Discharge License	Application is processing by	EPD			
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7024129	21 Jan 2016	Till the end of Contract		
5	Construction Noise Permit	GW-RN0162-16	23 Mar 2016	22 May 2016		

## **3** SUMMARY OF IMPACT MONITORING REQUIREMENTS

### 3.1 GENERAL

- 3.1.1 The Environmental Monitoring and Audit requirements are set out in the Approved EM&A manual. Environmental issues such as air quality, construction noise and water quality were identified as the key issues during the construction phase of the Project.
- 3.1.2 A summary of construction phase EM&A requirements are presented in the sub-sections below.

### 3.2 MONITORING PARAMETERS

- 3.2.1 The EM&A program of construction phase monitoring shall cover the following environmental issues:
  - Air quality;
  - Construction noise; and
  - Water quality
- 3.2.2 A summary of the monitoring parameters is presented in *Table 3-1*.

Table 3-1Summary of EM&A Requirements

Environmental Issue	Parameters
Air Quality	• 1-hour TSP by Real-Time Portable Dust Meter; and
All Quality	• 24-hour TSP by High Volume Air Sampler.
	• L <sub>eq(30min)</sub> in normal working days (Monday to Saturday) 07:00-19:00
	except public holiday; and
Noiso	• 3 sets of consecutive L <sub>eq(5min)</sub> on restricted hours i.e. 19:00 to 07:00
NOISE	next day, and whole day of public holiday or Sunday
	• Supplementary information for data auditing, statistical results such
	as $L_{10}$ and $L_{90}$ shall also be obtained for reference.
	In-situ Measurements
	<ul> <li>Dissolved Oxygen Concentration (mg/L);</li> </ul>
	<ul> <li>Dissolved Oxygen Saturation (%);</li> </ul>
	• Turbidity (NTU);
Water Quality	• pH unit;
	• Water depth (m); and
	• Temperature (°C).
	Laboratory Analysis
	Suspended Solids (mg/L)

## 3.3 MONITORING LOCATIONS

3.3.1 The designated monitoring locations as recommended in the *EM&A Manual* are shown in *Appendix D*. As the access to some of the designated monitoring locations was questionable due to safety reason or denied by the landlords, alternative locations therefore have had proposed. The proposed alternative monitoring locations has updated in the revised EM&A Programme which verified by IEC and certified by ET Leader prior submitted to EPD on 10 July 2013. *Table 3-2, Table 3-3* and *Table 3-4* are respectively listed the air quality, construction noise and water quality monitoring locations for the Project and a map showing these monitoring stations is presented in *Appendix E*.

Table 3-2	Impact	Monitoring	<b>Stations - A</b>	ir Quality
				~ ~

Station ID	Description	Works Area	Related to the Work Contract
AM1b^	Open area at Tsung Yuen Ha Village	BCP	SS C505
			Contract 5
			Contract 7
AM2	Village House near Lin Ma Hang Road	LMH to Frontier	Contract 5
		Closed Area	Contract 6



Station ID	Description	Works Area	Related to the Work Contract
AM3	Ta Kwu Ling Fire Service Station of Ta	LMH to Frontier	Contract 5
	Kwu Ling Village.	Closed Area	Contract 6
AM4b^	House no. 10B1 Nga Yiu Ha Village	LMH to Frontier	Contract 6
		Closed Area	
AM5a^	Ping Yeung Village House	Ping Yeung to	Contract 6
		Wo Keng Shan	
AM6	Wo Keng Shan Village House	Ping Yeung to	Contract 6
		Wo Keng Shan	
AM7b <sup>@</sup>	Loi Tung Village House	Sha Tau Kok	Contract 2
		Road	Contract 6
AM8	Po Kat Tsai Village No. 4	Po Kat Tsai	Contract 2
AM9b#	Nam Wa Po Village House No. 80	Fanling	Contract 3

# Proposal for the change of air quality monitoring location from AM9a to AM9b was submitted to EPD on 4 Nov 2013 after verified by the IEC and it was approved by EPD (EPD's ref.: (15) in EP 2/N7/A/52 Pt.10 dated 8 Nov 2013).

\* Proposal for the change of air quality monitoring location from AM1to AM1a was submitted to EPD on 24 March 2014 after verified by the IEC. It was approved by EPD (EPD's ref.: (6) in EP 2/N7/A/52 Pt.12 dated 9 Jun 2014).

@ Proposal for the change of air quality monitoring location from AM7a to AM7b was submitted to EPD on 4 June 2014 after verified by the IEC. It was approved by EPD (EPD's ref.: (7) in EP 2/N7/A/52 Pt.12 dated 9 Jun 2014).

^ Proposal for change of air quality monitoring locations was enclosed in the updated EM&A Programme which approval by EPD on 29 Mar 2016.

Station ID	Description	Works Area	Related to the Work Contract
NM1	Tsung Yuen Ha Village House No. 63	ВСР	SS C505 Contract 5 Contract 7
NM2	Village House near Lin Ma Hang Road	Lin Ma Hang to Frontier Closed Area	Contract 5, Contract 6
NM3	Ping Yeung Village House (facade facing northeast)	Ping Yeung to Wo Keng Shan	Contract 6
NM4	Wo Keng Shan Village House	Ping Yeung to Wo Keng Shan	Contract 6
NM5	Village House, Loi Tung	Sha Tau Kok Road	Contract 2, Contract 6
NM6	Tai Tong Wu Village House 2	Sha Tau Kok Road	Contract 2, Contract 6
NM7	Po Kat Tsai Village	Po Kat Tsai	Contract 2
NM8	Village House, Tong Hang	Fanling	Contract 2 Contract 3
NM9	Village House, Kiu Tau Village	Fanling	Contract 3
NM10	Nam Wa Po Village House No. 80	Fanling	Contract 3

 Table 3-3
 Impact Monitoring Stations - Construction Noise

## Table 3-4 Impact Monitoring Stations - Water Quality

Station ID	Description	Coordin Designated / Loca	nates of Alternative ation	Nature of the location	Related to the Work Contract
WM1	Downstream of Kong Yiu Channel	833 679	845 421	Alternative location located at upstream 51m of the designated location	SS C505 Contract 5 Contract 6
WM1-	Upstream of	834 185	845 917	NA	SS C505



Station		Coordi	nates of		Related to
Station	Description	Designated /	Alternative	Nature of the location	the Work
ID		Loca	tion		Contract
Control	Kong Yiu				Contract 5
	Channel				Contract 6
	Downstream			Alternative location located	
WM2A	of River	834 204	844 471	at downstream 81m of the	Contract 6
	Ganges			designated location	
WM2A-	Unstream of			Alternative location located	
Controlx #	River Ganges	835 377	844 188	at upstream 160m of the	Contract 6
Controlix	Tuver Gunges			designated location	
I	Downstream				-
WM2B	of River	835 433	843 397	NA	Contract 6
	Ganges				
WM2B-	Upstream of	005.005	0.42.051	Alternative location located	
Control	River Ganges	835 835	843 351	at downstream 31m of the	Contract 6
	C			designated location	
	Downstream	026 206	0.42.270	Alternative location located	Contract 2
WM3X #	of River Indus	836 206	842 270	at downstream 180m of the	Contract 6
				designated location	
WM3-	Upstream of	926 762	842 400	Alternative location located	Contract 2
Control	<b>River</b> Indus	830 /03	842 400	at downstream 20m of the	Contract 6
	Downstroom			Alternative leastion leasted	
WINAA	of Ma Wat	833 850	828 228	at unstream 11m of the	Contract 2
VV 1V14	Channel	833 830	020 220	designated location	Contract 3
	Channel			Alternative location located	
WM4-	Kau Lung	834 028	837 695	at downstream 28m of the	Contract 2
Control A	Hang Stream	051 020	057 075	designated location	Contract 3
	Unstream of			Alternative location located	
WM4-	Ma Wat	833760	837395	at upstream 15m of the	Contract 2
Control B	Channel			designated location	Contract 3

# Proposal for change of water quality monitoring location from are enclosed in the updated EM&A Programme which approval by EPD on 29 Mar 2016.

## 3.4 MONITORING FREQUENCY AND PERIOD

The requirements of impact monitoring are stipulated in *Sections 2.1.6, 3.1.5* and *4.1.6* of the approved *EM&A Manual* and presented as follows.

# Air Quality Monitoring

- 3.4.1 Frequency of impact air quality monitoring is as follows:
  - 1-hour TSP 3 times every six days during course of works
  - 24-hour TSP Once every 6 days during course of works.

## Noise Monitoring

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

# Water Quality Monitoring

3.4.3 The water quality monitoring frequency shall be 3 days per week during course of works. The interval between two sets of monitoring shall not be less than 36 hours.

## 3.5 MONITORING EQUIPMENT

## Air Quality Monitoring

- 3.5.1 The 24-hour and 1-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the *Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.* If the ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, it shall submit sufficient information to the IEC to approve.
- 3.5.2 The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.
- 3.5.3 All equipment to be used for air quality monitoring is listed in *Table 3-5*.

Equipment Model					
24-Hr TSP					
High Volume Air Sampler	TISCH High Volume Air Sampler, HVS Model TE-5170*				
Calibration Kit	TISCH Model TE-5025A*				
1-Hour TSP					
Portable Dust Mater	Sibata LD-3B Laser Dust monitor Particle Mass Profiler &				
I OITADIC DUST METER	Counter*				

## Table 3-5 Air Quality Monitoring Equipment

\* Instrument was used in the Reporting Period and the calibration certificate could be referred in Appendix F.

# Wind Data Monitoring Equipment

- 3.5.4 According to the approved EM&A Manual, wind data monitoring equipment shall also be provided and set up for logging wind speed and wind direction near the dust monitoring locations. The equipment installation location shall be proposed by the ET and agreed with the IEC. For installation and operation of wind data monitoring equipment, the following points shall be observed:
  - 1) The wind sensors should be installed 10 m above ground so that they are clear of obstructions or turbulence caused by buildings.
  - 2) The wind data should be captured by a data logger. The data shall be downloaded for analysis at least once a month.
  - 3) The wind data monitoring equipment should be re-calibrated at least once every six months.
  - 4) Wind direction should be divided into 16 sectors of 22.5 degrees each.
- 3.5.5 ET has liaised with the landlords of the successful granted HVS installation premises. However, the owners rejected to provide premises for wind data monitoring equipment installation.
- 3.5.6 Under this situation, the ET proposed alternative methods to obtain representative wind data. Meteorological information as extracted from "the Hong Kong Observatory Ta Kwu Ling Station" is alternative method to obtain representative wind data. For Ta Kwu Ling Station, it is located nearby the Project site. Moreover, this station is located at 15m above mean sea level while its anemometer is located at 13m above the existing ground which in compliance with the general setting up requirement. Furthermore, this station also can be to provide the humidity, rainfall, and air pressure and temperature etc. meteorological information. In Hong Kong of a lot development projects, weather information extracted from Hong Kong Observatory is common alternative method if weather station installation not allowed.

## Noise Monitoring

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

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speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

#### 3.5.8 Noise monitoring equipment to be used for monitoring is listed in *Table 3-6*.

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Table 3-6	Construction Noise Monitoring Equipment
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Equipment	Model
Integrating Sound Level Meter	B&K Type 2238* or Rion NL-31 or Rion NL-52*
Calibrator	B&K Type 4231* or Cesva CB-5* or Rion NC-74*
Portable Wind Speed Indicator	Testo Anemometer

\* Instrument was used in the Reporting Period and the calibration certificate could be referred in Appendix F.

3.5.9 Sound level meters listed above comply with the *International Electrotechnical Commission Publications 651: 1979 (Type 1)* and *804: 1985 (Type 1)* specifications, as recommended in TM issued under the NCO. The acoustic calibrator and sound level meter to be used in the impact monitoring will be calibrated yearly.

## Water Quality Monitoring

- 3.5.10 DO and water temperature should be measured in-situ by a DO/temperature meter. The instrument should be portable and weatherproof using a DC power source. It should have a membrane electrode with automatic temperature compensation complete with a cable. The equipment should be capable of measuring:
  - a DO level in the range of 0-20 mg/l and 0-200% saturation; and
  - a temperature of between 0 and 45 degree Celsius.
- 3.5.11 A portable pH meter capable of measuring a range between 0.0 and 14.0 should be provided to measure pH under the specified conditions accordingly to the APHA Standard Methods.
- 3.5.12 The instrument should be portable and weatherproof using a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0-1000 NTU.
- 3.5.13 A portable, battery-operated echo sounder or tape measure will be used for the determination of water depth at each designated monitoring station as appropriate.
- 3.5.14 A water sampler e.g. Kahlsico Water Sampler, which is a transparent PVC cylinder with capacity not less than 2 litres, will be used for water sampling if water depth over than 0.5m. For sampling from very shallow water depths e.g. <0.5 m, water sample collection will be directly from water surface below 100mm use sampling plastic bottle to avoid inclusion of bottom sediment or humus. Moreover, Teflon/stainless steel bailer or self-made sampling buckets maybe used for water sampling. The equipment used for sampling will be depended the sampling location and depth situations.
- 3.5.15 Water samples for laboratory measurement of SS will be collected in high density polythene bottles, packed in ice (cooled to 4 °C without being frozen), and delivered to the laboratory in the same day as the samples were collected.
- 3.5.16 Analysis of suspended solids should be carried out in a HOKLAS or other accredited laboratory. Water samples of about 1L should be collected at the monitoring stations for carrying out the laboratory suspended solids determination. The SS determination work should start within 24 hours after collection of the water samples. The SS analyses should follow the *APHA Standard Methods 2540D* with Limit of Reporting of 2 mg/L.
- 3.5.17 Water quality monitoring equipment used in the impact monitoring is listed in *Table 3-7*. Suspended solids (SS) analysis is carried out by a local HOKLAS-accredited laboratory, namely *ALS Technichem (HK) Pty Ltd*.

Table 3-7	Water Quality Monitorin	g Equipment
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Equipment	Model		
Water Depth Detector	Eagle Sonar or tape measures		
Water Sampler	A 2-litre transparent PVC cylinder with latex cups at both ends or teflon/stainless steel bailer or self-made sampling bucket		
Thermometer & DO meter	YSI Professional Plus /YSI PRO20 Handheld Dissolved Oxygen Instrument* / YSI 550A Multifunctional Meter/ YSI Professional DSS*		
pH meter	YSI Professional Plus / AZ8685 pH pen-style meter*/ YSI 6820/ 650MDS/ YSI Professional DSS*		
Turbidimeter	Hach 2100Q*/ YSI 6820/ 650MDS/ YSI Professional DSS*		
Sample Container	High density polythene bottles (provided by laboratory)		
Storage Container	'Willow' 33-liter plastic cool box with Ice pad		

\* Instrument was used in the Reporting Period and the calibration certificate could be referred in Appendix F.

## **3.6** MONITORING METHODOLOGY

## **1-hour TSP Monitoring**

- 3.6.1 The 1-hour TSP monitor was a brand named "Sibata LD-3B Laser Dust monitor Particle Mass Profiler & Counter" which is a portable, battery-operated laser photometer. The 1-hour TSP meter provides a real time 1-hour TSP measurement based on 90° light scattering. The 1-hour TSP monitor consists of the following:
  - (a.) A pump to draw sample aerosol through the optic chamber where TSP is measured;
  - (b.) A sheath air system to isolate the aerosol in the chamber to keep the optics clean for maximum reliability; and
  - (c.) A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.
- 3.6.2 The 1-hour TSP meter is used within the valid period as follow manufacturer's Operation and Service Manual.

# 24-hour TSP Monitoring

- 3.6.3 The equipment used for 24-hour TSP measurement is Tisch Environmental, Inc. Model TE-5170 TSP high volume air sampling system, which complied with *EPA Code of Federal Regulation*, *Appendix B to Part 50*. The High Volume Air Sampler (HVS) consists of the following:
  - (a.) An anodized aluminum shelter;
  - (b.) A 8"x10" stainless steel filter holder;
  - (c.) A blower motor assembly;
  - (d.) A continuous flow/pressure recorder;
  - (e.) A motor speed-voltage control/elapsed time indicator;
  - (f.) A 7-day mechanical timer, and
  - (g.) A power supply of 220v/50 Hz
- 3.6.4 The HVS is operated and calibrated on a regular basis in accordance with the manufacturer's instruction using Tisch Calibration Kit Model TE-5025A. Calibration would carry out in two month interval.
- 3.6.5 24-hour TSP is collected by the ET on filters of HVS and quantified by a local HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (ALS), upon receipt of the samples. The ET keep all the sampled 24-hour TSP filters in normal air conditioned room conditions, i.e. 70% RH (Relative Humidity) and 25°C, for six months prior to disposal.

## **Noise Monitoring**

3.6.6 Noise measurements were taken in terms of the A-weighted equivalent sound pressure level  $(L_{eq})$ 

measured in decibels dB(A). Supplementary statistical results ( $L_{10}$  and  $L_{90}$ ) were also obtained for reference.

- 3.6.7 During the monitoring, all noise measurements would be performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ). Leq<sub>(30min)</sub> in six consecutive Leq<sub>(5min)</sub> measurements will use as the monitoring parameter for the time period between 0700-1900 hours on weekdays; and also Leq<sub>(15min)</sub> in three consecutive Leq<sub>(5min)</sub> measurements would be used as monitoring parameter for other time periods (e.g. during restricted hours), if necessary.
- 3.6.8 Prior of noise measurement, the accuracy of the sound level meter is checked using an acoustic calibrator generating a known sound pressure level at a known frequency. The checking is performed before and after the noise measurement.

## Water Quality

3.6.9 Water quality monitoring is conducted at the designated locations. The sampling procedures with the in-situ monitoring are presented as below:

## Sampling Procedure

- 3.6.10 A Digital Global Positioning System (GPS) is used to identify the designated monitoring stations prior to water sampling. A portable, battery-operated echo sounder or tape measurement is used for the determination of water depth at each station. At each station, water sample would be collected from 0.1m below water surface or the water surface to prevent the river bed sediment for stirring.
- 3.6.11 The sample container will be rinsed with a portion of the water sample. The water sample then will be transferred to the high-density polythene bottles as provided by the laboratory, labeled with a unique sample number and sealed with a screw cap.
- 3.6.12 Before sampling, general information such as the date and time of sampling, weather condition as well as the personnel responsible for the monitoring would be recorded on the field data sheet.
- 3.6.13 A 'Willow' 33-liter plastic cool box packed with ice will be used to preserve the water samples prior to arrival at the laboratory for chemical determination. The water temperature of the cool box is maintained at a temperature as close to 4<sup>o</sup>C as possible without being frozen. Samples collected are delivered to the laboratory upon collection.

## <u>In-situ Measurement</u>

- 3.6.14 YSI PRO20 Handheld Dissolved Oxygen Instrument or YSI Professional DSS is used for water in-situ measures, which automates the measurements and data logging of temperature, dissolved oxygen and dissolved oxygen saturation.
- 3.6.15 A portable AZ Model 8685 pH pen-style meter or YSI Professional DSS is used for in-situ pH measurement. The pH meter is capable of measuring pH in the range of 0 14 and readable to 0.1.
- 3.6.16 A portable Hach 2100Q Turbidimeter or YSI Professional DSS is used for in-situ turbidity measurement. The turbidity meter is capable of measuring turbidity in the range of 0 1000 NTU.
- 3.6.17 All in-situ measurement equipment are calibrated by HOKLAS accredited laboratory of three month interval.

## Lboratory Analysis

3.6.18 All water samples analyzed Suspended Solids (SS) will be carried out by a local

HOKLAS-accredited testing laboratory (ALS Technichem (HK) Pty Ltd HOKLAS registration no. 66). SS determination using *APHA Standard Methods 2540D* as specified in the *EM&A Manual* will start within 48 hours of water sample receipt.

## 3.7 EQUIPMENT CALIBRATION

- 3.7.1 Calibration of the HVS is performed upon installation and thereafter at bimonthly intervals in accordance with the manufacturer's instruction using the certified standard calibrator (TISCH Model TE-5025A). Moreover, the Calibration Kit would be calibrated annually. The calibration data are properly documented and the records are maintained by ET for future reference.
- 3.7.2 The 1-hour TSP meter was calibrated by the supplier prior to purchase. Zero response of the equipment would be checked before and after each monitoring event. Annually calibration with the High Volume Sampler (HVS) in same condition would be undertaken by the Laboratory.
- 3.7.3 The sound level meter and calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis.
- 3.7.4 All water quality monitoring equipment would be calibrated by HOKLAS accredited laboratory of three month intervals.
- 3.7.5 The calibration certificates of all monitoring equipment used for the impact monitoring program in the Reporting Period and the HOKLAS accredited certificate of laboratory are attached in *Appendix F*.

## 3.8 DERIVATION OF ACTION/LIMIT (A/L) LEVELS

3.8.1 The baseline results form the basis for determining the environmental acceptance criteria for the impact monitoring. According to the approved Environmental Monitoring and Audit Manual, the air quality, construction noise and water quality criteria were set up, namely Action and Limit levels are listed in *Tables 3-8, 3-9* and *3-10*.

Monitoring Station	Action 1	Level (µg /m <sup>3</sup> )	Limit Level (µg/m <sup>3</sup> )		
Monitoring Station	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP	
AM1b	265	143			
AM2	268	149			
AM3	269	145			
AM4b	267	148		260	
AM5a	268	143	500		
AM6	269	148			
AM7b	275	156			
AM8	269	144	]		
AM9b	271	151			

Table 3-8Action and Limit Levels for Air Quality Monitoring

 Table 3-9
 Action and Limit Levels for Construction Noise

Monitoring Location	Action Level	Limit Level in dB(A)	
	Time Period: 0700-1900 hours on normal weekdays		
NM1, NM2, NM3, NM4, NM5, NM6, NM7, NM8, NM9, NM10	When one or more documented complaints are received	75 dB(A) <sup>Note 1 &amp; Note 2</sup>	

*Note 1: Acceptable Noise Levels for school should be reduced to 70 dB(A) and65 dB(A) during examination period* 

*Note 2: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the NCA have to be followed.* 

#### Table 3-10Action and Limit Levels for Water Quality

Parameter	Performance	Monitoring Location

#### Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Control Point and Associated Works Monthly Environmental Monitoring & Audit Report (No.32) – March 2016



	criteria	WM1	WM2A	WM2B	WM3	WM4
DO	Action Level	(*)4.23	<sup>(**)</sup> 4.00	<sup>(*)</sup> 4.74	<sup>(**)</sup> 4.00	<sup>(*)</sup> 4.14
(mg/L)	Limit Level	<sup>(#)</sup> 4.19	<sup>(**)</sup> 4.00	<sup>(#)</sup> 4.60	<sup>(**)</sup> 4.00	<sup>(#)</sup> 4.08
	A stion I aval	51.3	24.9	11.4	13.4	35.2
Turbidity	Action Level	AND	120% of ups	tream control s	tation of the sa	ame day
(NTU)	Limit Level	67.6	33.8	12.3	14.0	38.4
		AND	130% of upstream control station of the same day			
	Astion Laval	54.5	14.6	11.8	12.6	39.4
SS (mg/L) =	Action Level	AND	120% of upstream control station of the same day			
	Limit Level	64.9	17.3	12.4	12.9	45.5
		AND	130% of ups	tream control s	tation of the s	ame day

Remarks:

(\*) The Proposed <u>Action Level</u> of Dissolved Oxygen is adopted to be used 5%-ile of baseline data

(\*\*) The Proposed Action & Limit Level of Dissolved Oxygen is used 4mg/L

(#) The Proposed Limit Level of Dissolved Oxygen is adopted to be used 1%-ile of baseline data

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

## 3.9 DATA MANAGEMENT AND DATA QA/QC CONTROL

- 3.9.1 All monitoring data will be handled by the ET's in-house data recording and management system. The monitoring data recorded in the equipment will be downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data will input into a computerized database maintained by the ET. The laboratory results will be input directly into the computerized database and checked by personnel other than those who input the data.
- 3.9.2 For monitoring parameters that require laboratory analysis, the local laboratory shall follow the QA/QC requirements as set out under the HOKLAS scheme for the relevant laboratory tests.

# 4 AIR QUALITY MONITORING

## 4.1 GENERAL

- 4.1.1 In the Reporting Period, construction works under the project have been commenced in Contracts 2, 3, 5, 6, 7 and Contract SS C505 and air quality monitoring was performed at all designated locations.
- 4.1.2 The air quality monitoring schedule is presented in *Appendix H* and the monitoring results are summarized in the following sub-sections.

## 4.2 AIR QUALITY MONITORING RESULTS IN REPORTING MONTH

4.2.1 In the Reporting Period, a total of *156* events of 1-hour TSP and *50* events 24-hours TSP monitoring were carried out and the monitoring results are summarized in *Tables 4-1 to 4-9*. The detailed 24-hour TSP monitoring data are presented in *Appendix I* and the relevant graphical plots are shown in *Appendix J*.

24-hour 1-hour TSP ( $\mu g/m^3$ ) TSP Date Start 1<sup>st</sup> reading 2<sup>nd</sup> reading 3<sup>rd</sup> reading Date  $(\mu g/m^3)$ Time 5-Mar-16 105 1-Mar-16 11:42 207 168 156 11-Mar-16 32 7-Mar-16 12:05 180 113 88 17-Mar-16 17 12-Mar-16 10:01 24 22 26 27 76 23-Mar-16 18-Mar-16 9:30 69 67 29-Mar-16 24-Mar-16 61 13:01 49 43 40 30-Mar-16 13:40 71 65 62 85 48 Average Average (Range) (17 - 105)(Range) (22 - 207)

Table 4-1Summary of 24-hour and 1-hour TSP Monitoring Results – AM1b

Table 4-2	Summary of 24-hour and 1-hour TSP Monitoring Results – AM2
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	24-hour	1-hour TSP (µg/m <sup>3</sup> )				
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> reading	2 <sup>nd</sup> reading	3 <sup>rd</sup> reading
5-Mar-16	87	1-Mar-16	11:22	220	179	169
11-Mar-16	90	7-Mar-16	12:21	175	91	67
17-Mar-16	38	12-Mar-16	10:11	28	27	32
23-Mar-16	51	18-Mar-16	9:39	71	65	62
29-Mar-16	94	24-Mar-16	13:05	62	65	60
		30-Mar-16	13:27	79	82	78
Average	72	Avera	ge		90	
(Range)	(38 – 94)	(Range)			(27 - 220)	

Table 4-3	Summary of 24-hour and 1-hour TSP Monitoring Results – AM3
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	24-hour	1-hour TSP (µg/m <sup>3</sup> )				
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> reading	2 <sup>nd</sup> reading	3 <sup>rd</sup> reading
5-Mar-16	74	1-Mar-16	11:03	236	222	192
11-Mar-16	99	7-Mar-16	11:40	155	113	85
17-Mar-16	28	12-Mar-16	10:15	64	43	43
23-Mar-16	31	18-Mar-16	9:45	67	60	58
29-Mar-16	112	24-Mar-16	13:11	44	41	38
		30-Mar-16	13:13	60	56	53
Average	69	Avera	ıge		91	
(Range)	(31 – 112)	(Rang	ge)		(38 – 236)	

<b>T</b> 11 <b>4 4</b>	
Table 4-4	Summary of 24-hour and 1-hour TSP Monitoring Results – AM4b

	24-hour	1-hour TSP (µg/m <sup>3</sup> )				
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> reading	2 <sup>nd</sup> reading	3 <sup>rd</sup> reading
3-Mar-16	69	4-Mar-16	10:01	84	74	62
9-Mar-16	34	10-Mar-16	13:00	15	14	17
15-Mar-16	71	16-Mar-16	9:31	95	88	67
19-Mar-16	59	21-Mar-16	9:58	47	41	38
24-Mar-16	27	23-Mar-16	9:31	56	49	47
30-Mar-16	115	29-Mar-16	9:41	60	54	51
Average	63	Average		53		
(Range)	(27 – 115)	(Rang	ge)	(14 – 95)		

Table 4-5	Summary of 24-hour and 1-hour TSP Monitoring Results – AM5a
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	24-hour	1-hour TSP (µg/m <sup>3</sup> )				
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> reading	2 <sup>nd</sup> reading	3 <sup>rd</sup> reading
3-Mar-16	64	4-Mar-16	10:11	79	69	62
9-Mar-16	35	10-Mar-16	13:05	10	7	22
15-Mar-16	59	16-Mar-16	9:44	69	53	57
19-Mar-16	46	21-Mar-16	10:04	60	54	51
24-Mar-16	30	23-Mar-16	9:37	73	76	71
30-Mar-16	82	29-Mar-16	9:37	68	71	67
Average	52	Average		57		
(Range)	(30 - 82)	(Rang	ge)	(7 – 79)		

Table 4-6	Summary of 24-hour and 1-hour	<b>TSP Monitoring Results – AM6</b>
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	24-hour	1-hour TSP (μg/m³)				
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> reading	2 <sup>nd</sup> reading	3 <sup>rd</sup> reading
3-Mar-16	117	4-Mar-16	11:01	71	61	53
9-Mar-16	51	10-Mar-16	13:14	14	9	13
15-Mar-16	123	16-Mar-16	9:22	66	59	48
19-Mar-16	86	21-Mar-16	10:14	43	36	34
24-Mar-16	29	23-Mar-16	9:49	53	49	47
30-Mar-16	127	29-Mar-16	9:33	53	49	47
Average	88	Average		45		
(Range)	(29 – 127)	(Rang	ge)	(9 – 71)		

Table 4-7	Summary of 24-hour and 1-hour TSP Monitoring Results – AM7b
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	24-hour	1-hour TSP (µg/m <sup>3</sup> )				
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> reading	2 <sup>nd</sup> reading	3 <sup>rd</sup> reading
4-Mar-16	41	5-Mar-16	9:26	95	57	52
10-Mar-16	22	11-Mar-16	9:09	89	67	79
16-Mar-16	57	17-Mar-16	10:04	38	32	29
22-Mar-16	30	23-Mar-16	14:09	60	54	51
24-Mar-16	28	29-Mar-16	13:01	65	58	56
30-Mar-16	130					
Average	51	Average		59		
(Range)	(22 –130)	(Rang	ge)	(29 – 95)		



Table 4-8	Summary of	f 24-hour and 1-hour TSP Monitoring Results – AM8
	041	$1 \qquad \qquad$

	24-hour	r 1-hour TSP (µg/m <sup>3</sup> )				
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> reading	2 <sup>nd</sup> reading	3 <sup>rd</sup> reading
4-Mar-16	28	5-Mar-16	10:14	75	66	60
10-Mar-16	34	11-Mar-16	13:01	81	60	77
16-Mar-16	19	17-Mar-16	10:05	43	36	34
22-Mar-16	22	23-Mar-16	14:21	68	71	67
24-Mar-16	19	29-Mar-16	13:17	73	76	71
30-Mar-16	70					
Average (Range)	32 (19 - 70)	Average (Range)		64 (34 - 81)		

Table 4-9Summary of 24-hour and 1-hour TSP Monitoring Results – AM9b

	24-hour	1-hour TSP (µg/m <sup>3</sup> )				
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> reading	2 <sup>nd</sup> reading	3 <sup>rd</sup> reading
5-Mar-16	35	1-Mar-16	11:03	125	115	116
11-Mar-16	25	7-Mar-16	9:14	115	114	122
17-Mar-16	23	12-Mar-16	9:11	64	54	44
23-Mar-16	38	18-Mar-16	9:23	181	141	145
29-Mar-16	65	24-Mar-16	13:09	74	64	69
		30-Mar-16	9:31	69	63	60
Average	37	Average		96		
(Range)	(23 – 65)	(Rang	ge)	(44 – 181)		

- 4.2.2 As shown in *Tables 4-1 to 4-9*, all the 1-hour TSP and 24-hour TSP monitoring results were below the Action/Limit Levels. No Notification of Exceedance (NOE) was issued in this Reporting Period.
- 4.2.3 The meteorological data during the impact monitoring days are summarized in *Appendix K*.



## 5 CONSTRUCTION NOISE MONITORING

#### 5.1 GENERAL

- 5.1.1 In the Reporting Period, construction works under the project have been commenced in Contracts 2, 3, 5, 6, 7 and Contract SS C505 and noise monitoring was performed at all designated locations.
- 5.1.2 The noise monitoring schedule is presented in *Appendix H* and the monitoring results are summarized in the following sub-sections.

## 5.2 NOISE MONITORING RESULTS IN REPORTING MONTH

5.2.1 In the Reporting Period, a total of **55** event noise measurements were carried out at the designated locations. The sound level meter was set in 1m from the exterior of the building façade including noise monitoring locations NM1, NM2, NM3, NM4, NM5, NM6, NM7, NM8 and NM9. Therefore, no façade correction (+3 dB(A)) is added according to acoustical principles and EPD guidelines. However, free-field status was performed at NM10 and façade correction (+3 dB(A)) has added according to the requirement in this month. The noise monitoring results at the designated locations are summarized in *Tables 5-1 and 5-2*. The detailed noise monitoring data are presented in *Appendix I* and the relevant graphical plots are shown in *Appendix J*.

Table 5-1	Summary of	Construction	Noise Monitor	ring Results
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Construction Noise Level (L <sub>eq30min</sub> ), dB(A)						
Date	NM1	NM2	NM8	NM9	NM10 <sup>(*)</sup>	
1-Mar-16	55	61	63	61	60	
7-Mar-16	55	68	54	60	61	
12-Mar-16	64	62	56	60	63	
18-Mar-16	66	64	56	61	67	
24-Mar-16	54	56	60	56	62	
30-Mar-16	64	60	63	63	61	
Limit Level	75 dB(A)					

Remarks

<sup>(\*)</sup> façade correction  $(+3 \ dB(A)$  is added according to acoustical principles and EPD guidelines

*i* bold and underlined indicated Limit Level exceedance.

Table 5-2	Summary of	Construction	Noise I	Monitoring	Results
				· · · · · · · · · · · · · · · · · · ·	

	С	onstruction Nois	se Level (L <sub>eg30min</sub> )	, <b>dB</b> (A)	
Date	NM3	NM4	NM5	NM6	NM7
5-Mar-16	58	64	52	53	60
10-Mar-16	61	64	62	59	65
16-Mar-16	63	57	51	60	59
21-Mar-16	62	63	53	61	59
29-Mar-16	61	61	51	61	63
Limit Level			75 dB(A)		

5.2.2 As shown in *Tables 5-1 and 5-2*, the noise level measured at all designated monitoring locations were below 75dB(A). Furthermore, there was no noise complaints (Action Level exceedance) received by the RE, CEDD, Architect/AR/ and the Contractors in the Reporting Period. Therefore, no Action or Limit Level exceedance was triggered and no corrective action was required.



# 6 WATER QUALITY MONITORING

#### 6.1 GENERAL

6.1.1 In the Reporting Period, construction works under the project has been commenced in Contracts 2, 3, 5, 6, 7 and Contract SS C505 and water quality monitoring was performed at all designated locations. The water quality monitoring schedule is presented in *Appendix H*. The monitoring results are summarized in the following sub-sections.

### 6.2 **RESULTS OF WATER QUALITY MONITORING**

- 6.2.1 In the Reporting Period, a total of twelve (12) sampling days was scheduled to carry out for all designated locations with their control stations, except for thirteen (13) sampling days for WM4 and its control station. Since water quality exceedances were recorded, one (1) additional day water quality monitoring were conducted at WM2A, WM3 and WM4 and three (3) and nine (9) additional day water quality monitoring were conducted at WM1 and WM2B respectively and their control stations in accordance with "*Event and Action Plan*".
- 6.2.2 The key monitoring parameters including Dissolved Oxygen, Turbidity and Suspended Solids are summarized in *Tables 6-1 to 6-5*. Breaches of water quality monitoring criteria are shown in *Table 6-6*. Detailed monitoring database including in-situ measurements and laboratory analysis data are shown in *Appendix I* and the relevant graphical plot are shown in *Appendix J*.

Date	Dissolved Oxygen (mg/L)		Turbidity (NTU)			Suspended Solids (mg/L)			
	WM4	WM4-CA	WM4-CB	WM4	WM4-CA	WM4-CB	WM4	WM4-CA	WM4-CB
2-Mar-16	5.6	6.6	5.1	29.1	90.5	13.1	24.5	33.5	9.0
4-Mar-16	7.7	8.6	7.1	26.8	14.9	15.1	18.5	5.0	13.5
7-Mar-16	5.1	6.3	4.2	20.5	11.2	33.3	26.5	8.5	42.0
9-Mar-16	4.8	4.9	4.1	20.7	11.5	45.2	19.5	9.0	33.0
11-Mar-16	9.7	10.4	7.5	27.8	28.4	22.0	18.5	11.5	20.0
14-Mar-16	8.3	9.5	6.5	21.8	14.6	20.6	17.0	6.5	29.0
16-Mar-16	7.4	9.4	6.0	34.7	over range	37.6	29.0	50.5	51.0
18-Mar-16	7.1	7.8	5.8	23.2	29.0	29.9	21.5	14.5	25.5
21-Mar-16	7.6	8.6	7.3	<u>89.1</u>	25.7	49.1	70.5	20.5	35.5
22-Mar-16#				35.1	20.4	30.5	20.0	9.0	18.0
23-Mar-16	7.4	8.3	5.9	33.1	18.6	28.6	24.0	7.5	26.0
25-Mar-16	9.4	8.2	8.5	16.5	8.2	16.8	12.0	3.5	15.5
29-Mar-16	8.3	8.9	7.1	39.0	127.0	44.7	29.0	86.5	25.0
31-Mar-16	7.9	9.3	6.8	15.7	6.8	19.3	28.0	7.5	42.5

 Table 6-1
 Water Quality Monitoring Results Associated of Contracts 2 and 3

*Remarks:* (i) bold with underline indicated Limit Level exceedance # Additional water quality monitoring at the exceeded location(s) due to two consecutive monitoring days indicated Limit Level exceedance.

Table 6-2         Water Quality Monitoring Results Associated of Contracts 5, 6 and SS
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Data	Dissolved Oxygen (mg/L)		Turt (N	oidity ΓU)	Suspended Solids (mg/L)			
Date	WM1	WM1- Control	WM1	WM1- Control	WM1	WM1- Control		
2-Mar-16	8.6	10.2	31.1	11.6	37.5	4.5		
4-Mar-16	8.0	9.4	<u>146.0</u>	9.1	<u>185.5</u>	2.5		
5-Mar-16#			31.2	11.2	23.0	5.0		
7-Mar-16	4.9	7.4	38.1	11.6	25.5	9.0		
9-Mar-16	5.2	6.7	82.7	23.0	51.0	11.0		
10-Mar-16#			352.0	47.2	<u>196.0</u>	35.0		
11-Mar-16	8.6	9.2	28.0	8.1	6.5	42.5		
12-Mar-16#			28.1	10.3	26.0	5.0		
14-Mar-16	7.8	9.2	47.4	41.1	27.5	23.5		



Data	Dissolved Oxygen (mg/L)		Turb (N7	idity TU)	Suspended Solids (mg/L)		
Date	WM1	WM1- Control	WM1	WM1- Control	WM1	WM1- Control	
16-Mar-16	8.2	8.4	38.8	13.1	42.0	9.0	
18-Mar-16	6.9	7.3	30.0	12.3	17.0	6.5	
21-Mar-16	8.0	8.2	367.0	389.0	206.0	193.5	
23-Mar-16	8.0	7.7	47.5	33.4	37.5	23.0	
29-Mar-16	9.0	8.9	94.0	92.6	71.5	97.0	
31-Mar-16	8.2	8.8	25.9	10.6	29.5	7.0	

*Remarks:* (ii) bold with underline indicated Limit Level exceedance

<sup>#</sup> Additional water quality monitoring at the exceeded location(s) due to two consecutive monitoring days indicated Limit Level exceedance.

Table 6-3Water Quality Monitoring Results Associated only Contract 6

	D	Dissolved Oxygen				Turbidity			Suspended Solids			
Date		(mg	g/L)			(N7	ſU)			(mg	g/L)	
Duit	WM2A	WM2A- C	WM2B	WM2B- C	WM2A	WM2A- C	WM2B	WM2B- C	WM2A	WM2A- C	WM2B	WM2B- C
2-Mar-16	9.7	8.6	7.8	6.4	9.8	9.4	over range	3.5	5.5	<2	<u>1355.0</u>	2.0
3-Mar-16#							20.7	3.9			21.0	3.0
4-Mar-16	9.0	8.0	8.1	7.5	4.9	21.8	24.1	9.5	2.0	12.0	10.5	<2
5-Mar-16#							40.2	2.6			10.0	<2
7-Mar-16	6.3	6.2	6.3	6.3	13.4	7.8	7.7	4.0	5.5	5.0	6.5	<2
8-Mar-16#							221.5	4.0			<u>138.0</u>	4.0
9-Mar-16	6.3	5.7	6.3	6.0	14.5	30.3	14.9	5.0	10.0	15.0	12.0	5.5
10-Mar-16#							27.3	5.2			16.0	6.0
11-Mar-16	9.4	8.8	10.0	8.4	198.5	16.1	87.6	5.1	164.5	7.0	70.0	2.0
12-Mar-16#					12.8	10.4	10.6	9.4	11.0	6.0	6.0	12.0
14-Mar-16	10.1	8.4	9.9	8.7	13.0	19.2	45.1	15.7	2.5	6.0	69.0	<2
15-Mar-16#							19.0	5.6			10.0	<2
16-Mar-16	8.4	8.4	9.6	7.6	14.9	8.6	108.0	5.9	12.5	<2	48.5	3.0
17-Mar-16#							9.1	7.8			9.0	9.0
18-Mar-16	8.6	7.8	8.3	7.3	23.6	19.7	9.4	6.3	11.5	9.5	4.0	3.5
21-Mar-16	8.6	8.3	9.4	8.1	23.6	41.6	284.0	6.7	9.5	18.0	179.0	5.0
22-Mar-16#							<u>50.0</u>	6.3			52.0	3.0
23-Mar-16	7.8	7.8	8.4	8.0	29.7	27.3	452.0	49.8	10.5	5.0	301.5	35.5
24-Mar-16#							124.0	20.8			<u>160.0</u>	9.0
29-Mar-16	9.5	8.8	9.1	7.6	11.8	8.4	11.2	6.0	4.5	2.0	5.0	<2
31-Mar-16	9.3	8.3	9.0	7.7	8.9	5.1	9.2	3.2	5.0	2.0	10.5	<2

*Remarks:* (iii) bold with underline indicated Limit Level exceedance *Additional water quality monitoring at the exceeded location(s) due to two* consecutive *monitoring days indicated Limit Level exceedance.* 

Table 6-4Water Quality Monitoring Results Associated Contracts 2 and 6

Data	Dissolved Oxygen (mg/L)		Turi (N	bidity TU)	Suspended Solids (mg/L)		
Date	WM3	WM3- Control	WM3	WM3- Control	WM3	WM3- Control	
2-Mar-16	7.2	6.9	12.0	8.3	12.5	6.5	
4-Mar-16	9.3	10.0	16.8	19.0	11.0	11.5	
7-Mar-16	6.6	5.6	7.4	12.8	11.5	21.0	
9-Mar-16	5.2	4.7	13.1	11.8	15.5	16.5	
11-Mar-16	8.7	10.3	16.8	16.2	25.5	26.5	
14-Mar-16	8.8	8.3	19.5	40.1	13.5	51.5	
16-Mar-16	8.2	8.8	13.2	36.1	15.5	13.0	
18-Mar-16	7.6	8.1	13.2	6.5	12.0	8.0	
21_Mar_16	7.6	88	32.0	28.9	21.0	41.5	



Data	Dissolved Oxygen (mg/L)		Turk (N	oidity ΓU)	Suspended Solids (mg/L)	
Date	WM3	WM3- Control	WM3	WM3- Control	WM3	WM3- Control
23-Mar-16	8.0	7.9	38.5	34.7	25.5	47.0
29-Mar-16	8.0	8.3	72.1	4.9	<u>109.0</u>	7.0
30-Mar-16#			121.5	5.2	54.5	6.5
31-Mar-16	8.4	8.2	35.3	2.6	16.0	14.0

*Remarks:* (iv) bold with underline indicated Limit Level exceedance

<sup>#</sup> Additional water quality monitoring at the exceeded location(s) due to two consecutive monitoring days indicated Limit Level exceedance.

Table 6-5	Breaches of Wa	er Quality Monit	oring Criteria	in Reporting Period
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Location	Dissolved Oxygen		Turbidity		Suspended Solids		Total Exceedance	
	Action	Limit	Action	Limit	Action	Limit	Action	Limit
WM1	0	0	0	3	0	2	0	5
WM2A	0	0	0	1	0	1	0	2
WM2B	0	0	0	15	1	11	1	26
WM3	0	0	0	3	0	3	0	6
WM4	0	0	0	1	0	1	0	2
No of Exceedance	0	0	0	23	1	18	1	41

- 6.2.3 In this Reporting Period, a total of forty-two (42) Action/ Limit Levels (AL/LL) exceedances, namely twenty-three (23) LL exceedances of turbidity and nineteen (19) AL/LL exceedances of Suspended Solids were recorded for the Project and they are summarized in *Table 6-5*.
- 6.2.4 NOE was issued to relevant parties upon confirmation of the monitoring result. The cause of exceedance is summarized in *Table 6-6* accordance to investigation findings and the detailed investigation reports for the exceedances are attached in *Appendix N*.

 Table 6-6
 Summary of Water Quality Exceedance in the Reporting Period

Date of Exceedance	Location	Exceeded Parameter	Cause of Water Quality Exceedance
2 & 3 Mar 2016	WM2B (C6)	NTU & SS	A pipe carrying wastewater from bored piling to the nearest AquaSed was burst on 2 March 2016 and the untreated wastewater were getting into the open channel accidently. CCKJV has immediate halted the bored piling work until the damaged pipe was replaced. The exceedances were related to the pipe burst accident and unlikely related to the works under Contract 6.
4 Mar 2016	WM2B (C6)	NTU	The exceedances were due to the shallow water and the disturbance of sediment at river bed and unlikely related to the works under Contract 6.
5 Mar 2016	WM2B (C6)	NTU	Channel clearing was carried out on 5, 8, 9 and 10 March 2016 to remove the silt cumulated at the channel bed. The exceedances were due to insufficient mitigation measures during channel clearing. CCKJV
8, 9 & 10 Mar 2016	WM2B (C6)	NTU & SS	should ensure the turbid water at the adjacent open channel was entirely blocked by the sand bag barrier or other means to prevent it flowing further downstream before carry out the channel cleaning.
4, 9 & 10 Mar 2016	WM1 (C5, C6 and SS	NTU & SS	• C5 - There were no wastewater generation activities carried out on 4, 9 & 10 Mar 2016 and no discharge made into the river course. The exceedances were


	C505)		<ul> <li>unlikely due to the Contract 5.</li> <li>C6 - Turbid water was observed at upstream of the site area of Contract 6, the exceedances were unlikely due to the Contract 6.</li> <li>SS C505 - The discharge point connecting public drainage under SS C505 would not flow to WM1 and its upstream, the exceedances were unlikely due to the SS C505.</li> </ul>
11 Mar 2016	WM2A (C6)	NTU & SS	The condition of the water quality besides of Ping Yuen River of Bridge D under C6 on 1 Mar 2016 was normal and no turbid water was observed. There were no trails of turbid water discharge from the construction site, it is considered that exceedances were unlikely due to Contract 6.
11 Mar 2016	WM2B (C6)	NTU & SS	The water recirculation pump was detached from the water pipe accidentally and causing overflow of turbid water through the bar screen to downstream. The Contractor immediately fixed the detached recirculation pump and water pipe and the function of the recirculation pump was back to normal in the afternoon. It is concluded that the exceedances were a single incident.
14, 15 & 16 Mar 2016	WM2B (C6)	NTU & SS	The exceedances were due to the shallow water and the disturbance of sediment at river bed and unlikely related to the works under Contract 6.
21, 22, 23 & 24 Mar 2016	WM2B (C6)	NTU & SS	The effluent quality of C6 was visually acceptable. However, it was observed that muddy runoff from the public road surface into the existing channel due to rain. It is considered that the exceedances were related to cumulated silt at the river bed and muddy runoff from the public road surface and unlikely related to the works under Contract 6.
21 Mar 2016	WM4 (C2 & C3)	NTU & SS	<ul> <li>C2 &amp; C3 - muddy water flowed from other upstream location which was not under monitored by the Contract was observed on 21 Mar 2016. It is considered that the exceedances were due to the stir up of sediment during rain and external muddy water from upstream and not related to the works under Contracts 2 &amp; 3.</li> </ul>
29, 30 & 31 Mar 2016	WM3 (C2 & C6)	NTU & SS	• C2 & C6 - discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3. It is considered that the turbid water detected at WM3 was related to the turbid discharge from the unknown outfall and unlikely due to the works under Contracts 2 and 6.



#### 7 WASTE MANAGEMENT

#### 7.1 GENERAL WASTE MANAGEMENT

7.1.1 Waste management was carried out in accordance with the Waste Management Plan (WMP) for each contract.

#### 7.2 **RECORDS OF WASTE QUANTITIES**

- 7.2.1 All types of waste arising from the construction work are classified into the following:
  - Construction & Demolition (C&D) Material;
  - Chemical Waste;
  - General Refuse; and
  - Excavated Soil.
- 7.2.2 The quantities of waste for disposal in this Reporting Period are summarized in *Tables 7-1* and 7-2 and the Monthly Summary Waste Flow Table is shown in *Appendix L*. Whenever possible, materials were reused on-site as far as practicable.

T-m f	Cont	ract 2	Cor	ntract 3	Co	ntract 5	Con	tract 6	Co	ntract 7	Contra	ct SS C505	T-4-1
Waste	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Quantity
C&D Materials (Inert) (in '000m <sup>3</sup> )	34.1616		1.084		0		43.765		0.135		0.793		79.9386
Reused in this Contract (Inert) (in '000 m <sup>3</sup> )	0.3100		0		0		6.438		0		0		6.748
Reused in other Contracts/ Projects (Inert) (in '000 m <sup>3</sup> )	29.3514	C6/ NENT# & other projects approved by the ER	0		0		12.034	C5 & other projects approved by the ER	0		0		41.3854
Disposal as Public Fill (Inert) (in '000 m <sup>3</sup> )	4.5003	Tuen Mun 38	1.084	Tuen Mun 38	0		25.292	Tuen Mun 38	0.135	Tuen Mun 38	0.793	TKO 137	31.5603

Table 7-1Summary of Quantities of Inert C&D Materials for the Project

Remark #: The C&D materials were delivered to NENT for reuse by laying cover of the landfilling area.

Table 7-2

Summary of Quantities of C&D Wastes for the Project

	Cont	tract 2	Cont	tract 3	Cont	ract 5	Con	tract 6	Cont	ract 7	Contract	t SS C505	Tatal
Type of Waste	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Quantity
Recycled Metal ('000kg)#	0	-	0	-	0		0		0		52.752	Licensed collector	52.752
Recycled Paper / Cardboard Packing ('000kg) #	0	-	0	-	0		0	Licensed collector	0		0.044	Licensed collector	0.044
Recycled Plastic ('000kg) #	0		0.001	-	0		0.007	-	0		0		0.001# 0.007
Chemical Wastes ('000kg) #	11.7920	Licensed collector	0	-	0		0		0		0		11.7920
General Refuses ('000m <sup>3</sup> )	0.0682	NENT	0.090	NENT	0.055	NENT	0.042	NENT	0.005		0.059	NENT	0.3192

*Remark #: Unit of recycled metal, recycled paper/ cardboard packing, recycled plastic and chemical waste for Contract 3 was in ( (000m^3)).* 

#### 8 SITE INSPECTION

#### 8.1 **REQUIREMENTS**

8.1.1 According to the approved EM&A Manual, the environmental site inspection shall be formulation by ET Leader. Weekly environmental site inspections should carry out to confirm the environmental performance.

#### 8.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH

#### Contract 2

- 8.2.1 In the Reporting Period, joint site inspection for Contract 2 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on 4, 11, 18 and 24 March 2016. No non-compliance was noted.
- 8.2.2 The findings / deficiencies of *Contract 2* that observed during the weekly site inspection are listed in *Table 8-1*.

Date	<b>Findings / Deficiencies</b>	Follow-Up Status
4 March 2016	• Oil drums without drip tray was observed. Drip tray should be provided for all chemical storage on site. (Admin-building)	• Oil drums removed from site.
11 March 2016	• No adverse environmental were observed.	NA
18 March 2016	• No adverse environmental were observed.	NA
24 March 2016	• Proper control measures should be provided to prevent turbidity water discharged into the water body during maintenance of the de-silting system. (North Portal)	• The damaged water pipe in concern was replaced immediately and no direct discharge was allowed.

Table 8-1Site Observations for Contract 2

#### Contract 3

- 8.2.3 In the Reporting Period, joint site inspection for Contract 3 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on **7**, **16**, **21** and **30** March **2016**. No non-compliance was noted.
- 8.2.4 The findings / deficiencies of *Contract 3* that observed during the weekly site inspection are listed in *Table 8-2*.

Table 8-2Site Observations for Contract 3

Date	<b>Findings / Deficiencies</b>	Follow-Up Status				
7 March 2016	• Stopper for drip tray under the generator at Bridge J was missing. The Contractor should provide a stopper for drip tray to avoid leakage of chemical and cause land contamination.	• Plug for the drip tray at Bridge J was installed.				
16 March 2016	• No adverse environmental were observed.	• NA				
21 March 2016	• Muddy trail was observed at site exit SA2. The Contractor should ensure no muddy trail at the site exit and public access road, and ensure all the vehicles were washed to remove dusty materials from their wheels before leaving the site.	• No muddy trail was observed at site exit SA2				
30 March 2016	• No adverse environmental were observed.	• NA				

# Contract 5

- 8.2.5 In the Reporting Period, joint site inspection for Contract 5 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on 1, 8, 15, 22 and 29 March 2016. No non-compliance was noted.
- 8.2.6 The findings / deficiencies of *Contract 5* that observed during the weekly site inspection are listed in *Table 8-3*.

Date	Findings / Deficiencies	Follow-Up Status
1 March 2016	• Stagnant water accumulated in precast concrete was found at LMH site area, the Contractor should remove the stagnant water.	• Precast concretes have been turned over to prevent stagnant water.
8 March 2016	• No adverse environmental were observed.	• NA
15 March 2016	• No adverse environmental were observed.	• NA
22 March 2016	• No adverse environmental were observed.	• NA
29 March 2016	• No adverse environmental were observed.	• NA

Table 8-3Site Observations for Contract 5

# <u>Contract 6</u>

- 8.2.7 In the Reporting Period, joint site inspection for Contract 6 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on **3**, **10**, **17**, **24 and 31** March **2016**. No non-compliance was noted.
- 8.2.8 The findings / deficiencies of *Contract 6* that observed during the weekly site inspection are listed in *Table 8-4*.

Date	Findings / Deficiencies	Follow-Up Status
3 March 2016	<ul> <li>Mud bund and water accumulated along waterfill barrier at the STK road site entrance was observed, the Contractor should remove the mud and provide sand bags to prevent run-off.</li> <li>Insufficient surface water run-off control measures at temporary bridge Z and Bridge A wheel washing facility were observed, relevant mitigation measures should be provided.</li> <li>A sedimentation tank for vehicle washing water collection was found at the STK road site entrance, the Contractor was reminded that the discharge water should fulfil the requirement of the discharge licence.</li> </ul>	<ul> <li>Mud bund has been removed and sand bag bund has been provided along the waterfill barrier to prevent water from entering the footpath.</li> <li>Mud bund has been removed and sand bag bund has been provided along the waterfill barrier to prevent water from entering the footpath.</li> <li>Not required for reminder.</li> </ul>
10 March 2016	• Water overflow from vehicle washing bay was observed at Ping Yeung Interchange, the Contractor should review and improve the vehicle washing procedure and system.	• The condition of the wheel washing bay was maintained and excess water in the wheel washing bay was pumped out to prevent overflow.
17 March	• Diesel drum without drip tray was	• The chemical container has



Date	<b>Findings / Deficiencies</b>	Follow-Up Status
2016	observed on site, the Contractor should provide drip tray for it to prevent land contamination.(Location: Bridge D)	been put back into chemical storage chamber.
	• Water accumulated in several drip trays of generator were found, the Contractor should remove the water and treat it as chemical waste (Location: Bridge D)	• The chemical container has been put back into chemical storage chamber.
	• To reduce smoke emission, it was reminded that construction plant maintenance should be carried out regularly.	• Not required for reminder.
	• Also, maintenance should be provided for construction plant and equipment to reduce the noise generation.	• Not required for reminder.
24 March 2016	• Dark smoke emitted from the generator was observed. Proper maintenance should be provided. (Location: BCP)	• Exhaust filter of the generator has been replaced.
	• Engine cover for the power pack was opened during operation was observed. The contractor should close the engine cover to reduce noise impact during the plant is operating. (Location: BCP)	• Engine cover of the air compressor has been closed.
	• Housekeeping at the grouting area should be improved. (Location: Bridge D)	• Cement bags and empty chemical containers have been removed.
	• Wheel washing water spillage into the public road was observed. The contractor should maintain the public road leading to the site is clean and tidy. (Location: Bridge D)	• The road surface has been cleaned.
31 March 2016	• Noise emission label was found missing on an air compressor at BCP, the Contractor should provide and display the noise emission label for it.	<ul> <li>No muddy water accumulated at public access road at STK road was observed.</li> </ul>
	• Oil spillage was observed in a drip tray at BCP site area, the Contractor should treat the contaminated soil as chemical waste and provide measures to prevent oil leakage.	• The condition of the public footpath at the site entrance has been improved.

# Contract SS C505

- 8.2.9 In the Reporting Period, joint site inspection for Contract SS C505 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on 2, 9, 16, 23 and 30 March 2016. No non-compliance was noted.
- 8.2.10 The findings / deficiencies of *Contract SS C505* that observed during the weekly site inspection are listed in *Table 8-5*.

Table 8-5Site Observations for Contract SS C505

Date	Findings / Deficiencies	Follow-Up Status
2 March 2016	• Stagnant water was observed near emergency equipment station at training center and temporary drainage channel	• Stagnant water was removed.



Date	<b>Findings / Deficiencies</b>	Follow-Up Status
	<ul> <li>near training center. The Contractor should remove the stagnant water to prevent mosquito breeding.</li> <li>Machinery without secondary containment was observed at training center. The Contractor should provide secondary containment such as drip tray to avoid leakage of oil and cause land contamination.</li> </ul>	• Drip tray was provided to machinery to avoid oil leakage.
	• The Contractor should carry out dust mitigation measures at Portion 1 Zone 6 to reduce dust generation.	• Water spray as dust mitigation was implemented at Portion 1 Zone 6.
	• The Contractor was reminded to spray water for breaking works.	• Not required for reminder.
9 March 2016	• No adverse environmental were observed.	NA
16 March 2016	<ul> <li>Stagnant water was observed in waste container near Building 5 at Portion 1 (Photo 1) and at the channel between Portion 1 and 2 (Photo 2). The Contractor should remove the stagnant water to prevent mosquito breeding.</li> <li>Muddy sediment was observed at drainage channel of Portion 1. The Contractor should remove the muddy</li> </ul>	<ul> <li>Muddy sediment was observed at drainage channel of Portion 1. The Contractor should remove the muddy sediment to ensure the channel function properly.</li> <li>Muddy sediment was removed at the drainage channel of Portion 1</li> </ul>
	sediment to ensure the channel function properly.	
23 March 2016	• The Contractor was reminded to remove stagnant water at drainage channel in Portion 1 regularly and after rainy days.	• Not required for reminder.
30 March 2016	• NRMM label was missing for excavator (PUC 262) at Portion 1. The Contractor should provide the exemption/approval label for the excavator under the NRMM regulation.	• NRMM label was posted at the excavator (PUC 262)

# Contract 7

- 8.2.11 In the Reporting Period, joint site inspection for Contract 7 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on 1, 8, 15, 22 and 29 March 2016. No non-compliance was noted.
- 8.2.12 The findings / deficiencies of *Contract* **7** that observed during the weekly site inspection are listed in *Table 8-6*.

Table 8-6Site Observations for Contract 7

Date	<b>Findings / Deficiencies</b>	Follow-Up Status
1 March 2016	• No adverse environmental were observed.	NA
8 March 2016	• As a reminder, to prevent mosquito breeding stagnant water should be removed from containers.	• Not required for reminder.



Date	Findings / Deficiencies	Follow-Up Status
15 March 2016	• No adverse environmental were observed.	NA
22 March 2016	• No adverse environmental were observed.	NA
29 March 2016	• No adverse environmental were observed.	NA

8.2.13 Overall, general housekeeping such as daily site tidiness and cleanliness should be maintained for all Contracts. Furthermore, the Contractors were reminded to implement Waste Management Plan of the Project.

# **Other Contracts**

8.2.14 Since Contract 4 has not yet commenced, no site inspection were performed.

# 9 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

#### 9.1 Environmental Complaint, Summons and Prosecution

- 9.1.1 In the Reporting Period, no summons and prosecution under the EM&A Programme was lodged for Contracts 2, 3, 5, 6, 7 and Contract SS C505. However, one (1) documented environmental complaint was received for Contract 2 regarding generation of fugitive dust when heavy dump truck travelling along in Sha Tau Kok Road on 8 March 2016.
- 9.1.2 Upon receipt of the complaint, follow up action has been undertaken by both Contractor promptly to resolve the complaints and deficiencies. During the complaint investigation work, the Contractor was co-operated with the ET in providing all the necessary information and assistance for completion of the investigation. Follow up actions have been undertaking by the Contractor to resolve the deficiencies. Investigation report for the complaint has conducted by the ET and submitted to the relevant parties and the detail of complaint investigation is presented below.

#### Investigation Result for the Documented Complaints received from 1823 on 8 March 2016

- 9.1.3 A complaint was received from 1823 regarding the generation of fugitive dust when heavy dump truck from construction site of Contract 6 (DHK) travelling on Sha Tau Kok Road. Previously, DHK did arrange water bowser for road cleaning on Sha Tau Kok Road every day. However, the complainant stated that no water bowser was provided recently and the route of road cleaning was ignoring the area near 安居花園.
- 9.1.4 As advised by DHK, water bowser for road cleaning is still providing on Sha Tau Kok Road and the route is between Wo Keng Shan Road (Admin Bldg Site) to Ping Che Roundabout which covered the area near 安居花園. In normal day, there were 4 round trips per day and water bowser is ready whenever necessary.
- 9.1.5 During weekly site inspection in late February 2016 and early March 2016, the condition of the concerned Sha Tau Kok Road Ma Mei Ha were being inspected. According to the site inspection record, the observation during site inspection is summarized below.
  - (a) wheel washing facilities were provided at the site exit of North Portal
  - (b) no dusty materials were brought by the vehicles from the site
  - (c) the cleanliness condition of the exit of North Portal and adjoined Sha Tau Kok Road were satisfactory.
- 9.1.6 Since there were many other heavy vehicles using the Sha Tau Kok Road, it is considered that the dust problem on Sha Tau Kok Road is not due to the Contract. Nevertheless, ET will continue to inspect the cleanliness of site exit and adjacent roads.
- 9.1.7 The statistical summary table of environmental complaint is presented in *Tables 9-1, 9-2* and *9-3*.

		-	=	
Donorting Daried	Contract No.	Environmental Complaint Statistics		
Reporting Period	Contract No	Frequency	Cumulative	Complaint Nature
19 May 2014 – 29 Feb 2016	Contract 2	0	13	<ul> <li>(6) Water Quality</li> <li>(5) Dust</li> <li>(2) Noise</li> </ul>
06 Nov 2013 – 29 Feb 2016	Contract 3	0	4	<ul><li>(1) Dust</li><li>(2) Water quality</li></ul>
16 Aug 2013 – 29 Feb 2016	Contract 5	0	2	• (2) Dust
16 Aug 2013 – 29 Feb 2016	Contract 6	0	7	<ul><li>(2) Water Quality</li><li>(1) Dust</li></ul>
15 Feb 2016 – 29 Feb 2016	Contract 7	0	0	N/A

 Table 9-1
 Statistical Summary of Environmental Complaints



Domontin a Domio d	Contract No.	Environmental Complaint Statistics		
Reporting Period	Contract No	Frequency	Cumulative	Complaint Nature
16 Aug 2013 – 29 Feb 2016	SS C505	0	0	N/A
	Contract 2	1	14	<ul> <li>(6) Water Quality</li> <li>(6) Dust</li> <li>(2) Noise</li> </ul>
1 – 31 Mar 2016	Contract 3	0	4	<ul> <li>(1) Dust</li> <li>(2) Water quality</li> <li>(1) Noise</li> </ul>
	Contract 5	0	2	• (2) Dust
·	Contract 6	0	7	<ul><li>(6) Water Quality</li><li>(1) Dust</li></ul>
	Contract 7	0	0	N/A
	SS C505	0	0	N/A

Table 9-2	Statistical Summary of Environmental Summons
-----------	--

Donoutin a Donio d	Contro et No	Environmental Summons Statistics			
Reporting Period	Contract No	Frequency	Cumulative	<b>Complaint Nature</b>	
19 May 2014 – 29 Feb 2016	Contract 2	0	0	NA	
06 Nov 2013 – 29 Feb 2016	Contract 3	0	0	NA	
16 Aug 2013 – 29 Feb 2016	Contract 5	0	0	NA	
16 Aug 2013 – 29 Feb 2016	Contract 6	0	0	NA	
15 Feb 2016 – 29 Feb 2016	Contract 7	0	0	NA	
16 Aug 2013 – 29 Feb 2016	SS C505	0	0	NA	
	Contract 2	0	0	NA	
	Contract 3	0	0	NA	
1 21 Mar 2016	Contract 5	0	0	NA	
1 - 31 what 2016	Contract 6	0	0	NA	
	Contract 7	0	0	NA	
	SS C505	0	0	NA	

Table 9-3	Statistical Summary of Environmental Prosecution
-----------	--

		En	vironmental Prosecution Statistics		
Reporting Period	Contract No	Frequency	Cumulative	Complaint Nature	
19 May 2014 – 29 Feb 2016	Contract 2	0	0	NA	
06 Nov 2013 – 29 Feb 2016	Contract 3	0	0	NA	
16 Aug 2013 – 29 Feb 2016	Contract 5	0	0	NA	
16 Aug 2013 – 29 Feb 2016	Contract 6	0	0	NA	
15 Feb 2016 – 29 Feb 2016	Contract 7	0	0	NA	
16 Aug 2013 – 29 Feb 2016	SS C505	0	0	NA	
1 21 Mar 2016	Contract 2	0	0	NA	
1 - 51 wiai 2010	Contract 3	0	0	NA	

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Contract 5	0	0	NA
Contract 6	0	0	NA
Contract 7	0	0	NA
SS C505	0	0	NA

# The Other Contracts

9.1.8 Since the construction works at the Contract 4 has not yet commenced, no environmental complaint, summons and prosecution under the EM&A Programme are registered in the Reporting Period.

#### 10 IMPLEMENTATION STATUS OF MITIGATION MEASURES

#### **10.1 GENERAL REQUIREMENTS**

- 10.1.1 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the approved EM&A Manual covered the issues of dust, noise, water and waste and they are summarized presented in *Appendix M*.
- 10.1.2 All contracts under the Project shall be implementing the required environmental mitigation measures according to the approved EM&A Manual as subject to the site condition. Environmental mitigation measures generally implemented by Contracts 2, 3, 5, 6, 7 and Contract SS C505 in this Reporting Period are summarized in *Table 10-1*.

Issues	Environmental Mitigation Measures				
Water	• Wastewater to be treated by the wastewater treatment facilities i.e.				
Quality	sedimentation tank of similar facility before discharge.				
Air Quality	Maintain damp / wet surface on access road				
	<ul> <li>Low vehicular speed within the works areas.</li> </ul>				
	All vehicles must use wheel washing facility before off site				
	Sprayed water during breaking works				
	• A cleaning truck was regularly performed on the public road to prevent				
	fugitive dust emission				
Noise	• Restrain operation time of plants from 07:00 to 19:00 on any working da				
	except for Public Holiday and Sunday				
	• Keep good maintenance of plants				
	• Place noisy plants away from residence or school				
	<ul> <li>Provide noise barriers or hoarding to enclose the noisy plants or works</li> <li>Shut down the plants when not in used.</li> </ul>				
Waste and	On-site sorting prior to disposal				
Chemical	Follow requirements and procedures of the "Trip-ticket System"				
Management	• Predict required quantity of concrete accurately				
C	• Collect the unused fresh concrete at designated locations in the sites for				
	subsequent disposal				
General	The site was generally kept tidy and clean.				

 Table 10-1
 Environmental Mitigation Measures

# **10.2** TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

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

# **Contract 2**

- Mid-Vent Portal•Tube excavation (NB+SB)
  - Adit invert slab
  - Ventilation building superstructure

# North Portal • Retaining walls and slope stabilization

- Northbound top heading excavation and tunnel enlargement
  - TBM excavation
- South Portal
  Southbound and Northbound D&B excavation
  Building works superstructure
- Admin Building Building works foundation & superstructure

# Contract 3

- Cable detection and trial trenches
- Decking construction for Bridge E
- Filling works at Tong Hang East
- Storm Drains Laying



- Noise barrier construction
- Pier / Pier Table construction
- Pile cap works
- Portal beam erection
- Pre-drilling works and piling works for viaduct
- Retaining Wall construction
- Road works at Fanling Highway
- Sewer works
- Slope works
- Socket H-pile installation
- Tree felling works
- Utilities duct laying
- Viaduct segment erection
- Water works
- Per-drilling works for noise barrier

#### **Contract 5**

- Laying of rising main (VO61) at LMH road
- Bituminous laying at L15 road and existing LMH road.
- Brick laying at footpath of proposed LMH road
- Road works (kerb and bituminous laying) at existing LMH road
- Construction drainage works at Depressed Road
- Irrigation system at existing LMH Road
- Installation of underground utilities at existing LMH road
- Planting works at proposed & existing LMH road

#### **Contract 6**

- Site Clearance
- Slope Works
- Site Accesses Construction
- Ground Investigation Works
- Soil Nail
- Bored Piling
- H-piling
- Pile cap construction

#### Contract 7

- Erection of Engineer's Site Office
- Ground Investigation Works for Bridge –E
- Piling Works for Bridge B-D
- Pile cap construction for Bridge C

#### **Contract SS C505**

- General Site Setup
- Building no. 5 and 9 construction
- Assembly of Crawler Crane
- H-pile works
- Tower crane construction
- Erection of Welfare Shelter
- Underground drainage works
- Column works
- Weighbridge works
- Prototype "A" Construction works
- Mock Up Curtain Wall works



- Pile Cap construction
- Bored Pile works and per-drill works
- Bridge construction works

#### **10.3** KEY ISSUES FOR THE COMING MONTH

- 10.3.1 Key issues to be considered in the coming month for Contracts 2, 3, 5, 6, 7 and SS C505 include:
  - Implementation of control measures for rainstorm;
  - Regular clearance of stagnant water during wet season;
  - Implementation of dust suppression measures at all times;
  - Potential wastewater quality impact due to surface runoff;
  - Potential fugitive dust quality impact due from the dry/loose/exposure soil surface/dusty material;
  - Disposal of empty engine oil containers within site area;
  - Ensure dust suppression measures are implemented properly;
  - Sediment catch-pits and silt removal facilities should be regularly maintained;
  - Management of chemical wastes;
  - Discharge of site effluent to the nearby wetland, stockpiling or disposal of materials, and any dredging or construction area at this area are prohibited;
  - Follow-up of improvement on general waste management issues; and
  - Implementation of construction noise preventative control measures
- 10.3.2 Contract 4 has not yet commenced and no environmental issue is presented.



#### 11 CONCLUSIONS AND RECOMMENDATIONS

#### 11.1 CONCLUSIONS

- 11.1.1 This is the **32<sup>nd</sup>** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **31 March 2016**.
- 11.1.2 For air quality monitoring, no 1-hour and 24-hour TSP monitoring results triggered the Action or Limit Levels were recorded. No NOEs or the associated corrective actions were therefore issued.
- 11.1.3 No noise complaint (which is an Action Level exceedance) was received and no construction noise measurement results that exceeded the Limit Level were recorded in the Reporting Period. No NOEs or the associated corrective actions were therefore issued.
- 11.1.4 For water quality monitoring, a total of forty-two (42) Action/ Limit Levels (AL/LL) exceedances, namely twenty-three (23) LL exceedances of turbidity and nineteen (19) AL/LL exceedances of Suspended Solids. The investigations for the cause of exceedances have been conducted by the ET and the associated investigation reports were submitted to relevant parties
- 11.1.5 No environmental summons or successful prosecutions were recorded in the Reporting Period.
- 11.1.6 In this Reporting Period, one (1) documented environmental complaint was received for Contract 2 regarding generation of fugitive dust when heavy dump truck travelling along in Sha Tau Kok Road on 8 March 2016. Investigation report for complaint had conducted by ET and submitted to relevant parties.
- 11.1.7 During the Reporting Period, weekly joint site inspection by the RE, IEC, ET with the relevant Main-contractor were carried out for Contracts 2, 3, 5, 6, 7 and SS C505 in accordance with the EM&A Manual stipulation. No non-compliance observed during the site inspection.

#### **11.2 RECOMMENDATIONS**

- 11.2.1 In upcoming wet season, preventive measures for muddy water or other water pollutants from site surface flow to local stream such as Kong Yiu Channel, Ma Wat Channel, Ping Yuen River or public area would be the key issue. The Contractors should paid special attention on water quality mitigation measures and fully implement according ISEMM of the EM&A Manual, in particular for Contract 6.
- 11.2.2 Construction noise would be a key environmental issue during construction work of the Project. Noise mitigation measures such as using quiet plants should be implemented in accordance with the EM&A requirement.
- 11.2.3 Since most of construction sites under the Project are located adjacent to villages, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission.
- 11.2.4 Furthermore, daily cleaning and weekly tidiness shall be properly performed and maintained. In addition, mosquito control should be kept to prevent mosquito breeding on site.



# Appendix A

# Layout plan of the Project

 $\label{eq:loss_2013} TCS00694 \\ 600 \\ EM\&A Report \\ Monthly EM\&A Report \\ 32th (Mar 2016) \\ R0227v2. \\ docx \\ R027v2. \\ R027v2. \\ docx \\ R027v2. \\ R$ 





Appendix B

**Organization Chart** 





# Environmental Management Organization for Contract 2 - (CV/2012/08)



### Contact Details of Key Personnel for Contract 2 - CV/2012/08

Organization	Project Role	Name of Key Staff	Tel No	Fax No.
AECOM	Engineer's Representative	Gregory Lo	2171 3300	2171 3498
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
DHK	Project Director	Daniel Altier	2171 3004	2171 3299
DHK	Deputy Project Manager	Edmond Wong	2171 3004	2171 3299
DHK	QSE Manager	Roger Lee	6293 8726	2171 3299
DHK	Environmental Officer	Simon Wong	2171 3004	2171 3299
DHK	Environmental Supervisor	Sophie Baycheuer	6321 5001	2171 3299
DHK	Environmental Supervisor	Tony Tsoi	6028 5623	2171 3299
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

DHK(Main Contractor) –Dragages Hong Kong Ltd.

SMEC (IEC) – SMEC Asia Limited

AUES (ET) – Action-United Environmental Services & Consulting





Environmental Management Organization for Contract 3 - CV/2012/09



Organization	Project Role	Name of Key Staff	Tel No	Fax No.
AECOM	Engineer's Representative	Alan Lee	2171 3300	2171 3498
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
Chun Wo	Project Director	Clement Kwok	3758 8735	2638 7077
Chun Wo	Project Manager	Ken Ko	2638 6136	2638 7077
Chun Wo	Site Agent	Daniel Ho	2638 6144	2638 7077
Chun Wo	Environmental Officer	Victor Huang Tiffany Tsang Dennis So	2638 6115	2638 7077
Chun Wo	Assistant Environmental Officer	Yip Yun Lam Law Pui Fan	2638 6125	2638 7077
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

### Contact Details of Key Personnel for Contract 3 - CV/2012/09

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

Chun Wo (Main Contractor) – Chun Wo Construction Ltd.

SMEC (IEC) – SMEC Asia Limited

AUES (ET) – Action-United Environmental Services & Consulting





# Environmental Management Organization - CV/2013/03

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
AECOM	Engineer's Representative	Kelvin Lee	2674 2273	2674 7732
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
SRJV	Project Director	LAI Wai		2403 1162
SRJV	Contract Manager	Raymond Yu	9041 1620	2403 1162
SRJV	Project Manager	Aaron Mak	9464 7095	2403 1162
SRJV	Site Agent	Edwin Au	9208 7329	2403 1162
SRJV	Environmental Officer	Chan Ng jhon-keibi / Kenny Chan	6090 0183	2403 1162
SRJV	Environmental Supervisor	Thomas Ma	-	2403 1162
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

# Contact Details of Key Personnel for Contract 5 - CV/2013/03

Legend:

CEDD (Employer) – Civil Engineering and Development Department AECOM (Engineer) – AECOM Asia Co. Ltd. SRJV (Main Contractor) – Sang Hing Civil – Richwell Machinery JV SMEC (IEC) – SMEC Asia Limited AUES (ET) – Action-United Environmental Services & Consulting



AUES

Environmental Management Organization – CV/2013/08



Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
AECOM	Engineer's Representative	Simon Leung	2674 2273	2674 7732
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
CCK JV	Project Director	Wang Yanhua	6190 4212	
CCK JV	Construction Manager	Raymond Mau Sai-Wai	9011 5340	
CCK JV	Site Agent	Vincent Chan	9655 9404	
ССК ЈУ	Senior Safety & Environmental Manager	Alex Lam	5547 0181	
CCK JV	Environmental Officer	K M Lui	51138223	
ССК ЈУ	Environmental Supervisor	Kevin Cheung/ Connie Yeun	6316 6931 6117 1344	
AUES	Environmental Team Leader	TW Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079

# Contact Details of Key Personnel for Contract 6 - CV/2013/03

Legend:

CEDD (Employer) – Civil Engineering and Development Department AECOM (Engineer) – AECOM Asia Co. Ltd. CCK JV (Main Contractor) – CRBE-CEC-Kaden Joint Venture SMEC (IEC) – SMEC Asia Limited AUES (ET) – Action-United Environmental Services & Consulting



AUES

Environmental Management Organization -NE/2014/03



Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
AECOM	Engineer's Representative	Simon Leung	2674 2273	2674 7732
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
CCK JV	Project Director	Wong Yu	2682 6691	2682 2783
CCK JV	Project Manager	Cheng Pong Yin	9023 4821	2682 2783
CCK JV	Site Agent	Leung Tak Yu	9705 7536	2682 2783
CCK JV	Environmental Officer	Cheung Ka Wia, Barry	6117 2339	2682 2783
CCK JV	Environmental Supervisor	Yung Kwok Wai	6592 3084	2682 2783
AUES	Environmental Team Leader	TW Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079

# Contact Details of Key Personnel for Contract 7 – NE/2014/03

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

KRS JV (Main Contractor) –Kwan On-Richwell-SCG Joint Venture

SMEC (IEC) – SMEC Asia Limited

AUES (ET) – Action-United Environmental Services & Consulting





# Environmental Management Organigram

# **Environmental Management Organization for Contract SS C505**



Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
ArchSD	Works agent for the Development Bureau (DEVB)	Mr. William Cheng	2867 3904	2804 6805
Ronald Lu & Partners	Architect/ Architect's Representative	Mr. Justin Cheung	3189 9272	2834 5442
SMEC	Independent Environmental Checker	Mr. Antony Wong	3995 8120	3995 8101
Leighton	Operation Manager	Mr. Karl Speed	2823 1433	25298784
Leighton	Project Director	Mr. Ian Taylor	2858 1519	2858 1899
Leighton	Environmental Officer	Ms. Becky Yan	3973 1069	-
Leighton	Assistant Environmental Officer	Ms. Penny Yiu	3973 0818	-
AUES	Environmental Team Leader	Mr. T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ms. Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Mr. Ben Tam	2959 6059	2959 6079

# Contact Details of Key Personnel for Contract SS C505

Legend:

ArchSD(Project Proponent) – Architectural Services Department

Ronald Lu & Partners (Architect/Architect's Representative) –Ronald Lu & Partners (Hong Kong) Ltd

Leighton (Main Contractor) – Leighton Contractors (Asia) Limited

SMEC (IEC) – SMEC Asia Limited

AUES (ET) – Action-United Environmental Services & Consulting



# Appendix C

# **3-month rolling construction program**



**Contract 2** 

MPR25-D; HKLTH Works Programme update (Rev D) 19-March-2016; DHK\_HKLTH\_Works Programme new 3MRP; 23-Mar-16; 10:35

tivity ID	Activity Name	Working	BL Project Start	BL Project			2016
		Duration		T ITIISTI		Mar	Apr
Total		805.0d	27-Oct-14	04-Mar-17			
HKLTH Works	Programme update (Rev D) 19-March-2016	805.0d	27-Oct-14	04-Mar-17			
2 General		805.0d	27-Oct-14	04-Mar-17			
Noise Barrie	rs	122.0d	03-Jul-15	01-Dec-15			
DDA Submis	ssion	122.0d	03-Jul-15	01-Dec-15			
CONTDS1090	Preparation of DDA for formal submission to ER/ICE/IP	45.0d	03-Jul-15	28-Aug-15			 
CONTDS1100	IPs'/ ER's Review	28.0d	29-Aug-15	03-Oct-15			
CONTDS1110	Preparation of DDA with ICE Certification for resubmission to ER/ICE/IP	21.0d	05-Oct-15	29-Oct-15			 
Droject Wide	ER/IP'S Approval	28.0d	30-Oct-15	01-Dec-15 04-Mar-17	1 1 1		
Project wide		177.0d	22- Jan-15	29-Aug-15			
E&M Design	a & Engineering Works	177.00	22-0dil-10	23-Aug-15			
Shop Drawing	Builder's Drawing Submission     Shan Drawings & Builder's Drawings Submission	177.0d	22-Jan-15	29-Aug-15			 
Equipment 6		338.0d	22-Jan-13 27-Oct-14	14-Dec-15	1   		
	Selection & Subinission	338.0d	27-Oct-14	14-Doc-15			 
PD.PQ.1150	Tunnel Ventilation System Submission and Approval by the Engineer	228.0d	07-Nov-14	15-Aug-15			 
PD.PQ.2010	FS System Submission and Approval by the Engineer	278.0d	01-Nov-14	09-Oct-15			 
Manufacturi	ng & Delivery of Major Equipment	390.0d	22-Jan-16	04-Mar-17			
PD.EC.MD	Manufacturing and Delivery of ECS System	390.0d	22-Jan-16	04-Mar-17			 
3 South Porta	al Area	357.0d	06-May-15	14-Mar-16			
3.1 South Po	rtal Subcontract & Procurement	309.4d	30-Jun-15	16-Jan-16			
SPS&P0080	Subcontract : Ventilation Building Structure Works	60.0d	30-Jun-15	08-Sep-15			 
SPS&P0090	Subcontract : Tunnel Lining Works	60.0d	13-Jul-15	19-Sep-15			 
SPS&P0100	Subcontract : Tunnel Lining Form works (Design, Fabrication, Delivery, & On-Site Assembly)	150.0d	13-Jul-15	09-Jan-16			 
SPS&P0110	Subcontract : Tunnel Concreting Works	60.0d	24-Aug-15	04-Nov-15			 · · · · · · · · · · · · · · · · · · ·
SPS&P0120	Subcontract : Tunnel Finishing Works	60.0d	05-Nov-15	16-Jan-16			
3.2 South Po	rtal Design Submission	289.00	08-JUI-15	27-Dec-15			
South Tunne	el Internal Structures	28.0d	26-Jul-15	22-Aug-15			
DDA Submiss	ion	28.0d	26-Jul-15	22-Aug-15			 
STIS1L1023690	ER/IP's Approval	28.0d	26-Jul-15	22-Aug-15			
Cross Passa	ages -Temp Works D&B Tunnel - Rock	55.00	00-Jul-15	07-001-15			
DDA Submiss		55.0d	08-Jul-15	07-Oct-15			 
FL326980	Prenaration for resubmission to ER/ICE/IP with ICE Certification	28.0d	10-Aug-15	08-Aug-15			 
FL327100	ER/IP's Approval	28.0d	10-Sep-15	07-Oct-15			 
As-Built Dra	awings [Contractor's Design/ Contractor's Alternative Design]	60.0d	29-Oct-15	27-Dec-15			
SC1650	As-Built Drawings Submission - South Portal Ventilation Bldg Foundation	60.0d	29-Oct-15	27-Dec-15			   
3.3 South Po	rtal Method Statement Submission	48.0d	05-Jan-16	03-Mar-16	1		· · · · · · · · · · · · · · · · · · ·
South Porta	I: Temporary Bridge Dismantling	48.0d	05-Jan-16	03-Mar-16			
FL2022077	Prepare Method Statement	48.0d	05-Jan-16	03-Mar-16			
3.5 South Po	rtal Works	283.6d	06-May-15	14-Mar-16			
South Porta	I: Foundation & Substructure	109.0d	29-Jun-15	28-Oct-15			
SV2180	South Bound Foundation	54.0d	29-Jun-15	04-Sep-15			 
SV2190	Handover to SB Tunneing	1.0d	04-Sep-15	04-Sep-15			 
SV2210	N/B Bored Piles 4nos & Pile Test	48.0d	07-Jul-15	04-Sep-15			 

						MAIN CONTRACTOR	CLIENT	THE ENGINEER	PROJECT
	3 2					香露吉	6	ATCOM	Contract No. CV/2012/08
						港貝茄			Liantang/Heung Yuen Wai Boundary
						Dragages	CEDD Civil Engineering and	CONTRACTOR'S DESIGNER	Site Formation and Infrastructure Wor
Α	Monthly Report No.27	20/03/2016	KEC/RAN	RBS/SJO	DAL	HongKong	Development Department	<b>ATKINC</b>	TITLE
RE	/ DESCRIPTION	DATE	PREPARED	CHECKED	APPROVED	A member of the Bouygues Construction group			(Approved Works Programme R

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tivity ID	Activity Name	Working	BL Project Start	BL Project				2016
		Duration		Finish		Mar		Apr
SV2740	N/B Pile Caps & Tie Beams	36.0d	05-Sep-15	20-Oct-15			1	
SV2745	N/B Backfilling	6.0d	22-Oct-15	28-Oct-15			·	, +
SV2750	Handover to NB Tunneing	1.0d	28-Oct-15	28-Oct-15		<u>.</u>		L
South Portal	· Superstructure	139.0d	22-Oct-15	02-Feb-16				1 1 1 1
SV2325	Betaining Walls (I STSP/ BW3 & I ST SP/ BW4 & S1 S2 & S3)	74.0d	22-Oct-15	19-Jan-16		1 1 1	· - <mark>-</mark>	1 L
SV2335	Backfilling to Permanent Slope	60.0d	21-Nov-15	02-Feb-16			• • • • • • • • • • • • • • • • • • • •	     
Couth Tunno		273.6d	06-May-15	14-Mar-16		1		1
						; 		,
DB6300	D&B Setup / Site Installation	101.00	06-May-15	04-Sep-15				, , ,
DB6310	Pettern Pench Excavation (CAROptes) (CRP: Ch1,751>Cn1,787) 36m	57.00 24.0d	10 Nev 15	01 Dec 15				; 
DB6320	Full Face D&B Execution (CRP: Ch1,751>Ch1,767) 36m	34.00	12-INOV-15	21-Dec-15				   
		159.2d	22-Dec-15	25-Eob-16				
South lunne	is: Northbound Tunnel	159.20	30-001-15	25-Feb-10		 		
DB6340dwp1	Top Heading Excavation (Canopies) (P20/NB Ch: 139 to 178 ); 39m; (CRP: Ch1,750>Ch1,789)	67.0d	30-Oct-15	18-Jan-16		, , ,		
DB6340dwp2	Top Heading Excavation (Canopies) (P20/NB Ch: 178 to 200 ); 22m; (CRP: Ch1,789>Ch1,811)	28.0d	19-Jan-16	19-Feb-16		 		   
DB6350	Bottom Bench Excavation (P20/NB - 139>200); 61m; (CRP: Ch1,750>Ch1,811)	62.0d	14-Dec-15	25-Feb-16		   		1 1 1
4 Middle Porta	I Area	446.0d	05-Feb-15	02-Apr-16				1 1 1
4.1 Middle Po	rtal Subcontract & Procurement	416.2d	05-Feb-15	04-Dec-15				
MPS&P0050	Subcontract : Tunnel Lining Form works (Design, Fabrication, Delivery, & On-Site Assembly)	150.0d	05-Feb-15	11-Aug-15		1   	•	L ! !
MPS&P0080	Subcontract : Ventilation Building ABWF Works	60.0d	15-Jul-15	22-Sep-15		+ 	·	, , ,
MPS&P0090	Subcontract : Tunnel Concreting Works for Internal Structures	60.0d	31-Aug-15	11-Nov-15		1 ! !		L
MPS&P0100	Subcontract : External Works and Landscaping Works	60.0d	23-Sep-15	04-Dec-15		+		1   
4.2 Middle Po	rtal Design Submission	410.0d	20-Jul-15	26-Sep-15				1
Mid Vent Adi	t Internal Structure	119.0d	20-Jul-15	25-Sep-15				1 1 1 1
DDA Submissi	on	119.0d	20-Jul-15	25-Sep-15				1 1 1
DSN29084	Preparation for resubmission to ER/ICE/IP with ICE Certification	35.0d	20-Jul-15	28-Aug-15		i		
DSN29085	ER/IP's Approval	28.0d	29-Aug-15	25-Sep-15			•	, , , ,
Mid Vent .lun	ction Internal Structure	56.0d	24-Jul-15	26-Sep-15		1		1 1 1
		56.0d	24-Jul-15	26-Sep-15		 		- 
DSN29104	Preparation for resubmission to EB/ICE/IP with ICE Certification	32.0d	24-Jul-15	29-Aug-15			· <mark>-</mark>	 
DSN29105	ER/IP's Approval	28.0d	30-Aug-15	26-Sep-15		i 	· - <mark>-</mark>	
1 2 Middle Do	rtal Mathod Statement Submission	115.7d	29-Jul-15	02-Feb-16		   		1 1 1
		80.0d	29-Jul-15	02-Nov-15		1		1 1 1
		00.04		00 4 45				۱ ۱ ۲
A25522	Engineers Comment	28.00	29-Jul-15	29-Aug-15				, , , ,
A25523		24.00	31-Aug-15	26-Sep-15		 		1 
A25524		20.00	29-Sep-15	02-140V-15				1 1 1
	ation Adit Tunnel Concreting works (Internal Structures)	110.70	of Aug 15	0210010				· · · · · · · · · · · · · · · · · · · ·
A25517	Prepare Method Statement	48.0d	31-Aug-15	28-Oct-15		; ; ;		, , , ,
A25518	Engineer's Comment	28.0d	29-Oct-15	30-Nov-15		   #		ו ו נ
A25519		24.00	01-Dec-15	30-Dec-15		<u> </u>		י י ד
A25520	Engineer's Approva	28.00	31-Dec-15	02-Feb-16				1 1 1
4.5 Middle Po	rtal Works	343.00	10-301-13	02-Api-10				1 1 1
Adit Constru	ction - Mid Portal	343.0d	18-Jul-15	02-Apr-16				1 1 1
MV2530	Cavern Excavation Ch302>Ch371; 69m	70.0d	18-Jul-15	10-Oct-15	1	+		r
MV2710	D&B UT Tunneling Ch3,436 to Ch3,586 (NNB) - towards North 150m	70.0d	12-Oct-15	02-Jan-16	1	· · · · · · · · · · · · · · · · · · ·		
MV2720	D&B DT Tunneling Ch3,433 to Ch3,561 (NSB) - towards North 128m	60.0d	23-Oct-15	02-Jan-16				· · · · · · · · · · · · · · · · · · ·
MV2730	D&B UT Tunneling Ch3,413 to Ch3,313 (SNB) - towards South 100m	23.0d	04-Jan-16	29-Jan-16	<b> </b>	! ! !		۱ ۱ ۱
MV2740	D&B DT Tunneling Ch3,410 to Ch3,313 (SSB) - towards South 97m	23.0d	04-Jan-16	29-Jan-16				, , , ,
MV2749	Ground Treatment for TBm Breakthrough	77.0d	04-Jan-16	02-Apr-16		±		
MV2750	De-mobilization of Tunneling plants & equipment	24.0d	30-Jan-16	26-Feb-16		¦ <u></u>		, , , ,
MV2760a	Adit Lining (up to Ch151)	50.0d	30-Jan-16	29-Mar-16	1			 

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Activity ID	Activity Name	Working	BL Project Start	BL Project				2016
		Duration		1 111511		Mar		Apr
5 North Porta	al Area	485.0d	21-Jan-15	06-May-16				
5.0 North Po	ortal Site Possession Contract Dates	0.0d	19-Aug-15	19-Aug-15				
A1920	LS7 (near North Vent Slope)	0.0d	19-Aug-15			' 		 
E 1 North De		418.8d	05-Jun-15	18-Mar-16				1 <del>1</del> 1
5.1 NORTH PC	Drial Subcontract & Procurement					י י ±		, , , ,
NPS&P0070	Subcontract : Turnel Lining Works	60.0d	05-Jun-15	15-Aug-15				
NPS&P0080	Subcontract : Tunnel Concreting Works	60.0d	05-Jun-15	15-Aug-15	+	, , , ,		, , , ,
NPS&P0090	Subcontract : Ventilation Building Structure Works	150.0d	12 Aug 15	02-Dec-15		1 1 1		1 1 1
NPS&P0120	Subcontract : Ventilation Building Bit Can Works	60.0d	12-Aug-15	23-001-15		, , ,		, , , ,
NPS&P0120	Subcontract : Ventilation Building ABWE Works	60.0d	23-3ep-15	04-Dec-15		! !		۱ ۲ ۱
NPS&P0140	Subcontract : External Works and Landscaning Works	b0.00	06-Jan-16	18-Mar-16				, , ,
		335.9d	18-May-15	16-Nov-15				1 <del>1</del>
5.2 North PC	brial Design Submission			17.0.1.15		1 1 1		1 1 1 1
Bored Tunr	nel/ D&B Tunnel Transition - Headwall Structure (N/B & S/B)	82.0d	15-Jul-15	17-Oct-15				   
DDA Submis	sion	82.0d	15-Jul-15	17-Oct-15				
FL2022182	IPs'/ ER's Review	28.0d	15-Jul-15	15-Aug-15		1		   
FL2022183	Preparation for resubmission to ER/ICE/IP with ICE Certification	30.0d	17-Aug-15	19-Sep-15				
FL2022184	ER/IP's Approval	28.0d	20-Sep-15	17-Oct-15		   		1 1 1
North Tunn	el Curved Section Cross Passages - Temp Works	133.0d	20-Jul-15	24-Oct-15				
DDA Submis	sion	133.0d	20-Jul-15	24-Oct-15		1		1
FL2022190	IPs'/ ER's Review	28.0d	20-Jul-15	20-Aug-15				
FL2022191	Preparation for resubmission to ER/ICE/IP with ICE Certification	32.0d	21-Aug-15	26-Sep-15	1			
FL2022192	ER/IP's Approval	28.0d	27-Sep-15	24-Oct-15	+	1 		L
Bored Tunr	nel Cross Passages Permanent Lining (Soft Ground)	67.0d	28-Jul-15	13-Oct-15		1		
	sion	67 0d	28-Jul-15	13-Oct-15	-	1		1 1 1
EL 2022211	SION Preparation for resubmission to EB/ICE/IP with ICE Certification	43.0d	28- Jul-15	15-Sep-15				
FL 2022211		43.00 28.0d	16-Sen-15	13-Oct-15		1 		1 L
Davad Tura	col Orecco Decessore Dermonent Lining (Decla)	75.0d	18-Jul-15	13-Oct-15	-	1		1 1 1
Bored Tunr	hel Cross Passages Permanent Lining (Rock)	70.00						
DDA Submis	sion	75.0d	18-Jul-15	13-Oct-15		; ; ;		
FL2022218	IPs'/ ER's Review	28.0d	18-Jul-15	19-Aug-15				1 1 
FL2022219	Preparation for resubmission to ER/ICE/IP with ICE Certification	23.0d	20-Aug-15	15-Sep-15		; ; ;		, , ,
FL2022220	EH/IP's Approval	28.0d	16-Sep-15	13-Oct-15				1 1 1
Bored Tunr	nel Cross Passages Internal Structures	335.9d	18-May-15	16-Nov-15				1 1 1
DDA Submis	sion	335.9d	18-May-15	16-Nov-15		1 1 1		1 1 1
FL2022225	Preparation for formal submission to ER/ICE/IP	75.0d	18-May-15	15-Aug-15				
FL2022226	IPs'/ ER's Review	28.0d	17-Aug-15	17-Sep-15		1 1 1		1 1 1
FL2022227	Preparation for resubmission to ER/ICE/IP with ICE Certification	25.0d	18-Sep-15	19-Oct-15		     		, , , ,
FL2022228	ER/IP's Approval	28.0d	20-Oct-15	16-Nov-15		1		   
5.3 North Po	ortal Method Statement Submission	249.0d	01-Jun-15	06-Feb-16				
North Tunn	el (Cross Passages) Blasting Method Statement	95.0d	01-Jun-15	21-Sep-15		1		1   
FL2022111	Preparation and Submission of Blasting Method Statement	70.0d	01-Jun-15	22-Aug-15		 		י ב י
FL2022112	Engineer's/IP's Review & Approval	60.0d	14-Jul-15	21-Sep-15				
MS for TRN	A Prook out	152.2d	17-Sep-15	04-Jan-16		 		1 
		04.04	17 0 15	10 0+15		; ; ;		; }
FL2022544	Prepare & Submit Method Statement	24.00	17-Sep-15	16-UCI-15		, , ,		, , ,
FL2022554	Propare & Re-submit Method Statement	18.0d	16-Nov-15	05-Dec-15		i 		i L
FL2022504		30.0d	06-Dec-15	00-Dec-10		 		, , ,
		217.0d	17-Oct-15	06-Feb-16			-	<u>.</u>
MIS for TBN		217.00	17 001-15	00100-10	ļ		<b>.</b>	
FL3875	Prepare & Submit Method Statement	24.0d	17-Oct-15	14-Nov-15	+	ļ 		: 
FL3880	ER's Comment for Method Statement	30.0d	15-Nov-15	14-Dec-15				, , , ,
FL3885	Prepare & He-Sudmit Method Statement	18.0d	15-Dec-15	07-Jan-16		I I	<u> </u>	1
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Activity ID	Activity Na	ame								Working Duration	BL Project Start	BL Project Finish					2016
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FL3890	ER's App	provalfor Met	hod State me	nt						30.0d	08-Jan-16	06-Feb-16					
MS for	<b>Removal of</b>	Left-in	HDC Dr	ill Rods	within N/I	<b>3 TBM Excav</b>	vation			46.8d	13-Nov-15	30-Jan-16					
FL2022584	Prepare	& Submit Me	thod Stateme	ent						40.0d	13-Nov-15	31-Dec-15	+				
FL2022594	ER's Cor	mment for Me	ethod Statem	ent						30.0d	01-Jan-16	30-Jan-16	-				
North F	Portal: MS fo	or Cross	s Passad	ae Grour	nd Treatm	ent				42.0d	20-Jul-15	07-Sep-15				1	
FL2022067	Prepare	& Re-submit	Method State	ement						18.0d	20-Jul-15	08-Aug-15					
FI 2022068	B FB's Ann	onvalfor Met	hod Stateme	nt						30.0d	09-Aug-15	07-Sen-15					
Newthe F					ation in F					239.0d	12-Sen-15	20-Jan-16					
North F	ortal: MS to	or Cross	s Passag	ge Excav	ation in F	IOCK				200.00	12 000 10	20 0411 10					
FL2022069	Prepare	& Submit Me	thod Stateme	ent						40.0d	12-Sep-15	31-Oct-15					
FL2022070	ER's Cor	mment for Me	ethod Statem	ent						30.0d	01-Nov-15	30-Nov-15					
FL2022071	Prepare	& Re-submit	Method State	ement						18.0d	01-Dec-15	21-Dec-15					
FL2022072	2 ER's App	proval for Met	hod Stateme	nt						30.0d	22-Dec-15	20-Jan-16				1	
North F	Portal: MS fo	or Cross	Passag	ge Excav	ation in S	Soft				239.0d	12-Sep-15	20-Jan-16					
FL2022073	B Prepare	& Submit Me	thod Stateme	ent						40.0d	12-Sep-15	31-Oct-15					
FL2022074	ER's Cor	mment for Me	ethod Statem	ent						30.0d	01-Nov-15	30-Nov-15					
FL2022075	5 Prepare	& Re-submit	Method State	ement						18.0d	01-Dec-15	21-Dec-15					
FL2022076	ER's App	orovalfor Met	hod Stateme	nt						30.0d	22-Dec-15	20-Jan-16					
5 5 Nort	b Portal Wa	rko								485.0d	21-Jan-15	06-May-16				I 	
5.5 NOT	In Portar wo	IKS								000.01							
North F	Portal: Site F	Formatio	on							262.9d	21-Jan-15	30-Oct-15					
N20655	NB: Stag	ge 3 Permane	ent Slope from	n +75mPD to	+30mPD					192.0d	21-Jan-15	30-Sep-15					
N20665	NB: Stag	ge 4 Excavati	on from +18n	nPD to +9.5m	PD w/4 rows So	il Nail				24.0d	02-Oct-15	30-Oct-15					
Southb	ound Tunne	el (Minec		ation) ind	: Enlarge	ment				271.0d	23-Jul-15	06-May-16					
TD0910	SB - Inve	ert Grouting			o Ernargo					60.0d	23-Jul-15	03-Oct-15					
TD0920	SB - Gall									60.0d	21-Aug-15	31-Oct-15					
TD0930	SB - Cro	wa Grouting								60.0d	19-Sen-15	28-Nov-15					
TD0930	Tan Haar	ding Enlarger	nant (Ch6255	>Cheocol. 07	m: [D01: 4755 +	o 46691				47.0d	00 Nov 15	20-110V-13					
TD0940a		dias Estarson		>CII0200), 071	III, [P21. 4755 L		triation 7ana			47.00	05-1	04-Jan-10					
100940a1					JIII, [P21. 4000	5 10 4546] - WSD Res				047.04	00-1-10	00-Iviay-10	-			1	
Northb	ound Tunne	el (Mined	I Excava	ation)						247.00	09-Jun-15	31-IVIAR-16					
DB6400a2	Top Head	ding Canopies	s (Ch6410>Cl	h6350); 60m;	[P20: 4788 to 4	728]				70.0d	09-Jun-15	31-Aug-15					
DB6400a3	Top Head	ding Canopies	s (Ch6350>Cl	h6284); 66m;	[P20: 4728 to 4	662]				76.0d	01-Sep-15	30-Nov-15					
DB6400a5	Platform	Lowering for	Bench Exca	vation						26.0d	01-Dec-15	31-Dec-15					
DB6400a6	Bench E	excavation (Ch	16446>Ch628	4); 162m; [P2	0: 4824 to 4662	]				76.0d	02-Jan-16	31-Mar-16					
Southb	ound Tunne	el (TBM	Tunnelir	na)						311.0d	10-Jun-15	12-Feb-16					
TD1000a	TBM DT	(Ch6 355>Ch	16 077) 278m	.9/						82 0d	10-Jun-15	16-Sep-15					
TD1000a20		(Ch6 268>Ch	16 148) 120m	- WSD Bostri	ction Zone					35.0d	11- Jul-15	21-40-15					
TD1000a20		(Ch6 148>Ch	(0, 140) 12011	WOD HOSti						21.0d	22-100-15	16-Sop-15					
TD1000a30		(Che 077) Ch	5 050) 127m							17.0d	17 Sop 15	07 Oct 15					
TD1010a	TBM DT		5,950) 12711							17.00	17-Sep-15	10 New 15					
	TBM DT		15,713) 237m							31.00	10 New 15	12-INOV-15					
101050	I BM DI	(Cn5,713>Cr	14,904) 809m							77.00	13-INOV-15	12-Feb-16					
Bored <sup>-</sup>	Tunnel (S/B	& N/B)	Internal	Works 8	Finishes	5				148.0d	28-Oct-15	20-Apr-16					
Southbo	ound Tunnel Inte	ernal Wor	ks & Finis	shes						148.0d	28-Oct-15	20-Apr-16				1	
TD1470a	Tunnel B	Backfilling (Ch	15,950 >Ch5,	153) 797m- (S	tage 1)					85.0d	28-Oct-15	05-Feb-16					
TD1480a	Bottom [	Drilling for Cro	oss Passage	(fr. Ch5 95 3)						70.0d	14-Nov-15	05-Feb-16					
TD1490a	Tunnel B	Backfilling (C	h5,950 >Ch5,	,153) 797m- (S	Stage 2)					80.0d	19-Nov-15	22-Feb-16	-				
TD1500a	Drilling fo	or Cross Pas	sage (Remair	ning) (Ch5,950	) >Ch5,153) 797	'n				80.0d	19-Nov-15	22-Feb-16					
TD1520a	Corbel (	(Ch5,950 >Ch	5,153) 797m							80.0d	03-Dec-15	07-Mar-16					
TD1523a	OHVD SI	lab & 132kV	Cable Trough	(Ch 5,950 >C	h5,153)797m					81.0d	15-Dec-15	19-Mar-16					
TD1524a	Walkway	v Construction	n Ch5 950 >C	(153) 797m	-,, -					81.0d	30-Dec-15	04-Apr-16					
TD1528a	Ground T	Treatment for	Cross Pass	ane Ch5 950 >	Ch5 153)797m					82.0d	19-Dec-15	25-Mar-16			<mark></mark>		
TD1725a	F&M Incl	stallation for	S/B TRM Tun	nel [CRP Ch5	950 to Ch5 650	1 300m				77 0d	21-Jan-16	20-Apr-16					
North C	Portal: Potei			Eormet	ion					58.0d	03-Aug-15	05-Dec-15				-	
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Activity ID Activity Name		Working Duration	BL Project Start	BL Project Finish	2016					
			Baraton			Mar		Apr	Мау	Jun
	N20930	*Retaining Wall & Site Formation (STK/RW1)	57.0d	03-Aug-15	13-Oct-15					
	N20940	Retaining Wall & Site Formation (STK/RW3)	45.0d	14-Oct-15	05-Dec-15	1				
	North Portal:	Noise Barrier (NB5 to NB9)	51.0d	04-Jan-16	09-Mar-16			1 1 1		
	N20990	Noise Barrier NB 6,8,9	51.0d	04-Jan-16	09-Mar-16					
	5.6 Administra	ation Building:	153.0d	24-Jul-15	05-Mar-16					
	5.65 Adminis	stration Building: Works	153.0d	24-Jul-15	05-Mar-16					
	Administration	Building:Demolition	18.0d	24-Jul-15	15-Aug-15					
	SV2945	Demolish Existing Building (AB3 - GLL 36508)	18.0d	24-Jul-15	15-Aug-15					
	Administration	Building: Site Formation	88.0d	17-Aug-15	05-Jan-16					
	AD2070	Backfilling for Surcharge	66.0d	17-Aug-15	06-Nov-15					
	AD2080	Surcharge (2 months Consolidation)	60.0d	07-Nov-15	05-Jan-16					
	Administration	Building: Foundation & Substructure	46.0d	06-Jan-16	05-Mar-16			1 1 1	1	
	AD2030	Excavation for Footing	46.0d	06-Jan-16	05-Mar-16					

						MAIN CONTRACTOR	CLIENT	THE ENGINEER	PROJECT
	3				9 1 1	香露吉	6	ATCOM	Contract No. CV/2012/08
						港貝茄		ALCOM	Liantang/Heung Yuen Wai Boundary Co
						Dragages	CEDD Civil Engineering and	CONTRACTOR'S DESIGNER	Site Formation and Infrastructure Works
Α	Monthly Report No.27	20/03/2016	KEC/RAN	RBS/SJO	DAL	HongKong	Development Department	<b>ATKINC</b>	TITLE
RE	/ DESCRIPTION	DATE	PREPARED	CHECKED	APPROVED	A member of the Bouygues Construction group			(Approved Works Programme Rev

	DOCUMENT NO.							
6 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	LTH/DHK/PGR/PW/PLP/00124/A							
Control Point	DOC. STATUS	CREATION DATE	REVISION					
ks Contract 2	FOR INFO.	20-Mar-16	A					
g Programme	PAPER SIZE	SCALE	PAGE					
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**Contract 3** 

Acti	vity ID	Activity Name			Start	Finish	TE	al de la companya de		2	116				
/ 101	vity iD				Otari			) Mar		Apr		May		Jun	Jul
1	3-Month Rolling	Programme 2016-03-21							r – –						
	Key Dates (Cor	ntractual)													
	KD-1100	KD7: Stage 1A - Completion of the Realigned Tai Wo Service Road West for diversion of vehicular traffic	0	0		21-Mar-16*	-61	I	KD7: Sta	ge 1A - Completion of the Reali	gned Tai Wo Se	rvice Road West for o	diversion of	vehicular traffic	
	KD-1600	KD14: Stage N4B - Commissioning of Roundabout A by connecting to Slip Rd Y, Access Rd A & the realigned TWSRE	0	0		01-Jun-16*	0	)					♦ KD14: St	tage N4B - Comn	nissioning of Rour
	Key Dates (For	ecast)													
Г	KD-1105	KD7: Stage 1A - Completion of the Realigned Tai Wo Service Road West for	0	0		21-Mar-16	-61		KD7: Sta	ge 1A - Completion of the Reali	med Tai Wo Se	rvice Road West for	diversion of	vehicular traffic	
⊩	KD-1605	KD14: Stage N4B - Commissioning of Roundabout A by connecting to Slip Rd Y,	0	0		01-Jun-16	0	0					KD14: SI	tage N4B - Comm	nissioning of Rour
	Major Milestone	Access Rd A & the realigned TWSRE													
_	_							1 TO TTA +			TO (h - t				
	MS-2000C1	T3a: TTA to shift FLHS SB eastward for subsequent stage T3 (between CH7130 and CH7470)	1	0	07-Mar-16	6 A 07-Mar-16 A		13a: 11A to s	SAITT FLHS S	eastward for subsequent stage	e 13 (between t	H7130 and CH7470	)		
	MS-2000C	T3: TTA to split FLHS NB & SB with 3 lanes in the middle unoccupied (between CH7130 and CH7470)	1	0	20-Mar-16	6 A 20-Mar-16 A			T3: TTA to	split FLHS NB & SB with 3 lanes	in the middle u	noccupied (between	CH7130 and	d CH7470)	
	MS-2000D	T4: TTA to divert TWSRW traffic to the completed re-aligned TWSRW	1	1	02-Apr-1	16 02-Apr-16	3	3		T4: TTA to divert TWSRW 1	raffic to the cor	npleted re-aligned TW	/SRW		
	MS-0200	Completion of 4 nos. of piers crash with the existing FLH (by 2 sets)	0	0		13-Apr-16	216	δ		Completion of	4 nos. of piers of	rash with the existing	FLH (by 2 s	sets)	
	Major Procuren	nent & Delivery													
	Footbridge Stee	el Truss													
ll-	MM-3050	Fabrication of footbridge steel truss (Kiu Tau Footbridge)	100	100	28-Mar-1	16 05-Jul-16	-9	)							Fabri
Ľ	Design and Sub	omissions													
	Ctatutan Annu														
	Statutory Appro														
	PRE-1050	Submission & approval of CDIA report for construction of temporary platform for segment erection works	185	4	27-Nov-14	4 A 24-Mar-16	125	5	Subr	nssion & approval of CDIA repo	rt for constructio	n of temporary platfo	rm for segm	nent erection work	s, Submission & a
	Method Stateme	ent and Design (Major) Approved by AECOM													
Ir	PRE-2050	Submission of Shop Drawing for fabrication of Kiu Tau Footbridge Steelworks	30	7	02-Nov-1	5 A 27-Mar-16	-9		s	ubmission of Shop Drawing for f	abrication of Kiu	Tau Footbridge Stee	works, Subr	mission of Shop D	rawing for fabrica
	PRE-2030	Submission of E&M design for lighting of Kiu Tau Footbridge	60	60	21-Mar-1	16 04-Jun-16	59	)					Subm	nission of E&M de	sign for lighting of
	PRE-2040	Submission of E&M design for lighting inside viaduct structures of Bridge A, B, C & D	60	60	26-Apr-1	16 08-Jul-16	69	9							SI
	Section IA & IB	- Fanling Highway Widening (KD-1 & KD-2)													
	Fanling Highwa	y South Portion between CH6935 and CH7470													
ll-	Fanling Highw	ay Zone 1 between CH6935 and CH7130 (within SBZ2)													
	At-Grade Roa	dworks (195m)													
										Bing Loving	DN1200 We		Eopling Llig	abwoy / 90m long	(m dooth)
	FHW-1130*	Pipe Laying - DN1200 Watermains (CHC) along Fanling Highway (80m long, 4m depth)	182	20	20-Feb-14	4 A 16-Apr-16	24				- DIV1200 Wa		gi aning ring	griway (ournoing,	
	FHW-1300	Noise Barrier NB68 - Mini-Piling at central median (CSD: 24 nos)	80	80	21-Mar-1	16 29-Jun-16	0								Noise Barrie
	FHW-1140	Noise Barrier NB70 - Footing adjacent to SB lane (15m)	115	115	29-Apr-1	16 14-Sep-16	14	1							
-		·			1					•	3-N	lonth Rolling Prog	iramme un	dated to 2016	-03-20
		Actual	VVOrk					CEDD Contract No. CV/201	2/09		Date	Revisior		Checked	Approved
		Remai	ning W	Vork		Liantang / Heung	y Yue	en Wai BCP - Site Formation	& Infrast	ructure Works,	20-Mar-16	Rev0		SI	, approtod
		Summ	ary Ba	r				Contract 3						~_	
1	夜 和	建杂工柱有限公司 Critical	l Rema	aining W	Vork			3-Month Rolling Progra	mme						
	CHUN V	Vo Construction & Engineering Co., Ltd.	one			Brook	amr	no ID: 3MDD033 /Doto F	) ato: 24	Mar-16)		+			
				of E#		Filler			ale. 21	-wai - 10j					
		Actual	Level (	or ⊨πort				Page 1 of 9							
		Projec	t Basel	line Bar	r										

Activ	ty ID	Activity Name	OD	RD	Start	Finish	TF				20	16				
									Mar		Apr		May		Jun	Jul
	FHW-1310	Noise Barrier NB68 - Footing at central median (72m)	73	73	17-Jun-16	10-Sep-16	0									
"	Fanling Highwa	y Zone 2 between CH7130 and CH7290														
	At-Grade Road	works (160m)														
	FHW-2130*	Pipe Laying - DN1200 & DN600 Watermains (CHB & CHC) along Fanling Highway	144	316	12-Oct-15 A	20-Apr-17	198									
	FHW-2140	(183m long, 4m depth) Road Formation, Kerb and Pavement (Eastern Side: FLH SB Slow lane and hard	61	0	14-Oct-15 A	04-Mar-16 A			Road Formation	Kerb and F	avement (Eastern Side: FLH SB	Slow lane and	hard should )			
	FHW-2300	should ) Noise Barrier NB68 - Mini-Piling at central median (CSD: 22 nos)	80	79	19-Mar-16 A	28-Jun-16	-39									Noise Barrier
	FHW-2190	Footpath & DSD Access Track adjacent to SB lane	108	108	29-Apr-16	06-Sep-16	109									
	FHW-2310	Noise Barrier NB68A - Footing at central median (157m)	130	130	18-May-16	21-Oct-16	-39									
	Fanling Highwa	y Zone 3 between CH7290 and CH7380														
	At-Grade Road	works (130m)														
	FHW-3150*	Pipe Laying - DN600, DN1200 Watermains (CHB &CHC) along Fanling Highway (90m long, 3m depth)	150	316	07-Jun-14 A	20-Apr-17	39									
	FHW-3160	Road Formation, Kerb and Pavement (Eastern Side: FLH SB Slow lane and hard should )	63	0	05-Oct-15 A	04-Mar-16 A			Road Formation	Kerb and F	avement (Eastern Side: FLH SB	Slow lane and	hard should )			
	FHW-3300	Noise Barrier NB68A - Mini-Piling at central median (CSD: 20 nos)	70	69	19-Mar-16 A	16-Jun-16	-34			) 					Noise Barrie	r NB68A - Min
	FHW-3310	Noise Barrier NB68A - Footing at central median (98m)	90	90	05-May-16	20-Aug-16	-34									
	Fanling Highway	North Portion between CH7470 and CH7925														
	Fanling Highwa	y Zone 4 between CH7380 and CH7470														
	At-Grade Road	works (90m)														
	FHW-4210	Noise Barrier NB68A - Footing at central median (40m)	90	90	05-May-16	20-Aug-16	-34									
	FHW-4100	Noise Barrier NB71 & NB72 - Footing adjacent to SB lane (90m)	115	115	30-May-16	15-Oct-16	41									
	Fanling Highwa	y Zone 5 between CH7470 and CH7600 (Provision of Kiu Tau Footbridge)														
	Kiu Tau Footb	idge Reprovision (East)														
	FHW-5110	Inspection & Remedial Works for the 3nos. suspected defected piles (AB1-7, AB2-4, P3-9)	35	5	20-Nov-15 A	29-Mar-16	-3				Inspection & Remedial Works for	the 3nos. sus	pected defected piles	(AB1-7, AB2-4,	P3-9), Inspectior	& Remedial V
	FHW-5000C2	KT-P2 - Pling Works (3 out of 6 nos of Pile) - Phase 2, conflict with existing TWSRE	15	15	21-Mar-16	11-Apr-16	-8				KT-P2 - Piling Wo	ks (3 out of 6 i	nos of Pile) - Phase 2	conflict with ex	isting TWSRE	
	FHW-5010E	KT-P4 - Pie Cap & Pier	75	75	21-Mar-16	23-Jun-16	2								KT-P	4 - Pile Cap &
	FHW-5010A	KT-AB1 - Pile Cap & Abutment	75	75	30-Mar-16	29-Jun-16	-3									KT-AB1 - Pil
	FHW-5090	Additional BFA Facilities - Pile Cap & Sump Pit, to be covered by VO	45	45	12-Apr-16	04-Jun-16	17		_					Additiona	I BFA Facilities - I	Pile Cap & Sur
	FHW-5010D	KT-P3 - Pie Cap & Pier	60	60	12-Apr-16	23-Jun-16	-8								KT-P	3 - Pile Cap &
	FHW-5010C	KT-P2 - Pie Cap & Pier	60	60	12-Apr-16	23-Jun-16	-8								KT-P	2 - Pile Cap &
	FHW-5010B	KT-AB2 - Pile Cap & Abutment	60	60	23-Apr-16	06-Jul-16	-8	-								KT-A
		A struct	Work			1				a/aa		3-M	onth Rolling Prog	ramme updat	ted to 2016-03	-20
								CEDD Contrac	t No. CV/201	2/09		Date	Revision	1 (	Checked A	Approved
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6	CHUN W	O CONSTRUCTION & ENGINEERING CO., LTD.	ne	Ŭ		Deer				oto: 04	Mor 16)					
						Progra	1111	IE ID: SIMPRO	s∠ (Data D	ate: 21-	-ivia(-10)					
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		Projec	t Basel	ine Bar												

Acti	/ity ID	Activity Name	OD	RD	Start	Finish	TF				2	016				
								þ	Mar		Apr		Мау		Jun	Jul
	At-Grade Road	d Works (130m)														
	FHW-5120C	Preparation Works for Implementation of TTA Scheme E3A	30	0	07-Nov-15	A 02-Mar-16 A			Preparation Works	for Implem	entation of TTA Scheme E3A					
	FHW-5120D	Implementation of TTA - Scheme E3A (shifting TWSR East westward, at the existing ramp of Kiu Tau Footbridge)	0	0	03-Mar-16 A	4			<ul> <li>Implementation of</li> </ul>	TTA - Sche	me E3A (shifting TWSR East we	stward, at the e	xisting ramp of Kiu Tau	i Footbridge	9)	
	Remaining Work	s for Noise Barrier along widened Fanling Highway														
	FHW-NB-120	Noise Barrier Steelworks & Panel for NB6 (123m), adjacent to Fanling Highway SB lanes at Zone 1	20	10	03-Mar-16 A	A 05-Apr-16	485	5								
	FHW-NB-130	Noise Barrier Steelworks & Panel for NB7 (60m), adjacent to Fanling Highway SB lanes at Zone 1	10	10	06-Apr-16	16-Apr-16	485	5								
	FHW-NB-140	Noise Barrier Steelworks & Panel for NB71 (254m), adjacent to Fanling Highway SB lanes at Zones 2,3 & 4 $$	45	45	18-Apr-16	11-Jun-16	485	5								
	Section II - Rema	ainder of the Works (KD-3)														
	At Grade Link Ro	oad at Fanling Highway Interchange														
Γ	Link Road 1 (ne	ear Abut ment AB1)														
	FHI-LR1-1005	Noise Barrier NB66 - Footing adjacent NB lane (75m)	95	95	05-Apr-16	28-Jul-16	8	6		-						
	FHI-LR1-1010	Noise Barrier NB67 - Mini-Piling (42nos) (Assume 2 sets of plant)	160	160	05-Apr-16	15-Oct-16	1			-						
	Link Road 3 (ne	ear Abutment AD1)														
	FHI-LR3-3000	Completion of WSD works incl. DN600, DN1200 & DN1400	0	0		16-Apr-16	395	5			Completion	of WSD works	incl. DN600, DN1200	& DN1400		
	Link Road 4 (ne	ear Abut ment AC1)														
	FHI-LR4-4030	Construction of Retaining Wall beside Abutment AC1 (4 bays)	35	35	21-Mar-16	05-May-16	380					Const	ruction of Retaining W	all beside A	butment AC1 (4 b	oays)
	FHI-LR4-4000	Diversion of Traffic from Existing TWSR West to Realigned TWSR West	0	0	02-Apr-16		407	•			<ul> <li>Diversion of Traffic from Exi</li> </ul>	sting TWSR We	st to Realigned TWSR	R West		
	WSD Works															
ľ	DN450 Fire Mair	ns (CHA)														
	WA-1090	Pipe Laying - CHA 800 - 960 (DN450) near Ext. TWSR West (No Roadworks), 160m long & 3m depth	148	148	21-Mar-16*	* 19-Sep-16	18	5								
	WA-1060	Pipe Laying - CHA 450 - 575 (DN450) near Realigned TWSR West (Re-TWSRW: CH640 - 695), 125m long & 2m depth	95	95	30-Mar-16	23-Jul-16	171									
	DN600 Water Ma	ains (CHB)														
	WB-1060	Pipe Laying - CHB 538 - 635 (DN600) near Realigned TWSR East (TWSRE: CH270-380), 97m long & GL	40	15	17-Jul-15 A	11-Apr-16	499									
	WB-1030C	Pipe Laying - CHB 350 - 450 (DN600) from Portal AB7/AD9/AC12 to Portal AB8	85	85	08-Apr-16	20-Jul-16	417		1							
	DN1200 Water N	Mains (CHC)														
	WC-1050A	Pipe Laying - CHC 155 - 200 (DN1200) near Fanling Highway S/B (FHW: CH6935-7130), 45m long, 4m deoth	120	20	15-Oct-14 A	A 16-Apr-16	24				Pipe Laying	- CHC 155 - 20	00 (DN1200) near Fan	nling Highwa	ay S/B (FHW: CH	6935-7130), 45n
	WC-1060	Pipe Laying - CHC 235 - 420 (DN1200) near Fanling Highway S/B (FHW: CH7130-7290), 185m long (common trench with NB)	95	30	12-Oct-15 A	A 28-Apr-16	14		1 			Pipe Laying -	CHC 235 - 420 (DN1	200) near F	anling Highway S	/B (FHW: CH713
	WC-1090C	Pipe Laying - CHC 615 - 720 (DN1200) from Portal AB7/AD9/AC12 to Portal AB8	85	85	08-Apr-16	20-Jul-16	102	2								
	Twin DN1400 W	ater Mains (CHE & CHG)														
			VA/ e els								1	3-M	onth Rollina Proar	amme up	dated to 2016-	03-20
		Actual						CEDD Cor	ntract No. CV/201	2/09		Date	Revision		Checked	Approved
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		Project	t Basel	ine Bar	r											

Activ	rity ID	Activity Name	OD	RD	Start	Finish	TF	-			2	016				
								þ	Mar		Apr		May		Jun	Jul
	WE-1060	Pipe Laying - CHE & CHG (Twins DN1400) from Portal AB8 to new connection point	110	110	04-Jun-16	15-Oct-16	-28	3	_							
	WE-1050	Pipe Laying - CHE & CHG (Twins DN1400) from Portal AB7/AD9/AC12 to Portal AB8	85	85	04-Jun-16	13-Sep-16	4	1	_							<b>—</b>
	DN2200 Water	Mains (CHF)														
	WF-1000A	Pipe Laying - CHF 80 - 112 (DN2200) near ext. TWSR West underneath Box Culvert BC01	210	210	05-Apr-16	13-Dec-16	87	/								
	DN2300 Water	Mains and Leakage Collection System (CHJ & CHKA/CHK)														
	WJ-1020A	Pipe Laying - CHK 0 - 80 (DN1400) near Realigned TWSR East, 80m long & 4m depth	55	23	05-Oct-15 A	20-Apr-16	86	5			Pipe La	aying - CHK 0 -	80 (DN1400) near R	ealigned TW	SR East, 80m long &	& 4m depth, Pi
	WJ-1100	DN300 Washout at around CHJ 268	65	65	21-Mar-16	11-Jun-16*	144	1							DN300 Washout a	at around CHJ
	WJ-1110	DN300 Washout at CHJ 155	65	65	21-Mar-16	11-Jun-16*	144	1							DN300 Washout a	at CHJ 155
	WJ-1020B	Pipe Laying - CHKA0 - 73 (DN1400) near Realigned TWSR East, 73m long & 4m depth	90	90	21-Apr-16	08-Aug-16	86	5								
	Kau Lung Hang	Valve Control & Telemetry House Reprovision														
Г	VCTH-1020c	Testing and Commissioning (Valve operation for DN1400 watermains)	30	12	10-Oct-15 A	07-Apr-16	116	6			Testing and Commiss	oning (Valve op	peration for DN1400 v	watermains),	Testing and Commis	ssioning (Valve
I	VCTH-1030	Demolition of Existing KLH Valve Control & Telemetry House	90	90	08-Apr-16*	26-Jul-16	116	5. <u></u>								
	Existing Nam W	a Po Trunk Sewage Pumping Station (PST3)														
Γ	PS-1000	Demolition of Existing Boundary Wall of Pumping Station (PST3)	50	50	21-Mar-16*	24-May-16	410						Demo	olition of Exis	ting Boundary Wall o	of Pumping Sta
	PS-1010	Construction of New Boundary Wall for Pumping Station (PST3)	90	90	25-May-16	08-Sep-16	410	0								
	Stage 1A - Rea	lignment of Tai Wo Service Road West (KD-7)														
	TWSRW Zone 1	betweeen CH100 and CH155														
	At-Grade Road	lworks														
	TWSRW-1160	Road Formation, Road Drainage, DN150 watermain, Kerb, Planter & Pavement	286	2	15-Nov-14 A	22-Mar-16	7	1		Road Fo	rmation, Road Drainage, DN1	50 watermain, k	Kerb, Planter & Paver	ment, Road F	ormation, Road Dra	ainage, DN150
	TWSRW Zone 2	betweeen CH155 and CH280														
	At-Grade Road	Iworks														
	TWSRW-2120	Road Formation, Road Drainage, DN150 watermain, Kerb, Planter & Pavement	165	13	16-Oct-14 A	28-Apr-16	24	1				Road Format	tion, Road Drainage,	DN150 wate	rmain, Kerb, Planter	& Pavement,
	TWSRW-2130	Noise Barrier NB1a - Footing adjacent Realigned TWSR West (Covered by VO 103) (Approx. 60.2m)	85	3	14-Sep-15 A	23-Mar-16	45	5		Noise I	Barrier NB1a - Footing adjacent	Realigned TW	SR West (Covered by	y VO 103) (A	pprox. 60.2m), Nois	e Barrier NB1
	TWSRW-2140	Rectification Works for Southern Trunk Sewer	48	20	30-Oct-15 A	16-Apr-16	24	1			Rectification	Works for Sou	ithern Trunk Sewer, F	Rectification V	Norks for Southern	runk Sewer
	TWSRW-2120/	A Temporary Road Formation for connecting Existing TWSRW to Realigned TWSR West	18	0	22-Jan-16 A	22-Feb-16 A		Temp	porary Road Formation	or connectin	g Existing TWSRW to Realigne	d TWSR West				
	TWSRW Zone 3	betweeen CH280 and CH315														
	At-Grade Road	Iworks														
	TWSRW-3120	Road Formation, Road Drainage, Kerb, Planter and Pavement	181	0	22-Jun-15 A	26-Feb-16 A			Road Formation, Ro	ad Drainage	, Kerb, Planter and Pavement					
	TWSRW Zone 4	betweeen CH315 and CH376														
		Actual	Work						entroot No. CV/201	2/00		3-N	Ionth Rolling Prog	jramme up	dated to 2016-03	3-20
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	CHUN V	Vo Construction & Engineering Co., Ltd.	Rema	ning v	VUK	_		3-Month	Rolling Progra	mme						
		◆ ◆ Milesto	ne			Progr	amn	ne ID: 3M	IPR032 (Data D	ate: 21-	Mar-16)		ļ			
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Activ	/ity ID	Activity Name	OD	RD	Start	Finish	TF				20	016				
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	Construction of	f Bridge E							I							
	TWSRW-4100	Remove Scaffold System and Temporary Work together with Slope Reinstatement	75	0	21-Dec-15 A	12-Mar-16 A			<b></b> R	Remove Sca	ffold System and Temporary Wo	ork together wit	h Slope Reinstatemer	ht		
	At-Grade Road	works														
	TWSRW-4200	Cast Parapet, Lay Surfacing and Road Furniture for Footpath and Carriageway	35	0	12-Dec-15 A	27-Feb-16A		Cast P	Parapet, Lay Surf <mark>a</mark>	cing and Ro	ad Furniture for Footpath and 0	Carriageway				
	TW/SDW/ Zono 5	between CH276 and CH520														
	TWSRW Zone 51															
	At-Grade Road	works														
	TWSRW-5100	Retaining Wall RW7- adjacent to Realigned TWSR West (66m) (covered by VO No 100)	70	10	29-Oct-15 A	05-Apr-16	24				Retaining Wall RW7- ad	jacent to Realig	ned TWSR West (66	m) (covered	by VO No.100), Re	etaining Wall RV
	TWSRW-5110	Retaining Wall RW9 (to be covered by VO)	45	12	05-Jan-16 A	07-Apr-16	2				Retaining Wall RW9 (1	be covered b	y VO), Retaining Wal	RW9 (to be	covered by VO)	
	TWSRW-5110A	Road Formation, DN150 watermain, Kerb, Planter and Pavement	19	0	21-Jan-16 A	23-Feb-16 A		Road Form	nation, DN150 wat	termain, Ke	rb, Planter and Pavement					
	THODIN 54004		50	0	00 1 40 4	47.04 40.4			Re	taining Wall	RW8 - adjacent to Realigned T	NSR West (66	m) (covered by VO N	 		
	1W5RW-5100A	No.100)	50	0	29-Jan-16 A	17-Mar-16A				taining mai						
	TWSRW-5130	Installation of Stone Facing Finish	45	45	19-Mar-16 A	18-May-16	274		<b></b>				Installation o	Stone Facir	ng Finish, Installatio	n of Stone Faci
															<i></i>	
	TWSRW-5140	Remaining Road Formation, DN150 watermain, Kerb, Planter and Pavement (incl.	8	8	21-Mar-16	01-Apr-16	1		ſ		Remaining Road Formation,	DN150 waterm	iain, Kerb, Planter an	d Pavement	(incl. Zone 5)	
	TW/CDW/ 5120	ZOIR 5) Permanent \/ehigular Access to Let 91	125	125	06 Apr 16	02 Son 16	115					<u> </u>				
	1003600-5120		125	120	00-Api-10	02-3ep-10	115									
	TWSRW Zone 6	betweeen CH520 and CH530														
	At-Grade Road	works														
	TWSRW-6110	Slope Ungrading Works for unregistered feature beside Slope 3SW-D/C80	65	8	22-May-15 A	01-Apr-16	1				Clone Ungreding Works for a	who gistore d fo g	tura hasida Clana 20			Clane Linerad
	100000000000000000000000000000000000000	(Covered by VO. 68)	00	0	22-10ldy-15 A	01-Api-10	· ·				<ul> <li>Slope Upgrading works for u</li> </ul>	Inregistered tea	iture beside Siope 35	W-D/C80 (C	overed by VO. 68),	Slope Upgrad
	TWSRW-6100	Preparation Works for Implementation of TTA (shifting TWSRW traffic towards the	21	5	24-Dec-15 A	29-Mar-16	19				Preparation Works for Impleme	tation of TTA (s	shifting TWSRW traffi	; ic towards the	edge of extended	box culvert, Pr
		edge of extended box culvert														
	TWSRW Zone 7	betweeen CH530 and CH640														
	At-Grade Road	works														
	TWSRW-7150A	Road Drainage, Road Formation, DN150 watermain, Kerb, Planter and Pavement	49	0	21-Dec-15 A	26-Feb-16 A		Road D	rainage, Road Fo	rmation, DN	150 watermain, Kerb, Planter a	and Pavement (	incl. Zone 6 & Zone 7	7)		
	THODIN 7400	(Incl. Zone 6 & Zone 7)	04	-	00 0 45 4	00 Mar 40	40									
	1W5RW-7100	SB)	21	5	22-Dec-15 A	29-Mar-16	19				Preparation Works for Impleme	ntation of TTA (s	shifting TWSRW traffi	towards FL	HSB), Preparation	Works for Imp
	TWSRW-7110	Implementation of TTA - Scheme W3A(shifting TWSRW traffic towards FLH SB)	0	0	30-Mar-16		19			•	Implementation of TTA - Schem	e W3A(shifting	TWSRW traffic towar	ds FLH SB)		
										_						
	TWSRW-7150B	Remaining Road Formation, DN150 watermain, Kerb, Planter and Pavement (incl.	30	30	30-Mar-16	05-May-16	19					Rema	ining Road Formation	n, DN150 wa	termain, Kerb, Plar	iter and Paverr
	TIMEDIM Zono 8	Lone of a Lone ()														
	I WSRW Zone 81	Serveeen Cho40 and Cho95														
	Kiu Tau Footbr	idge Reprovision (West)										1		]		
						40.1.11	-									
	IWSRW-8020	Construction of Pile Cap and Abutment	50	22	17-Nov-15 A	19-Apr-16	55				Construc	tion of Pile Cap	and Abutment, Cons	struction of Pi	ile Cap and Abutme	nt
	At-Grade Road	works														
	TWSRW-8120	Road Formation, Road Drainage, Kerb and Pavement	22	0	21-Dec-15 A	26-Feb-16 A		Road F	ormation, Road	rainage, Ke	rb and Pavement					
		Dina Laving DN450 Watermains (CLIA)	05	05	20 Mar 16	22 14 46	474			_						
	1005600-0110	Pipe Laying - Div450 Watermains (CHA)	95	95	30-IVIAI - 16	23-Jui-16	1/1			L						
			1				1	•	•				anth Dalling Door			2.00
		Actual	Work					CEDD Contrac	t No. CV/2012	2/09		3-M		ramme upo	uated to 2016-03	5-20
		Remai	ining W	/ork		antana / House	Vuo	n Wai RCD - Site	- Formation P	Infractr	ucture Works	Date	Revisior	ו	Checked	Approved
		C		r		antany / neulig	iue			ะแมลอย	uciaie Woins,	20-Mar-16	Rev.0		SL	
	66 份 和	建築工程有限公司	ial y Da					Con	ntract 3							
	Current	Critica	l Rema	ining V	/ork		;	3-Month Rolli	ing Progran	nme						
E.	CHUN W	CONSTRUCTION & ENGINEERING CO., LTD.     A     Milester	one			Progra	amn	ne ID: 3MPR0	32 (Data Da	ate: 21-	Mar-16)					
				of Effor												
								rage	6 2 01 9							
		Projec	л вазеі	ine Ba	r								1			

Activity ID	Activity Name		RD	Start	Finish	I TE				20	16				
, loan ly 12				Otart				Mar		Apr	1	May	lun		lul
Remainder o	f the Works	-				<b></b>	ſ								
TWSRW-903	0 Utilities Diversion in Area 3 (along existing TWSRW, Approx. 150m) (by utilities	106	106	03-Apr-16	6 17-Jul-16	178	5						:		
	undertakers)														
Remaining V	orks for Noise Barrier along realigned TWSR West														
TWSRW-NB	110 Noise Barrier Steelworks & Panel for NB4 at Zones 1 & 2	20	20	21-Mar-16	6* 16-Apr-16	4	1			Noise Barrie	Steelworks &	Panel for NB4 at Zor	1 8 2		
		20	20	211100.10	0 107.pl 10					Noise Dame	Dieeiworks a		63102		
TWSRW-NB	130 Noise Barrier Steelworks & Panel for NB1b at Zone 4	10	10	18-Apr-16	6 28-Apr-16	4	-				Noise Barrier	Steelworks & Panel for	or NB1b at Zone 4		
													¦ {		
TWSRW-NB	140 Noise Barrier Steelworks & Panel for NB2 at Zone 5	20	20	29-Apr-16	6 24-May-16	4				L		Noise	Barrier Steelworks & P	anel for N	B2 at Zone 5
Starre N/A &	N/R - Realignment of Tai Wo Service Road East (KD-13 & KD-14)														
oluge H4A G															
TWSRE Zone	1 between CH100 and CH270														
At-Grade Re	adworks														
TWSRE-11	0* Pipe laving - DN1400 Watermains (CHKA) along Realigned TWSR Fast	90	90	21-Apr-16	6 08-Aug-16	86					1		!		
intene in				21749110	e corragite										
TWSRE-11	0 Remainig Noise Barrier NB3 Stem Wall (a total of 24m long)	30	30	20-May-16	6 24-Jun-16	218	5				-		······································	Rem	ainig Noise B
							_								
TWSRE Zone	2 between CH270 and CH380														
At-Grade R	adworks														
TWSRE-20	0A <sup>*</sup> Pipe laying - DN600 & DN1200 Watermains (CHB & CHC) along Realigned TWSR	30	256	17-Jul-15	A 04-Feb-17	280									
	East						_			Dine levi				nat	
TWSRE-20	308* Pipe laying - DN1400 Watermains (CHK) along Realigned TWSR East	55	23	05-Oct-15	5A 20-Apr-16	86	5			Pipe layi	ng - DN 1400 V	vatermains (CRK) aid	ing Realigned TWSR E	451	
TWSRE-20	0 Road Formation, Kerb, Footpath, Cycle Track, Planter and Pavement	71	71	21-Apr-16	6 16-Jul-16	200					.i				
				21749110		200									
TWSRE-20	60 Erection of Scaffolding for Demolition Works	60	60	16-Jun-16	6 25-Aug-16	0	)								
TWSRE Zone	3 between CH380 and CH456														
At-Grade R	adworks														
TWSRE-30	Road Formation, Kerb, Footpath, Cycle Track, Planter and Pavement (Incl. FL/F10)	165	165	21-Mar-16	6 11-Oct-16	129	·						1		
Baundahau	A Sin Deed and Assess Deed														
Roundabout	A, Silp Road and Access Road														
TWSRE-407	Roundabout A - Road Formation, Kerb, Planter and Pavement	90	17	26-Oct-15	A 13-Apr-16	40				Roundabout A -	Road Formati	on, Kerb, Planter and	Pavement, Roundabou	t A - Road	Formation.
					· ·						-				
TWSRE-411	Preparation Works for Implementation of TTA Scheme E1A (to shift TWSRE to	30	0	26-Oct-15	5A 19-Mar-16A				Preparation	Works for Implementation of TTA	Scheme E1A	(to shift TWSRE to R	oundabout A)		
TAVODE 400	Roundabout A)	400	67	00 D 45	- A 04 hos 40						1		- -		
IWSRE-402	Slip Road Y (CH260-CH404) - Road Formation, Road Drainage, Kerb, Planter and Pavement	108	57	28-Dec-15	5A 01-Jun-16	0	·						Slip Road Y (CH260	-CH404) -	Road Forma
TWSRE-412	D Implementation of TTA - Scheme E1A (to shift TWSRE to Roundabout A)	0	0	21-Mar-16	6A		-		Implemen	tation of TTA - Scheme E1A (to s	hift TWSRE to	Roundabout A)			
											<u> </u>				
TWSRE-403	B Slip Road Y (CH100-CH230) - Road Formation, Remaining Road Drainage, Kerb,	120	120	21-Mar-16	6 16-Aug-16	54	·				1				
Store 10 1															
Stage 1C - V	aduce Suructure & TUSS UTVILPTOVISIONS (KD-9)														
Preliminaries															
B-3050	Relocation of Plant including Pre-drilling Works	21	10	08-Mar-16	6A 05-Apr-16	11				Relocation of Plant includ	ing Pre-drilling	Works, Relocation of	Plant including Pre-dril	ing Works	5
				•			<u> </u>				:				
	Actua	Work						stract No. CV/204	2/00		3-M	onth Rolling Prog	ramme updated to 2	016-03-	-20
		inin - 14	lork					11 det 140. 6 V/201	2103		Date	Revision	n Checke	d A	pproved
	Rema	uning W	UIK		Liantang / Heung	Yue	en Wai BCP	- Site Formation	& Infrastr	ucture Works,	20-Mar-16	Rev.0	SL		
	Summ	nary Ba	r					Contract 3							
(公) 役:	や 運 染 工 程 有 限 公 司	al Rema	inina V	/ork			3-Month E	Olling Program	mmo						
Сни	Wo Construction & Engineering Co., Ltd.		.9.		_										
		one			Progra	amn	ne ID: 3MI	-R032 (Data D	ate: 21-	Mar-16)		ļ			
	Actua	I Level of	of Effort				F	Page 6 of 9							
	Proie	ct Basel	ine Bai					-							
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Acti	vity ID	Activity Name	OD	RD	Start	Finish	TF	IF 2016
								p Mar Apr May Jun Jul
	Foundation & F	Pier Construction						
	Bridge A							
	bridge A							
	BA-01-1010	Abutment AA1 - Pile Test	14	14	06-May-15 A	09-Apr-16	166	66 Abutment AA1 - Pile Test
	DA 00 1020		40	45	07 Nev 45 A	11 Apr 10	- 24	
	BA-09-1030	Plei AA9 - Plei Construction (Twin Plei)	49	15	07-NOV-15 A	11-Api-16	21	Pier AA9 - Pier Construction (Iwin Pier), Pier AA9 - Pier Construction (Iwin Pier)
	BA-07-1030	Pier AA7 - Pier Construction	28	0	31-Dec-15 A	07-Mar-16 A		Pier AA7 - Pier Construction
	DA 40 4000		00		40 1 40 4	00 Mar 40	00	
	BA-10-1020	Pier AA10 - Pile Cap	30	5	18-Jan-16 A	29-Mar-16	22	Pier AA10 - Pile Cap. Pier AA10 - Pile Cap
	BA-11-1030	Pier AA11 - Pier Construction	35	17	25-Jan-16 A	13-Apr-16	10	10 Pier AA11 - Pier Construction, Pier AA11 - Pier Construction
	BA-08-1000	Pier AA8 - Piling Works (P1)	12	0	26-Feb-16 A	10-Mar-16 A		Pier AA8 Piling Work\$ (P1)
	BA-02-1010	Pier AA2W - Pile Test	14	14	21-Mar-16	09-Apr-16	52	52 Pier AA2W - Pile Test
	BA-10-1030	Pier AA10 - Pier Construction	30	30	14-Apr-16	20-May-16	10	10 Pier AA10 - Pier Construction
	BA-02-1020B	Pier AA2W - Pile Cap	30	30	29-Apr-16	04-Jun-16	36	
	BA-06-1000	Pier AA6 - Piling Works	24	24	05-May-16	02-Jun-16	11	11 Pier AA6 - Piling Works
	BA-08-1040	Pier AA8 - Piling Works (P2,P3)	24	24	03-Jun-16	02-Jul-16	11	11 Pier AA
	Bridge B							
	BB-01-1010	Abutment AB1 - Pile Test	14	14	18-Aug-15 A	09-Apr-16	201	Abutment AB1 - Pile Test
	BB-12-1020	Abutment AB12/AD14 - Pile Cap	65	25	28-Oct-15 A	22-Apr-16	991	91 Abutmént AB12/AD14 - Pile Cap, Abutment AB12/AD14 - Pile Cap
	BB-12-1030	Abutment AB12/AD14 - Abutment Construction	75	75	21-Mar-16	23-Jun-16	133	Abutmart AB12/A
	55 12 1000				21 110 10	20 0011 10		
	BB-06-1050	Portal AB6 - Portal Beam Construction together with Kicker	40	40	21-Mar-16	11-May-16	17	17 Portal AB6 - Portal Beam Construction together with Kicker
	BB-04-1000	Pier AB4 - Piling Works	24	24	06-Apr-16	04-May-16	11	
	BB 04 1000		24	24	00740110	of May 10		- Fiel AD++Filling Works
	BB-04-1010	Pier AB4 - Pile Test	14	14	23-May-16	07-Jun-16	34	34 Pier AB4 - Pile Test
	BB-04-1020	Pier AR4 - Pile Can	30	30	08- lun-16	14- Jul-16	34	
	BB 04 1020		00	00	00 0011 10		04	
	Bridge C							
	BC=01=1030	Abutment AC1 - Abutment Construction	50	15	16-Dec-15 A	11-Apr-16	220	
	20 01 1000		00	10	10 200 10/1	117,0110	220	Adument Ac 1 - Adument Construction
	BC-02-1020	Pier AC2 - Pile Cap	27	0	18-Jan-16 A	14-Mar-16 A		Pier AC2 - Pile Cap
	PC 02 1020	Bior AC2 Bior Construction	20	0	26 Jan 16 A	00 Mar 16 A		
	BC-03-1030	Plei AC3 - Plei Constitucion	20	0	20-Jan-10 A	09-IVIAI - 16 A		Pier AC3- Pier Construction
	BC-02-1030	Pier AC2 - Pier Construction	45	45	21-Mar-16	18-May-16	41	41 Pier AC2 - Pier Construction
	Bridge D							
	Bridge D							
	BD-13-1030	Pier AD13 - Pier Construction	45	12	03-Dec-15 A	07-Apr-16	41	41 Pier AD13 - Pier Construction, Pier AD13 - Pier Construction
	DD 10 1000	Diar A D12 Diar Construction	1.5		00 Dec 45 1	00 E-5 40 1	-	
	BD-12-1030	Pier AD12 - Pier Construction	45	0	09-Dec-15 A	29-Feb-16 A		Pier AD12 - Pier Construction
-		·						2 Month Dolling Drogramma undated to 2016 02 20
1		Actua	l Work					CEDD Contract No. CV/2012/09 Showing Programme updated to 2016-03-20
1		Rema	aining W	ork	Li	antang / Heung	ı Yue	uen Wai BCP - Site Formation & Infrastructure Works,
		Sum	nary Bar		-		,	Contract 3
	( 後 和	建	al Remoi	nina M	/ork			
	CHUN V	Vo Construction & Engineering Co., Ltd.	ai i vettidi	inig v	UIN			3-Month Kolling Programme
		◆ Miles	tone			Progra	amm	me ID: 3MPR032 (Data Date: 21-Mar-16)
1		Actua	I Level c	of Effort				Page 7 of 9
		Proje	ct Baseli	ne Bar				
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Acti	/ity ID	Activity Name	OD	RD	Start	Finish	TF	-		2	016				
								o Mar		Apr		May		Jun	Jul
	BD-08-1040	Portal AC11/AD8 - Portal Beam Construction together with Kicker	40	33	17-Feb-16	6 A 03-May-16	9	9			Portal A	C11/AD8 - Portal Bea	m Constructior	n together with k	Kicker, Portal AC
	BD-01-1030	Abutment AD1 - Abutment Construction	50	47	18-Feb-16	6 A 20-May-16	174	4				Abutment	AD1 - Abutme	nt Construction,	Abut ment AD1
	BD-09-1040	Portal AD9/AC12 - Portal Beam Construction together with Kicker	40	30	25-Feb-16	6 A 28-Apr-16	-28	3			Portal AD9/A	C12 - Portal Beam Co	nstruction toge	ther with Kicker	, Portal AD9/AC
	BD-11-1020A	Pier AD11E - Pile Cap	30	30	21-Mar-1	16 28-Apr-16	1	1			Pier AD11E -	Pile Cap			
	BD-11-1030	Pier AD11E - Pier Construction	35	35	29-Apr-1	16 11-Jun-16	1	1			<u> </u>		F	Pier AD11E - Pie	er Construction
	BD-03-2030	Pier AD3E - Pier Construction	28	28	13-Jun-1	16 15-Jul-16	1	1					<b>•</b>		
	Pier Table Const	truction													
	Bridge A														
	PA-1180	Pier Table Construction at Pier AA18 (4 nos.)	50	0	14-Dec-15	5 A 12-Mar-16 A		Pier Ta	le Construc	tion at Pier AA18 (4 nos.)					
	PA-1030	Pier Table Construction at Pier AA3 (3 nos.)	50	0	19-Jan-16	6A 25-Feb-16A								Pier Table Cor	struction at Pier
	PA-1040	Pier Table Construction at Pier AA4 (3 nos.)	50	0	25-Jan-16	6 A 05-Mar-16 A			<ul> <li>Pier Tab</li> </ul>	e Construction at Pier AA4 (3 n	ios.)				
	PA-1050	Pier Table Construction at Pier AA5 (4 nos.)	50	33	12-Mar-16	6 A 03-May-16	0	0			Pier Tab	le Construction at Pie	r AA5 (4 nos.),	Pier Table Cons	struction at Pier A
	PA-1120	Pier Table Construction at Pier AA12 (3 nos.)	50	50	21-Mar-1	6* 24-May-16	0				_	Pier Ta	able Constructi	on at Pier AA12	(3 nos.)
	PA-1110	Pier Table Construction at Pier AA11 (3 nos.)	50	50	22-Apr-1	16 22-Jun-16	24	4						Pier	Table Construct
	PA-1090	Pier Table Construction at Pier AA9 (4 nos.)	50	50	04-May-1	16 04-Jul-16	10	D							Pier Ta
	PA-1100	Pier Table Construction at Pier AA10 (3 nos.)	50	50	28-May-1	16 27-Jul-16	10	D							
	Bridge B														
	PB-1100	Pier Table Construction at Pier AB10 (4 nos.) incl. in-situ cross head	50	2	21-Sep-15	5 A 22-Mar-16*	-88	3	Pier Tab	e Construction at Pier AB10 (4	nos.) incl. in-situ	ı cross head, Pier Tab	le Construction	at Pier AB10 (4	nos.) incl. in-sit
	PB-1110	Pier Table Construction at Pier AB11 (4 nos.) incl. in-situ cross head	42	14	24-Dec-15	5 A 09-Apr-16	-25	5		Pier Table Construc	tion at Pier AB1	1 (4 nos.) incl. in-situ	cross head, Pie	er Table Constru	ction at Pier AB1
	PB-1090	Pier Table Construction at Pier AB9 (4 nos.) incl. in-situ cross head	40	30	01-Mar-16	6 A 28-Apr-16	218	3			Pier Table Co	nstruction at Pier AB9	(4 nos.) incl. in	-situ cross head	l, Pier Table Cor
	PB-1050	Pier Table Construction at Pier AB5 (3 nos.)	50	9	04-Mar-16	6 A 02-Apr-16	14	4		Pier	Table Construct	ion at Pier AB5 (3 nos	.), Pier Table C	onstruction at P	ier AB5 (3 nos.)
	PB-1060	Pier Table Construction at Portal AB6 (2 nos.)	18	18	02-Jun-1	16 23-Jun-16	0	D						Pie	r Table Constru
	Bridge C														
	PC-1040	Pier Table Construction at Pier AC4 (3 nos.)	50	50	25-May-1	16 23-Jul-16	47	7							
	Bridge D														
	PD-1100	Pier Table Construction at Pier AD10 (4 nos.) incl. in-situ cross head	40	10	06-Oct-15	5 A 05-Apr-16	-11	1		Pier Table Construction	at Pier AD10 (4	nos.) incl. in-situ cros	s head, Pier Ta	ble Construction	n at Pier AD10 (4
	PD-1120	Pier Table Construction at Pier AD12 (4 nos.) incl. in-situ cross head	40	40	06-Apr-1	16 24-May-16	44	4							Pier Table 0
	PD-1130	Pier Table Construction at Pier AD13 (4 nos.) incl. in-situ cross head	40	40	16-Apr-1	16 03-Jun-16	41	1					Pier Table	Construction at	t Pier AD13 (4 n
	PD-1090	Pier Table Construction at Portal AD9/AC12 (4 nos.)	28	28	29-Apr-1	16 02-Jun-16	-28	3					Pier Table	Construction at	Portal AD9/AC1
		Act	tual Work					CEDD Contract No. CV/201	2/00		3-N	onth Rolling Prog	ramme upda	ited to 2016-0	)3-20
			maining M	ork					_,05		Date	Revision		Checked	Approved
		Kei	maining w	UIK		Liantang / Heung	Yue	en Wai BCP - Site Formation	& Infrastr	ucture Works,	20-Mar-16	Rev.0	SL	-	
	AM 14 4		immary Bar	•				Contract 3							
	夜 和	建 帶 上 程 有 限 公 可 Crit	itical Remai	ining W	ork			3-Month Rolling Progra	mme						
	CHUN W	VO CONSTRUCTION & ENGINEERING CO., LTD.	lestone	-		D			oto: 04	Mar 16)					
						Progra		ile ID. SIVIERUSZ (Data D	ale. 21-	iviai = 10)					
		Act	tual Level c	of Effort				Page 8 of 9							
		Pro Pro	oject Baseli	ine Bar											

Activity ID	Activity Name	OD	RD	Start	Finish	TF	-			2	016				
							þ	Mar		Apr		May	Ju	un	Jul
PD-1080	Pier Table Construction at Portal AC11/AD8 (4 nos.)	20	20	04-May	-16 27-May-16	ę	9					P	ier Table Construc	ction at Portal A	C11/AD8 (4 no
Viadu ct Bridge	e Segement Election														
Bridge A															
EA-1030	Bridge Deck Construction at Pier AA3 by Typical Lifting Frame (16 nos + 1 no. key segment)	10	0	04-Mar-1	16 A 18-Mar-16 A										Bridge Deck
EA-1040	Bridge Deck Construction at Pier AA4 by Typical Lifting Frame (16 nos + 1 no. key segment)	10	10	21-Mar-	-16 05-Apr-16	E	5						Bridge	e Deck Constru	ction at Pier AA
EA-1050	Bridge Deck Construction at Pier AA5 by Typical Lifting Frame (12 nos + 1 no. key segment)	10	10	09-May-	-16 20-May-16	0	0							Bridg	e Deck Constru
EA-1180	Bridge Deck Construction at Pier AA18 by Typical Lifting Frame (24 nos + 2 no. key segment)	15	15	21-May-	-16 07-Jun-16	0	D						Bridge	Deck Construct	tion at Pier AA
Bridge B															
EB-1070	Bridge Deck Construction at Pier AB7 by Crane (26 nos + 2 no. key segment)	20	12	29-Feb-1	16 A 07-Apr-16	19	9			Bridge Deck Constru	ction at Pier AB	/ by Crane (26 nos +	2 no. key segmer	nt), Bridge Deck	Construction a
EB-1100	Bridge Deck Construction at Pier AB10 by Special Lifting Frame (54 nos in which 12 nos above MTRCL Railway)	72	72	23-Mar-	-16 22-Jun-16	-88	3							Bridg	e Deck Constru
EB-1050	Bridge Deck Construction at Pier AB5 by Typical Lifting Frame (16 nos + 1 no. key segment)	10	10	20-Apr-	16 30-Apr-16	5	5				-				Brid
EB-1090	Bridge Deck Construction at Pier AB9 by Crane (36 nos + 2 no. key segment)	16	16	29-Apr-	16 19-May-16	218	3				<u> </u>	Bridge Dee	ck Construction at	Pier AB9 by Cr	ane (36 nos +
Bridge C															
EC-1050	Bridge Deck Construction at Pier AC5 by Typical Lifting Frame (20 nos + 2 no. key segment + 3 no. of AC6)	12	12	06-Apr-	16 19-Apr-16	5	5			Bridge	Deck Construction	on at Pier AC5 by Typ	pical Lifting Frame	e (20 nos + 2 no	. key segment
Bridge D															
ED-1070	Bridge Deck Construction at Pier AD7 by Typical Lifting Frame (26 nos + 1 no. key segment)	15	0	29-Jan-1	16 A 25-Feb-16 A			_		Bridge Deck Constr	uction at Pier AD	7 by Typical Lifting F	rame (26 nos + 1	no. key segme	nt)
ED-1100	Bridge Deck Construction at Portal AD10 by Crane (52 nos)	32	32	06-Apr-	16 13-May-16	-11						Bridge Deck Con	struction at Portal	AD10 by Crane	e (52 nos)
ED-1090	Bridge Deck Construction at Portal AD9 by Crane (14 nos + 4 no. key segment)	15	15	03-Jun-	16 21-Jun-16	-28	3	_						Bridge	Deck Construe
ED-1130	Bridge Deck Construction at Pier AD 13 by Crane (6 nos)	44	44	04-Jun-	16 27-Jul-16	41									
ED-1080	Bridge Deck Construction at Portal (AC11 & AD8) by Typical Lifting Frame (12 nos + 2 no. key segment)	13	13	08-Jun-	16 23-Jun-16	0	0							Brid	ge Deck Const
Section VI - W	orks in Portion FH9 (KD-6A)														
Major Works															
S6-2000*	Construction of Abutment AB12/AD14 (including Piling, Pile Cap & Abutment construction)	276	75	06-Feb-1	15 A 23-Jun-16	133	3							Con	struction of Ab
Landscaping	& Establishment Works (KD-4, 4A, 5, 5A, 6)														
Secton III - Re	mainder of Landscaping Softworks Not Included in Secton IIIA														
S3-1000	Transplanting along Realigned TWSR West	120	120	05-Apr-	16 26-Aug-16	305	5							<u></u>	
S3-1020	Transplanting near MTR East Rail Line	240	240	21-May-	-16 13-Mar-17	147	7								
											2 1	lonth Polling Pro	aramme undete	ad to 2016 03	8-20
	Actual	Work					CEDD Co	ntract No. CV/201	2/09					bookod	Approved
	Remai	ning W	ork		Liantano / Heun	a Yur	en Wai BCP	- Site Formation	& Infrastr	ucture Works.		Revisio			hpiovea
	Summ	arv Bar	r					Contract 3			20-Mar-16	Rev.0			
人 俊 禾	□ 建	Rema	inina V	Vork			0 Manut -								
CHUN	Wo Construction & Engineering Co., Ltd.	ritellid	n nn ig v	UIN			3-wonth I	coming Progra	mme						
	◆ ♦ Milesto	one			Progr	amr	ne ID: 3M	PR032 (Data D	ate: 21-	Mar-16)					
	Actual	Level	of Effor	t				Page 9 of 9							
	Project	t Baseli	ine Ba	r				-							



**Contract 5** 

		Control Point -	Site Po	fination and the				
et No	. CV/2013/03	3 - Liantang/Heung Yuen Wai Boundary Control Point -						0010
				Otent	Finish	redecessors	01 01 10	2013
			Duration	Start				
WBS	Т	ask Name	1110 days	Thu 28/3/13	Sun 10/4/16		-	
		I Defe	424 days	Thu 11/4/13	Mon 9/0/14			
1	K	Key Dates	399 days	Thu 11/4/13	Thu 13/3/14		0	
2	P	Cite Establishment	89 days	Fri 12/4/13	Tue 20/8/13		-	
2.1		Applications to Government Department	131 days	Fri 12/4/13	Wed 9/4/14			
2.2		Temporary Traffic Arrangement (TTA) Scheme for temp. LMH Ru	363 days	Fri 12/4/13	Wed 21/8/13		-	
2.3		Lision with Utility Undertakers	132 days	Thu 11/4/13	Mon 9/6/14	5SS		F
2.4		Environmental Baseline & Impact Monitoring	424 days	Fri 12/4/13	Mon 7/10/13			
2.5		General Site Clearance	180 days	Thu 11/4/13	Mon 7/10/13	4		
2.0		Stage of the Works	179 days	Fritziario				
3	and the second second	Stage I of the Works - Temporary vehicular bridge 8 and temporary en	and the second second	The 11/4/13	Thu 27/6/13	The state of the s		
201		Road Lack CD Denot (1 MH2)	78 davs	Fri 12/4/13	Wed 31/5/17	warmen in these		2
3.2		Stage II of the Works - Temporary Arcust Denot Patrice	1511 days	Thu 30/5/13	Tue 4/2/14	7455+13 davs	A	
4		Section of the Works	251 davs	THU DOVERN		ug out		
4.1		Section I of the Works - Ground Investigation field to the	100	Sat 31/8/13	Thu 6/3/14	24.25.26		<b>e</b> 19
		and Mindle All Informations tests for Section I	100 days	Sun 12/5/13	Thu 8/8/13	29162160		
4.2		Section II of the Works - All Information works for Portions RS1, RS2 & RS3 (seek	ay days					
4.3		Section III of the Works - Sile Infinite ref. SRJV/W47/SO/J5/1308/00416 dated				a formation of	S	
-		for certificate of completion in retter type of	100 days	Fri 12/4/13	Thu 15/5/14	P		
		23/8/2013) All a Works, Village house within portion RS4 - EOT3 completion	222 0403		an another			
4.4		Section IV of the Works - That's tour -	747 days	Fri 12/4/13	Tue 28/4/15	1		-
1		15/5/2014 15/5/2014 Works All works within portion RS4 exclude Section IV - EOTS	ALL DOLL		and the second	8		
4.5		Section V of the works of the section of the sectio	249 days	Mon 9/9/13	1bu 15/5/14	6.7.18		·
1		completion 25/4/2015	571 days	Tue 11/6/13	Frizinis	UTTERS .		
4.6		Section VII of the Works - All works within Area BCPA - EOT6 completion 2/1/2015	and the second s		Contrast.	7		
4.7		Section VIII of the U.g. of the Contraction of the	751 days	Fri 20/12/13	581 9/1/10	1980 ( L. 1990)		
		Works - All works within Area BCPB - EOTO12 completion 9		and the second second	Tere 100/15	8		
4.8		Section 1X of the Works 7th Action	454 days	Thu 5/6/14	The more	a market and		
1		Section X of the Works - All works within Area BCPC	The state of the state	and the second se	Wed 6/1/16			
4.9		Section & or one system	542 days	Mon 14/7/14	TTER OFFICE			4
-		Section XI of the Works - All works within Area BCPD - EOTOTZ commences	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1000	Mon 18/5/15	74		4
4.1	<u>0</u> ,	January 2016	635 davs	Thu 22/8/13	Sat 30/4/16	74		
		Section XII of the Works - All works within Area LMH	983 davs	Thu 22/8/13	ALL	The last states		C
-		Section XIII of the Works - Works not covered in any other Sections	A MARINE	m	Wed 30/10/13			R
4.1	2	String the second se	70 days	Thu 22/8/15	Fri 22/11/13	492SS+25 days	1	
		Submissions	68 days	Mon 10/9/13	Tue 5/5/15			
4.1	2.1	Approval of Submissions	1 day	Tue 5/5/15				
4.	2.2	VO.080 Additional Footpath adjacent to the Eastern Side of Char Fuer		11-26/5/15	Tue 19/5/15	494		
4.	2.5	Village Re-sile Area	14 days	Wea 0/5/15	Tue 26/5/15	495		
-	124	Submissions	7 days	Wed 20/5/15	Mon 15/6/15	496		1
-17	12.4	Approval of Submissions	20 days	Wed 2//5/15	Tue 4/8/15	496FS+20 days		1
-1"	12.5	Temporarty works and excavation	50 days	Tue 10/0/15	Mon 28/9/15	498FS+15 days		
4.	12.0	Base slab	40 days	Thu 20/0/15	Sat 7/11/15	499		
5 4.	12.1	Wall Stem	40 days	142 29/9/15	Mon 7/12/15	500FS+10 days		
9 4.	12.0	Backfilling	20 days	Wed 10/11/15	Fri 1/1/16	501		1
4.	12.7	DN150 watermain & Utilities Laying	25 days	1ue 0/14/15	Fri 15/1/16	502		
1	12.10	Surfacing & U-Channel	14 days	Sal 2/1/10	Tue 5/1/16	502	1	1
	12.11	Reinstatement of Gabion	4 days	Dal 2/1/10	Fri 22/11/1	3 492SS+1 day		
3 4	12.14	Type 2 Railing LMH Rd	92 days	FTI 23/8/13				
4	12.15	Temporary Traffic Arrangement (TTA) Scheme for works at calling and		Eri 72/8/12	Thu 12/9/1.			
4	4.17	24 December 2010 All and a second and a se	21 days	Frei 12/0/13	Wed 6/11/1	3 506		
6	12.141	Preparation of TTA scheme	55 days	Thu 7/11/13	Fri 22/11/1	3 507		
-1	12 14 2	Comment & approval of TTA scheme by TD & UNO	16 days	Thu 74/10/13	Sat 30/4/1	6		
0	12 14 3	Obtain roadwork advice from RMO	920 days	Wed 7/10/15	Tue 5/1/10	i -		
-0	12.14.5	Lin Ma Hang Road Widening Section	91 days	Wed //10/15				
9	12 15 1	PVO - Additional U-Channel along both Side of existing take		Wed 31/12/14	Wed 31/12	14		
U	12.13.1	600m x 2) (Advanced works commenced)	0 days	Tue 6/1/15	Tue 6/1/1	5 511FS+2 days	5	
	12 15 2	VO.061 Addition al Rising Main at Lorin Road	0 days	The 6/1/15	Thu 26/3/	5 512		
2	12.15.3	place order for HDPE pipes	80 days	THE 7/10/14	Tue 7/10/	14		
3	1.12.15.4	arrival of HDPE pipes	G Ø days	LUC // LV/LA			1	
4	1 12 15 5	RECEIVE VO 053 ADDITIONAL CROSS ROAD DOOL		Tue 14/10/14	Tue 14/10	14		
		IRRIGATION PIPES	0 days	JUL 14/10/14				
	112.15.6	RECEIVE VO 062 CABLE DUCTS LATING FOR 2 CH		Sun 24/8/14	Sat 11/4/	15		
*	THE BEAUTY	SYSTEM AT LIN MA HANG ROAD	231 days	Guil a no. 1 t				
6	4.12.15.7	1 Works from chainage 190 to chainage 300 (recound and a	0.1	Sun 24/8/14	Sun 24/8	14		
10		footpath)	U days	Sun 24/8/14	Sat 13/9/	14 517		
517	4 12,15.7.1	TTA for ch 310-380(west)	21 days	Sun 14/9/14	Tue 28/10	/14 518		
18	4.12.15.7.2	earthwork to lay drainage & wull work	45 days	Wad 20/10/14	Sat 15/11	/14 519,514		
30 510	4 12.15.7.3	drainage & walerwork + Dackfill Jor Chi	18 days	Sun 16/11/14	Thu 4/12	/14 520		
517	4.12.15.7.4	V0053 - crossing no. 1(whole), 4 (wesh)	19 days	Evi 5/17/14	Thu 11/12	2/14 521		
740	4.12.15.7.5	UU for ch 190-380 (152KV, 11KV, LV)	7 days	FII J/12/14		Deadline	0	
\$71		filling works to formation of roda (include Site 2019)		Critical Split	***********	Deadine		
12	1121576	Juning Works in Jac	Summary	Children -1				

Sang Hing Civil - Richwell Machinery JV



ID - {	WBS	Task Name	Duration	Start	Finish	Predecessors	01 02 03	2014
	1 12 15 7 7	street lighting drawnits & crossroads	7 davs	Fri 12/12/14	Thu 18/12/14	522	Q91 Q1 1 Q2 Q3	1 21 24 2
24	121578	kerh hedding Javing & backing before hituminous material	9 days	Fri 19/12/14	Sat 27/12/14	523		
25	1 12 15 7 9	filling works to formation of footnath	4 days	Sun 28/12/14	Wed 31/12/14	524		
26	1. 12. 15. 7. 10	UII for CLP (lighting)	5 days	Thu 1/1/15	Mon 5/1/15	525		
27	1.12.15.7.11	UU for ch 190-380 (PCCW)	7 days	Tue 6/1/15	Mon 12/1/15	526		
28	1.12.15.7.12	irrigation system	7 days	Tue 13/1/15	Mon 19/1/15	527		
9	1.12.15.7.13	preparation works to formation of footpath	3 days	Mon 19/1/15	Wed 21/1/15	528FS-1 day	1	
0	1.12.15.7.14	footpath paving	9 days	Thu 22/1/15	Fri 30/1/15	529		
1	1.12.15.7.15	V0.061 for renewal of rising main	6 days	Fri 27/3/15	Wed 1/4/15	513		
2	1.12.15.7.16	sub-base laving for road	5 days	Thu 2/4/15	Mon 6/4/15	531	1	
3	1.12.15.7.17	AC - lav DBM & base course	5 days	Tue 7/4/15	Sat 11/4/15	524,532		
4	1.12.15.8	1 Works from chainage 380 to chainage 580 (west side carriageway &	402 days	Fri 22/11/13	Mon 29/12/14	505		4
_	CO Description	footpath)	A 1	E-1 00/11/11	En: 00/11/12			6-02/11
5	1,12.15.8.1	TTA for ch 380-580(west)	U days	Fri 22/11/13	F(1 22/11/13	525		want want
5	1.12.15.8,2	watermain (include issue of alignment and laying)	120 days	Sat 23/11/13	Sat 22/3/14	526		9
	1.12.15.8.3	drainage (pipe, manholes & gullies)	155 days	Sun 23/3/14	Sun 24/8/14	550		0-98/4
8	1.12.15.8.4	Received Variation Order Nos. 040 & 042	0 days	MON 28/4/14	IVIOR 20/4/14	52700 1 50 Jan 6191	S+14 days	(Manage
	1.12.15.8.5	construct DN450mm pipe with concrete surround	28 days	Mon 12/5/14	Sun 8/0/14	22/22+20 days,2201	3114 0498	
	12.15.8.5.1	low stream pipe & catchpit at western side	28 days	Mon 12/5/14	Sun 8/6/14	539 540		
1	.12.15.8.6	construct 1900x950 box culvert with manholes SMH8052A & B	49 days	Mon 9/6/14	Sun 27/7/14	330,340		
	12.15 8.6.1	support existing DN150mm sewer pine & watermain	7 davs	Mon 9/6/14	Sun 15/6/14			<b>\$</b>
	12 15 8 6 7	construct box culvert	14 days	Mon 16/6/14	Sun 29/6/14	542		90
	12.15.8.6.3	construct manholes	28 days	Mon 30/6/14	Sun 27/7/14	543		9
-1	12 15 8 7	found existing cables affected construction of pullies & discuss with CLP	18 days	Sat 26/7/14	Tuc 12/8/14	537FF-12		Ģ
ľ	12.13.0.1	toning existing enoise attened collection of Rulles of disease with CP1	30 GAJD			days,544FS-2 days		11
	12 15 8 8	complete preparation work & fill footnath for 132kV 11kV & LV	8 days	Wed 13/8/14	Wed 20/8/14	545		
-	12.15.8.0	III - 132kV+11kV & I V	35 days	Thu 21/8/14	Wed 24/9/14	546		
-0	12.15.8.10	(emporance connection of cables	3 days	Thu 25/9/14	Sat 27/9/14	547		
- 6	12.15 0 10	060x650 box autourt (low stream & west catchnit)	7 days	Sun 28/9/14	Sat 4/10/14	548		
	12.15.0.11	sonstruct outstanding drainage & gulling	7 days	Wed 1/10/14	Tue 7/10/14	550FS-4 days		
-6	12.15.0 12	filling work to formation of road (include SPT08%)	5 days	Wed 8/10/14	Sun 12/10/14	551		
-1	12.15.8.15	V0053 = crossing no. 3. 4 (west)	10 days	Mon 13/10/14	Wed 22/10/14	514FS+6 days		
_	1215015	complete filling work to formation afreed (include SPT0894)	5 days	Thu 23/10/14	Mon 27/10/14	553		
1	12.13.6.13	complete juling work to jornation of road (include SI(19676)	Judys	Mar 27/10/14	The 20/10/14	STARS I day		
5 4	. 12.15.8.16 . <b>12.15.8.1</b> 7	street lighting drawpils & crossing at ch 523 UU for CLP (lighting)	4 days 5 days	Fri 31/10/14	Tue 4/11/14	555		
_			1.1	Wed 5/11/14	Set 9/11/14	556		
1	12,15,8,18	sub-base laying for road	4 days	Wed 5/11/14	Sat 0/11/14	557EC 1 day		
-	12,15.8.19	kerb bedding, laying & backing before bituminous material	12 days	Sal 8/11/14	Weg 19/11/14	5571°5-1 uuy		
4	12.15.8.20	filling works to formation of footpath	5 aays	The 20/11/14	Mon 8/17/14	550		
1	12,15,8.21	UU Jor ch 380-380 (PCCW)	14 uuys	100 23/11/14	1410H 0/12/14	557		
	12.15.8.22	irrigation system	4 days	Tue 9/12/14	Fri 12/12/14	560		
	12.15.8.23	preparation works to formation of footbath	3 days	Sat 13/12/14	Mon 15/12/14	561		
	12.15.8.24	footpath paving	14 days	Tue 16/12/14	Mon 29/12/14	562		
	12.15.8.25	AC - Iay DBM & base course	5 days	Thu 20/11/14	Mon 24/11/14	558		
	13 16 0	2 Works from ab 200 500 (and side an mineration)	318 dave	Wed 26/11/14	Sat 10/10/15	564FS+2 days		
	12.15.9	2 WORKS IFOR CH 380-580 (Past Side Carriageway)	0 days	Wed 26/11/14	Wed 26/11/14	Jon D' a dajs		
-12	12.13.9.1	I ITA LUI OI JOU (CASL)	4 days	Thu 27/11/14	Sun 30/11/14	566		
4	12.13.9.2	DVOL 2 non II Channel Drainage Crossing	14 days	Mon 1/12/14	Sun 14/12/14	567		
- 4	12.13.9.3	VO. 2 nos. O-Channel Dramage Crossing	40 days	Fri 27/8/15	Tue \$/\$/15	513.568		
	12.13.9.4	VO.001 JUT FISHING MAIN	14 days	Wed 6/5/15	Tue 19/5/15	569	2	
ſ	12.15.9.5	Waterworks - 1501 FH, 1501 Irrigation & 1501	14 uays	Wed 12/5/15	Mon 1/6/15	570FS-7 days	-	
A	12.15.9.0	VOUD3 - crossing no. 2, 3, 4, 5 (68st)	20 uays	Fri 10/4/15	Tue 29/7/15	5/01 5-/ Uays		
	.12.13.9.7	rvo - kevisea Design of vo. vol for kising Mains	40 mays	Word 20/2/15	Thu 27/0/15	572		
4	12.15.9.8	TRe-construction: VO.061 for Kising Mains	JU days	Er: 20/0/15	Cup 6/0/15	572	1	
4	.12.15.9.9	*Re-construction: Waterworks - 1501 FH, 1501 Irrigation & 1501	10 days	FII 20/0/15	Sull 0/9/13	STARE 7 dance		
4	12.15.9.10	**Re-construction: RVU053 - crossing no. 2, 3, 4, 5 (east)	10 days	Er: 10/0/15	Sun 6/0/15	573		
4	.12.15.9.11	**Ke-construction: PVO: 2 nos. U-Channel Drainage Crossing	10 days	F11 20/0/13	Sun 12/0/15	576EC 7 Jam		
4	.12.15.9.12	middle stream box culvert 960x650	14 aays	Mon 31/0/13	JUN 13/9/13	577E0 7 Jan		
4	12.15.9.13	middle stream DN450mm pipe	12 days	MON //9/15	1°F1 10/9/13	575 570		
4	.12.15.9.14	street light crossing at ch 523	4 days	Sat 19/9/15	1 ue 22/9/15	3/3,3/8		
4	.12.15.9.15	SRT Formation level	5 days	wed 23/9/15	Sun 27/9/15	5/9		
4	.12.15.9.16	sub-base & east kerbing	8 days	Mon 28/9/15	Mon 5/10/15	5/3,380		
4	.12.15.9.17	AC - lay DBM & base course	5 days	Tue 6/10/15	Sat 10/10/15	581		
4	12.15.10	3 Works from ch 190-380 (east side carriageway)	60 days	Wed 29/7/15	Sat 26/9/15	516FS+2 days		
:4	.12.15.10.1	TTA for ch 190-380 (east)	0 days	Wed 29/7/15	Wed 29/7/15			
4	12.15.10.2	remove existing pavement	4 days	Wed 29/7/15	Sat 1/8/15	384		
4	12 15 10.3	VO.061 for rising main	25 days	Sun 2/8/15	Wed 2618 15	383	Ji	
	Revision 1	Task Milestone    Project Su	mmary	Critical Split	DATE AND ADDRESS OF THE OWNER OF T	eadline 🖑		



1D	WBS	Task Name	Duration	Start	Finish	Predecessors	2013 2014
587	4.12.15.10.4	Waterworks - 150T FH, 150T x 2	14 days	Thu 27/8/15	Wed 9/9/15	586	Q1 Q1 Q2 Q2 Q1 Q2
588	4.12.15.10.5	RVO053 - crossing no. 1 (east)	6 days	Mon 7/9/15	Sat 12/9/15	587FS-3 days	
589	4.12.15.10.6	PVO: 2 nos. U-Channel Drainage Crossing	10 days	Thu 27/8/15	Sat 5/9/15	586	
590	4.12.15.10.7	street light crossings at ch 287, 350	4 days	Thu 3/9/15	Sun 6/9/15	589FS-3 days	
591	4.12.15.10.8	PCCW crossings at ch 350	2 days	Sat 5/9/15	Sun 6/9/15	590FF	
592	4.12.15,10.9	SRT Formation level	5 days	Mon 7/9/15	Fri 11/9/15	591	
593	4.12.15.10.10	sub-base & east kerbing	10 days	Sat 12/9/15	Mon 21/9/15	590,592	
594	4.12.15.10.11	AC - lay DBM & base course	5 days	Tue 22/9/15	Sat 26/9/15	593	
595	4.12.15.11	2,3,7 Works from chainage 580 to chainage 785 (west side carriageway &	265 days	Sun 5/10/14	Fri 26/6/15		
		footpath)					
596	4.12.15.11.1	UU for ch 580-785 (132kV,11kV,LV)	21 days	Sun 5/10/14	Sat 25/10/14	549	
597	4,12.15.11.2	VO.091 Water Mains Diversion	50 days	Fri 8/5/15	Fri 26/6/15		
598	4.12.15.11.3	TTA for ch 580-785(west)	0 days	Wed 26/11/14	Wed 26/11/14	565SS	
599	4.12.15.11.4	earthwork to lay drainage & waterwork	10 days	Thu 27/11/14	Sat 6/12/14	598	
600	4.12.15.11 5	drainage & waterwork	120 days	Sun 7/12/14	Sun 5/4/15	599	
601	4.12.15.11.6	V0053 - crossing no. 5, 6, 7&8 & Ducts along ch613-700 (west)	14 days	Mon 6/4/15	Sun 19/4/15	600	
602	4.12.15.11.7	filling works to formation of road (include SRT98%)	7 days	Mon 20/4/15	Sun 26/4/15	601	
603	4 12 15.11.8	street lighting drawpits & crossings ch760,785	5 days	Mon 27/4/15	Fri 1/5/15	602	
604	4.12.15.11.9	sub-base laying for road	5 days	Sat 2/5/15	Wed 6/5/15	603	
605	1 12.15 11 10	kerb bedding, laying & backing before bituminous material	9 days	Thu 7/5/15	Fri 15/5/15	604	
606	4.12,15,11.11	filling works to formation of footpath	4 days	Sat 16/5/15	Tue 19/5/15	605	
			-				
607	4.12.15.11.12	UU for CLP (lighting)	5 days	Wed 20/5/15	Sun 24/5/15	606	
608	4.12.15.11.13	UU for ch 580-785 (PCCW)	14 days	Mon 25/5/15	Sun 7/6/15	606,607	
609	4.12.15.11.14	irrigation system	5 days	Mon 8/6/15	Fri 12/6/15	608	
610	4.12.15.11.15	preparation works to formation of footpath	3 days	Sat 13/6/15	Mon 15/6/15	609	
611	4.12.15.11.16	footpath paving	7 days	Tue 16/6/15	Mon 22/6/15	610	
612	4.12.15.11.17	AC - lay DBM & base course	5 days	Sat 16/5/15	Wed 20/5/15	605	
	1						
613	4.12.15.12	4,5,6 Works from ch 580-785 (east side carriageway)	58 days	Fri 22/5/15	Sun 19/7/15	612FS+2 days	
614	4.12.15.12.1	TTA for ch 580-785 (east)	0 days	Fri 22/5/15	Fri 22/5/15		
615	4.12.15.12.2	remove existing pavement	5 days	Sat 23/5/15	Wed 27/5/15	614	
616	4.12.15.12.3	VO.061 for rising main	20 days	Thu 28/5/15	Tue 16/6/15	615	
617	4.12.15.12.4	VO053 - crossing no. 5, 6, 7&8 (east)	14 days	Fri 12/6/15	Thu 25/6/15	616FS-5 days	
618	4.12.15.12.5	street lighting crossings at ch 760, 785	7 days	Wed 24/6/15	Tue 30/6/15	617FS-2 days	
619	4.12.15.12.6	sub-base & east kerbing	14 days	Wed 1/7/15	Tue 14/7/15	618	
620	4.12.15.12.7	AC - lay DBM & base course	5 days	Wed 15/7/15	Sun 19/7/15	619	
621	4,12,15,13	5 Works from chainage 125 to chainage 190 (west side carriageway &	62 days	Mon 28/9/15	Sun 29/11/15	594FS+2 days	
		footpath)					
622	4.12.15.13.1	TTA for ch 125-190 (west)	0 days	Mon 28/9/15	Mon 28/9/15		
623	4.12.15.13.2	earthwork to lay drainage & waterwork	3 days	Tue 29/9/15	Thu 1/10/15	622	
624	4.12.15,13,3	drainage & waterwork + backfill for CLP	18 days	Thu 1/10/15	Sun 18/10/15	623FS-1 day	
625	4.12.15.13.4	UU for ch 125-190 (132kV,11kV,LV)	8 days	Mon 19/10/15	Mon 26/10/15	624	
626	4.12.15.13.5	filling works to formation of road (include SRT98%)	7 days	Sun 25/10/15	Sat 31/10/15	625FS-2 days	
627	4,12,15,13,6	street lighting drawpits & crossing at ch 154	3 days	Sun 1/11/15	Tue 3/11/15	626	
628	4.12.15.13.7	irrigation system	4 days	Mon 2/11/15	Thu 5/11/15	627FS-2 days	
629	4.12.15.13.8	UU for CLP (lighting)	3 days	Fri 6/11/15	Sun 8/11/15	628	
630	4.12.15.13.9	sub-base laying	3 days	Mon 9/11/15	Wed 11/11/15	629	
631	4.12.15.13.10	kerb bedding, laying & backing before bituminous material	5 days	Thu 12/11/15	Mon 16/11/15	630	
632	4.12.15.13.11	filling works to formation of footpath	3 days	Mon 16/11/15	Wed 18/11/15	631FS-1 day	
633	4.12.15.13.12	UU for ch 125-190 (PCCW)	5 days	Thu 19/11/15	Mon 23/11/15	632	
634	4.12.15.13.13	footpath paving	7 days	Mon 23/11/15	Sun 29/11/15	633FS-1 day	
635	4.12.15.13.14	AC - lay DBM & base course	4 days	Tue 17/11/15	Fri 20/11/15	631	
636	4.12.15.14	7 Works from chainage 80 to chainage 125 (west side carriageway & footpat	h) 67 days	Sat 21/11/15	Wed 27/1/16	635FS+1 day	
637	4.12.15.14.1	TTA for ch 80-125(west)	0 days	Sat 21/11/15	Sat 21/11/15		
638	4 12 15.14.2	earthwork to lay drainage & waterwork	3 days	Sun 22/11/15	Tue 24/11/15	637	
639	4,12,15,14,3	drainage & waterwork + backfill for CLP	18 days	Wed 25/11/15	Sat 12/12/15	638	
640	4.12.15.14.4	UU for ch 80-190 (132kV,11kV,LV)	6 days	Sun 13/12/15	Fri 18/12/15	639	
641	4.12.15.14.5	filling works to formation of road (include SRT98%)	7 days	Sat 19/12/15	Fri 25/12/15	640	
642	4.12.15.14.6	street lighting drawpits & crossing at ch 98	3 days	Sat 26/12/15	Mon 28/12/15	641	
643	4 12.15.14 7	irrigation system	3 days	Tue 29/12/15	Thu 31/12/15	642	
644	4. 12. 15. 14. 8	UU for CLP (lighting)	3 days	Fri 1/1/16	Sun 3/1/16	643	
645	4.12 15.14.9	sub-base laying	3 days	Mon 4/1/16	Wed 6/1/16	644	
646	4 12.15 14 10	kerb bedding, laying & backing before bituminous material	5 days	Thu 7/1/16	Mon 11/1/16	645	
647	4 12 15.14 11	filling works to formation of footpath	4 days	Tue 12/1/16	Fri 15/1/16	646	
648	4, 12, 15, 14, 12	UU for ch 80-190 (PCCW)	4 days	Sat 16/1/16	Tue 19/1/16	647	
	Revision 1	Task Milestone • Project Sur	mmary the contract of	Critical Split		Deadline	
	Tue 26/1/16	Split Critical	And the second second	Progress			
ang Hi	ng Civil - Richwell	Machinery JV		_	Page 3 of 5		



ID	WBS	Task Name	Duration	Start	Finish	Predecessors	2013 2014
640	1 1 2 1 5 1 4 1 2	for touch any inter	8 days	Wed 20/1/16	Wed 27/1/16	648	
650	4 12.15.14.15	Jootpain paving	4 days	Tue 12/1/16	Fri 15/1/16	646	
0.30	4.12.13.14.14	AC - Tay Don a base course	/ 44/0				
651	4,12.15.15	4 Works from chainage 125 to chainage 190 (cast side carriageway & footpath)	) 42 days	Sat 16/1/16	Sat 27/2/16	650FS+1 day	
			0.1	S-41(11)	Sat 16/1/16		
652	4 12 15.15.1	TTA for ch 125-190 (cast)	0 days	Sat 16/1/10	Sat 23/1/16	652	
653	4, 12, 15, 15, 2	VU.061 for rising main	/ days	Sull 17/3/10 Sat 23/1/16	Tue 26/1/16	653FS-1 dav	
034	4 12.13.13.3	filling works to formation of road (include SR198%)	4 uuys 3 daus	Wed 27/1/16	Fri 29/1/16	654	
000	4.12.13.13.4	street lighting arawpits & crossing at ch 154	3 days	Sat 30/1/16	Mon 1/2/16	655	
657	12.13.13.3	IIII (con CL P. (lighting)	3 days	Tue 2/2/16	Thu 4/2/16	656	
658	112.15.15.7	bb for CLF (agning)	2 days	Fri 5/2/16	Sat 6/2/16	657,656	
659	12.15.15.7	sub-ouse laying karh hadding, laying & hacking hefore hituminous material	5 days	Sun 7/2/16	Thu 11/2/16	658	
660	112.15.15.0	filling works to formation of footpath	3 days	Fri 12/2/16	Sun 14/2/16	659	
000		Junig norms to journament systematic					
661	4.12.15.15.10	UU for ch 125-200 (PCCW/HGC)	5 days	Mon 15/2/16	Fri 19/2/16	660	
	-		0.1	0-100/0/16	Set 27/2/16	661	
662	4.12.15.15.11	footpath paving	8 days	Sat 20/2/16	Sal 2/12/10	650	
663	4,12,15,15,12	AC - lay DBM & base course	4 days	Fri 12/2/16	WION 15/2/10	039	
664	1121516	6 Works from chainers 80 to chainers 125 (cast side carrianeway & footpath)	40 days	Tue 16/2/16	Sun 27/3/16	663FS+1 day	
004	+14,15,10	6 WORKS IFOM CHAINAge 80 to chainage 125 (cast side carriageway & toopani)	40 uays	THE TOPPITO	Sui strate		
665	4 12.15.16 1	TTA for ch 80-125 (east)	0 days	Tue 16/2/16	Tue 16/2/16		
666	4.12.15.16.2	VO.061 for rising main	7 days	Wed 17/2/16	Tue 23/2/16	665	
667	4.12.15.16.3	filling works to formation of road (include SRT98%)	5 days	Mon 22/2/16	Fri 26/2/16	666FS-2 days	1
668	4.12.15.16.4	street lighting drawpits & crossing at ch 98	3 days	Fri 26/2/16	Sun 28/2/16	667FS-1 day	
669	4.12.15.16.5	irrigation system	3 days	Mon 29/2/16	Wed 2/3/16	668	
670	4.12.15.16.6	UU for CLP (lighting)	3 days	Thu 3/3/16	Sat 5/3/16	669	
671	4.12.15.16.7	sub-base laying	3 days	Sun 6/3/16	Tue 8/3/16	670	
672	4.12.15.16.8	kerb bedding, laying & backing before bituminous material	5 days	Wed 9/3/16	Sun 13/3/10	672	
673	4.12.15.16.9	filling works to formation of footpath	3 days	Mon 14/3/16	wed 10/3/10	072	
674	4 12 15 16 10	III for at 80 125 (DCCW/ACCC)	A days	Thu 17/3/16	Sun 20/3/16	673	
0/4	9.12.13.10.10	00 Jor ch 80-123 (FCCW/HGC)	4 uuya	110 17/0/10			
675	4.12.15.16.11	footpath paying	7 days	Mon 21/3/16	Sun 27/3/16	674	
676	4.12.15.16.12	AC - Iny DBM & base course	3 days	Mon 14/3/16	Wed 16/3/16	672	
						(P)(P)(-1-1	
677	4.12.15.17	Rising manholes & drawpit covers & Lay wearing course (with TTA)	44 days	Fri 18/3/16	Sat 30/4/16	676FS+1 day	
(=0	1 10 16 17 1		1 days	Fri 18/3/16	Mon 21/3/16		
678	4,12.15.17.1	Chainage 80 to Chainage 180 (west side)	4 days	Tue 22/3/16	Wed 23/3/16	678	
0/9	9,14,13,17,2	Chainage 30 to Chainage 300 (east side)	4 days	Thu 24/3/16	Sun 27/3/16	679	
681	4,12,15,17,5	Chainage 180 to Chainage 280 (west side)	4 days	Mon 28/3/16	Thu 31/3/16	680	
687	4 12 15 17 5	Chainage 180 to Chainage 200 (cust side)	4 days	Fri 1/4/16	Mon 4/4/16	681	
683	4.12.15.17.6	Chainage 280 to Chainage 380 (next side)	2 days	Tue 5/4/16	Wed 6/4/16	682	
684	4.12.15.17.7	Chainage 380 to Chainage 480 (west side)	4 days	Thu 7/4/16	Sun 10/4/16	683	
685	4.12.15.17.8	Chainage 380 to Chainage 480 (east side)	2 days	Mon 11/4/16	Tue 12/4/16	684	
686	4.12.15.17.9	Chainage 480 to Chainage 580 (west side)	4 days	Wed 13/4/16	Sat 16/4/16	685	
						(0)	
687	4.12.15.17.10	Chainage 480 to Chainage 580 (east side)	2 days	Sun 17/4/16	Mon 18/4/16	080	
688	4.12.15.17.11	Chainage 580 to Chainage 680 (west side)	4 days	Tue 19/4/16	Fri 22/4/16	087	
689	4.12.15.17.12	Chainage 580 to Chainage 680 (east side)	2 days	Sat 23/4/16	5un 24/4/16	000	
600	1 13 15 17 13	Chainage 680 to Chainage 785 Guart uida	A dave	Mon 25/4/16	Thu 28/4/16	689	
601	4 12 15 17 14	Chainage 680 to Chainage 785 (aget side)	2 davs	Fri 29/4/16	Sat 30/4/16	690	
697	4.12.15.18	Eastern Footnath from eh 380.580	98 davs	Sun 11/10/15	Sat 16/1/16	565	
693	4.12.15.18.1	remove existing provement	3 days	Sun 11/10/15	Tue 13/10/15		
694	4.12.15.18.2	upper stream box culvert 960x650	14 days	Wed 14/10/15	Tue 27/10/15	693	
695	4.12.15.18.3	upper stream DN450mm pipe	12 days	Wed 28/10/15	Sun 8/11/15	694	
696	4.12.15.18.4	V0053 - crossing no. 2, 3, 4, 5 (east footpath)	5 days	Mon 9/11/15	Fri 13/11/15	695	
697	4.12.15.18.5	filling works to formation of footpath	5 days	Sat 14/11/15	Wed 18/11/15	696	
698	4.12.15.18.6	street light crossing at ch523	5 days	Thu 19/11/15	Mon 23/11/15	697	
699	4.12.15.18.7	UU for CLP (lighting)	5 days	Sun 29/11/15	Thu 3/12/15	698FS+5 days	
700	4.12.15.18.8	sub-base & edging	6 days	Fri 4/12/15	Wed 9/12/15	699	
701	4.12.15.18.9	UU for ch 380-580 (PCCW/HGC)	14 days	Thu 10/12/15	Wed 23/12/15	700	
702	4.12.15.18.10	construct edging	10 days	Thu 24/12/15	Sat 2/1/16	701	
703	4.12.15.18.11	footpath paving	14 days	Sun 3/1/16	Sat 16/1/16	702	
704	4.12.15.19	Eastern Footpath from cb 190-380)	71 days	Sun 27/9/15	Sun 6/12/15	583	
705	4.12.15.19.1	remove existing pavement	3 days	Sun 27/9/15	Tue 29/9/15	705	
706	4.12.15.19.2	VO053 - crossing no. 2 (east footpath)	3 days	Wed 30/9/15	PTI 2/10/15	/03	
	Doulsian 4			Critical Palit		eadline &	
	Revision 1 Tue 26/1/16	Task Milesione Project Sum	mary 🗸 👘	- Crucai Spin	D	caulific .	
_	140 20/ 1/ 10	Split Summary Critical		Progress			
Sang H	ing Civil - Richwell	Machinery JV			Page 4 of 5		



ID	WBS	Task Name	Duration	Start	Finish	Predecessors	04 01	2013	()4 (	20	14
707	41215193	filling works to formation of footnath	5 days	Sat 3/10/15	Wed 7/10/15	706	Qu QI	Q2	Cu C	24 III 194	100
708	4 12 15 19 4	street light crossings at ch287 350	7 days	Thu 8/10/15	Wed 14/10/15	707					
709	4.12.15.19.5	I/II for CLP (lighting)	5 days	Thu 15/10/15	Mon 19/10/15	708					
710	4 12 15 196	sub-hase & edaina	6 days	Tue 20/10/15	Sun 25/10/15	709					
711	4.12.15.19.7	III for ch 190-380 (PCCW/HGC)	20 days	Mon 26/10/15	Sat 14/11/15	710					
712	11215198	construct adoing	9 days	Sun 15/11/15	Mon 23/11/15	711					
713	1 12 15 19 9	footnath naving	13 days	Tue 24/11/15	Sun 6/12/15	712					
714	4.12.15.20	Fastern Footnath from ch 580.785)	71 days	Mon 20/7/15	Mon 28/9/15	613					
715	4 12 15 20 1	remove existing nonement	3 days	Mon 20/7/15	Wed 22/7/15						
716	4 12 15 20 2	VO053 = crassing pavement 5, 6, 72.8 (east footpath)	7 days	Thu 23/7/15	Wed 29/7/15	715					
717	1 12 15 20 3	filling works to formation of footnath	5 days	Thu 30/7/15	Mon 3/8/15	716					
719	112.15.20.5	streat light grossings at ab760 785	7 days	Tue 4/8/15	Mon 10/8/15	717					
710	4 12 15 20 5	III for CI D (lighting)	5 days	Tue 11/8/15	Sat 15/8/15	718					
720	112 15 20.6	sub hasa & edging	6 days	Sun 16/8/15	Fri 21/8/15	719					
721	4 12.15.20.0	III for all 500 785 (DCC)//JCC)	I A days	Sat 22/8/15	Fri 4/9/15	720					
721	112.15.20.7	ou for th 300-705 (FCCH/HOC)	10 days	Sat 5/9/15	Mon 14/9/15	721					
722	4.12.15.20.0	construct edging	10 days	Tue 15/0/15	Man 28/0/15	722					
723	4 12.15.20.9	jooipain paving	14 days	Tue 30/17/14	Mon 9/3/15	534					
124	4.12.15.21	Construction of retaining wall RW8 - CHU to 22 (3 days)	/o days	TUC 30/14/14	NION 7/3/13	554					
736	11215.22	Site Francisco and the frant Analy D Derect (Durg. 1001B)	6() days	The 10/3/15	Eri 8/5/15	724					
720	4.12.13.22	Sile Formation works for Archist Depoi (Drg. 1001D)	147 dovo	The 10/3/13	Wed 10/3/14	721			<b>a</b>		
121	4.12.15.25	Archaeological survey (Sections 1) to 13)(Drg. 0403A)	J4/ Uays	100 24/10/13	Wed 19/5/14				0		
733	4.13	Section XIV of the Works - Trees preservation and protection (EOTO12 completion 9	1003 days	Fri 12/4/13	Sat 9/1/16	4	10	ę.	_		
	and the second second	January 2016)	A DECK OF THE OWNER.			COLORED AND ADDRESS					
734	4.13.1	Submissions	69 days	Fri 12/4/13	Wed 19/6/13						
735	4.13.2	Approval of Submissions	70 days	Thu 20/6/13	Wed 28/8/13	734					
736	4.13.3	Claim No. 009 - Delays due to Delayed Possession of Portion BCP4 of the Site	0 days	Fri 26/9/14	Fri 26/9/14	181					•
737	4.13.4	Claim No. 007 - Delay due to Non-Possession of Parts of Portion BCP3 due to Resistant by Local Resident	0 days	Wed 14/1/15	Wed 14/1/15	217					
738	4.13.5	Section XIV of the Works - Tree felling/removal works and tree transplanting works at BCP4	139 days	Fri 26/9/14	Wed 11/2/15	181					
739	4.13.6	Tree felling/removal works and tree transplanting works for other areas	750 days	Fri 6/9/13	Fri 25/9/15	74,734SS+147 days					
740	4.13.7	Preservation and Protection of Existing Trees in all Portion of the Site	864 days	Thu 29/8/13	Sat 9/1/16	74,735					
741	4.14	Section XV of the Works - Landscape soft works (including transplant trees to	181 days	Thu 3/12/15	Tue 31/5/16						
		permanent locations)	and the second second	IN REAL PROPERTY.							
742	4.14.1	tree & shrub planting at re-aligned Lin Ma Hang Road (west) for Section XIII of the Works	58 days	Thu 28/1/16	Fri 25/3/16	516,534,595,636,6211 days	S-20				
743	4.14.2	tree & shrub planting at re-aligned Lin Ma Hang Road (east) for Section XIII of the Works	65 days	Mon 28/3/16	Tue 31/5/16	565,583,613,651,664					
		tree & shrub planting at BCPD Section XI of the Works	55 days	Thu 3/12/15	Tue 26/1/16	239FS-35 days					
744	4.14.3		and the second sec	Wed USUS	STUDIE 10 10/10/10/10	733 741					

Sang Hing Civil - Richwell Mac	hinery JV					Page 5 of 5				
Tue 26/1/16	Split	Summary	<b>Q</b> F	Critical	Progress					
Revision 1	Task	Milestone	•	Project Summary	Critical Split		Deadline	Ŷ		





**Contract 6** 



												1.01								2	
tivity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	201	JASOND	JF	20 M A M J	16 J A	S O N D J F N	2017 1 A M J J A S		JFM	201	J A S		2019 J F M A 1	M J
LT/HYW B	CP Contract 6 - Detail Works Programme Rev. B1							-1	1 2 3 4 5 6	18	0 10 11 12	13 14	10 10 17 18 19 2 21	22 23 24 25 26 27	28 29 3	131 3 33	34 35 36 3	57 38 39	40 41 42 4	4 45 46 4	48
1.0 - Contra	act Key Dates														+						
1.1 - Comr	nencement of the Works									¦				+	÷		1		/ <b>i</b>		
CKD-1000	Commencement of the Works - Project Start (PS)	0	24-Jun-15		24-Jun-15		0		Commencement o	f the We	rks - Projec	t Start	(P\$)	+					; <b>¦</b>		
CKD-1100	Section IA Commencement of the Works Notification (PS+365d)	0	23-Jun-16		23-Jun-16		0				•	Sectio	on IA Commencement	of the Works Notifi	cation (P	s+365d)			; <del> </del>		
CKD-1200	Section IB Commencement of the Works Notification (PS+365d)	0	23-Jun-16		23-Jun-16		0				•	Sectio	on IB Commencement	of the Works Notifi	cation (P	S+365d)			·		
CKD-1300	Section IC Commencement of the Works Notification (PS+365d)	0	23-Jun-16		23-Jun-16		0				•	Section	on IC Commoncement	of the Works Notifi	cation (P	S+365d)			/ <b> </b>		
CKD-1400	Section ID Commencement of the Works Notification (PS+365d)	0	23-Jun-16		23-Jun-16		0			+	•	Sectio	on ID Commencement	of the Works Notifi	cation (P	S+365d)		+	·		
CKD-1500	Section IE Commencement of the Works Notification (PS+365d)	0	23-Jun-16		23-Jun-16		0				•	Sectio	on IE Commencement	of the Works Notifi	cation (P	s+365d)					
CKD-1600	Section IIA Commencement of the Works Notification (PS+215d)	0	25-Jan-16		25-Jan-16		0			♦ Se	ction IIA Co	mmenc	ement of the Works N	otification (PS+215	d)				/t		
1.2 - Comr	oletion of Section of the Works									+ !					. <u>¢</u>						
CKD-2000	KD-2 - Completion of Section II of the Works (PS+690d)	0		13-May-17*		13-May-17	0							♦ KD-2 - Con	nbletion c	f Section I	of the Wor	rks (PS+e	(b00		
CKD-2010	KD-3 - Completion of Section III of the Works (PS+690d)	0		13-May-17*		13-May-17	0			i				◆ KD-3 - Con	noletion c	f Section I	of the We	orks (PS+	690d)		
CKD-2020	KD-4 - Completion of Section IV of the Works (PS+1000d)	0		19-Mar-18*		19-Mar-18	0									•	KD-4 - C	Completio	h of Sectio	n IV of the W	orks
CKD-2030	KD-5 - Completion of Section V of the Works (PS+1090d)	0		17-Jun-18*		17-Jun-18	0							+	+	· · · · · · · · ·	•	KD-5 - (	Completion	of Section V	of th
CKD-2040	KD-6 - Completion of Section VI of the Works (PS+1217d)	0		22-Oct-18*		22-Oct-18	0							+					◆ KD-6	- Completior	of S
CKD-2050	KD-7A - Completion of Section VIIA of the Works (PS+365d)	0		22-Jun-16*		22-Jun-16	0					KD-7	A - Completion of Se	ction VIIA of the Wo	otks (PS+	365d)					
CKD-2060	KD-7B - Completion of Section VIIB of the Works (PS+1400d)	0		23-Apr-19*		2.3-Apr-1.9	0				·						}		;		KD-
CKD-2070	KD-8 - Completion of Section VIII of the Works (PS+1400d)	0		23-Apr-19*		23-Apr-19	0							+					( <b> </b>	•	KD-
CKD-2080	KD-9A - Completion of Section IXA of the Works (PS+670d)	0		23-Apr-17*		23-Apr-17	0							♦ KD-9A - Com	pletion of	f Section D	¢A of the W	Vorks ( PS	+670d)		
CKD-2090	KD-9B - Completion of Section IXB of the Works (PS+2500d)	0		27-Apr-22*		27-Apr-22	0								1						
CKD-2100	KD-10 - Completion of Section X of the Works (PS+1765d)	0		22-Apr-20*		22-Apr-20	0												/ <b>i</b>		
CKD-2110	KD-11 - Completion of Section XI of the Works (PS+1217d)	0		23-Oct-18*		23-Oct-18	0							1					♦ KD-1	1 - Completic	on of
CKD-2120	KD-12 - Completion of Section XII of the Works (PS+1400d)	0		23-Apr-19*		23-Apr-19	0							+					;t	•	KD-
13 - Comr	aletion of Section of the Works Subject to Excision													+	+						
CKD-3000	KD-1A - Completion of Section IA of the Works (PS±850d)	0		20-Oct-17*		20-Oct-17	0							+	• KD	-l'A - Com	letion of \$	Section IA	of the Wo	rks (PS+\$50c	 D
CKD-3100	KD-1R - Completion of Section IR of the Works (PS+850d)	0		20-Oct-17*		20-Oct-17	0				•••				♦ KD	-PB - Com	Hetion of S	Section IB	of the Wo	rks (PS+850d	. <u>.</u>
CKD-3200	KD-1C - Completion of Section IC of the Works (PS+850d)	0		20-Oct-17*		20-Oct-17	0								♦ KD	-liC - Com	nletion of \$	Section IC	of the Wo	ks (PS+850d	. <u>.</u>
CKD-3200	KD-1D - Completion of Section ID of the Works (PS+850d)	0		20-Oct-17*		20-Oct-17	0							+	◆ KD	-ID - Com	pletion of \$	Section ID	of the Wo	rks (PS+850)	:/ d)
CKD-3400	KD-1E - Completion of Section IE of the Works (PS+850d)	0		20-Oct-17*		20-Oct-17	0							+	♦ KD	-IE - Com	pletion of S	Section IE	of the Wor	ks (PS+850c	 h
CKD-3500	KD-2A - Completion of Section IIA of the Works (PS+690d)	0		13-May-17*		13-May-17	0							♦ KD-2A - Co	ompletion	of Section	IIA of the	Works (P:	8+690d)		·
1.4 - Comr	alation of Stage of the Works						-												l		
CKD 4000	KD S1 Achievement of Stage L of the Works (PS+017d)	0		28 Dec 17*		28 Dec 17	0							+		KD S1	Achiever	ment of S	tage Lof th	a Works /DS	017
CKD-4000	KD S2 A chievement of Stage I of the Works (DS+017d)	0		23-Dec-17		23-Dec-17	0							+	+	KD-31	Achievet	ment of St	age I of the	works (15	+017
CKD-4100	KD-S2 - Achievement of Stage II of the Works (PS+917d)	0		27-Dec-17*		27-Dec-17	0							+	+	KD-52	Achieven	ment of St	age II of th	he Works (PS	+017
1.5 Work	A reas Despession Date	0		2/*Dec*1/		27-Dec-17	0								+	KD-35	Achieven		age in or u	ic works (15	
CKD 5000	Bassassian of Bostian BD, of the Site (DS)	0	24 Jun 15*		24 Jun 15		0		Dessession of Dort	on BD	of the Site ()				÷				·		
CKD-5000	Possession of Portion KD of the Site (PS)	0	24-Jun-15*		24-Jun-15		0	-1	Possession of Port	ion RD	of the Site (I	r5) ()		+	+				·		
CKD-5010	Possession of Portion CS of the Site (PS)	0	24-Jun-15*		24-Jun-15		0	I	Possession of Port	ton CB 1	of the Site (F	() () ()		+	÷		}		·		
CKD-5020	Possession of Portion CR1 of the Site (PS)	0	24-Juli-15*		24-Jul-15		0	I	Possession of Port	lon CD5	Alof the Site	(10)		+	+				,		
CKD-5030	Possession of Fortion CKSA of the Site (FS)	0	24-Juli-15*		24-Jul-15		0	I	Possession of Wes	Non CR3	WAL Acces	c (FS)	(DC)		÷				;		
CKD-5040	Possession of Works Area WA1 2 (DS(add))	0	24-Juli-13*		24-Jul-15		0		Possession of Wor	ks Area	WAT Acces	(add)	(F,5)	·+			·		·		
CKD-5050	Possession of Works Area WA1-2 (PS(add)	0	24-Juli-15*		24-Jul-15		0	I	Possession of Wor	ks Area	WA1-2 (FS	(auu)							/k		
CKD-5000	Possession of Works Area WA1-5 (PS)	0	24-Jul-13*		24-Jui-15		0	-1	Possession of Wor	ks Area	WA1-4 (F3	<u>.</u>		+	+	.	}}		·		
CKD-5070	Desease on of Dortion (P2) of the Site (DS±20)	0	24-Jul-13		24-Jul-13		0		Decelerion of 1	portion (	P5 of the S	to (DC	+20)	+			}		, <b> </b>		
CKD-5080	Possession of Portion CR2 of the Site ( $PS\pm 30$ )	0	23-Jul 15*		23-Jul 15		0		Possession of 1	Portion	R9 A of the	Sile (P	S+30)		÷		}		;ł		
CKD-5090	Possession of Portion CR2R of the Site $(PS+30)$	0	23-Jul 15*		23-Jul 15		0		<ul> <li>Possession of 1</li> </ul>	Nortion (	RDB of the	Sile (P	S+30)	+							
CKD-5110	Possession of Portion CR2D of the Site $(PS+30)$	0	23-Jul-15*		23-Jul-15		0		Possession of I	Portion	R2C of the	Sile (P	S+30)		+		}+		;ł		
CKD-3110		0	23-Jul-13		20-Jul-10		U		▼ 1 0554551011 01 1	i nuon C	i ule	one (P	5.207	· · ·	<u>.                                    </u>	<u> </u>	L L L	rke Proc	rammo	i	
	♦ ♦ Milestone										Pro	ject II	D:LT6-DWPB1		Date		Reviei	ino r'iug	Che		wed
RB 中國部	各檔 《 KNIRARAN Kadan 丛 Critical Activity			Datal	Marka	Droam		<b>n</b> ~	Day D4		La	yout : I	L16DWPB1	1	3-Anr-1	8 Revisi	on B1				.veu
CRI	BC Sentence of contrasts, scalars			Detall	VVOLKS	s Progra		ne	Rev. DI		Pag	ge I of	5/								
CRBC-C	EC-KADEN Joint Venture	rt		Data Da	ate: 24-Jun-15		Ru	un Da	te: 14-Apr-16												





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ctivity ID	Activity Name	Orig Dur	Start Finish	Late Start	Late Finish To Flo	tal 20 pat J	J         A         S         O         N         D         J         F         M         A         M         J           1         2         3         4         5         6         7         8         9         10         11         12	J A S O N D J F 13 14 15 16 17 18 19 21	201 M A M J 21 22 23 24	J A S O N D J F M 25 26 27 28 29 30 31 3 33	A M J J A S O M 34 35 36 37 38 39 40 4	<u>2019</u> <u>N D J F M A M J</u>
CKD-5120	Possession of Portion CR3 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	<ul> <li>Possession of Portion CR3 of the S</li> </ul>	ite (PS+30)	21 22 20 24	20 20 27 20 20 00 01 0 00	74 00 00 07 00 00 40 4	1 12 10 1 10 10 11 10
CKD-5130	Possession of Portion CR4 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	◆ Possession of Portion CR4 of the S	ite (PS+30)				
CKD-5140	Possession of Portion RS4 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	<ul> <li>Possession of Portion RS4 of the S</li> </ul>	te (PS+30)				
CKD-5150	Possession of Portion WC 1 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	♦ Possession of Portion WC 1 of the	Site (PS+30)				
CKD-5160	Possession of Portion WC 2 of the Site (PS+60)	0	22-Aug-15*	22-Aug-15		0	♦ Possession of Portion WC 2 of	he Site (PS+60)				
CKD-5170	Possession of Portion C5P1 of the Site (PS+70)	0	01-Sep-15*	01-Sep-15		0	<ul> <li>Possession of Portion C5P1 of</li> </ul>	the Site (PS+70)				
CKD-5180	Possession of Portion C5P1a of the Site (PS+70)	0	01-Sep-15*	01-Sep-15		0	<ul> <li>Possession of Portion C5P1a c</li> </ul>	f the Site (PS+70)				
CKD-5190	Possession of Portion C2P5 of the Site (PS+90)	0	21-Sep-15*	21-Sep-15		0	<ul> <li>Possession of Portion C2P5</li> </ul>	of the Site (PS+90)				
CKD-5200	Possession of Portion WKS of the Site (PS+90)	0	21-Sep-15*	21-Sep-15		0	<ul> <li>Possession of Portion WKS</li> </ul>	of the Site (PS+90)	{}			
CKD-5210	Possession of Portion CR10 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	◆ Possession of Portion CR10 of the	Site (PS+30)				
CKD-5220	Possession of Portion CR1A of the Site (PS+180)	0	20-Dec-15*	20-Dec-15		0	<ul> <li>Possession of Port</li> </ul>	on CR1A of the Site (PS+1	80)			
CKD-5230	Possession of Portion CR1B of the Site (PS+180)	0	20-Dec-15*	20-Dec-15		0	Possession of Port	on CR1B of the Site (PS+1	80)			
CKD-5240	Possession of Portion CR9 of the Site (PS+210)	0	19-Jan-16*	19-Jan-16		0	<ul> <li>Possession of F</li> </ul>	ortion CR9 of the Site (PS+	210)			
CKD-5250	Possession of Portion CR11 of the Site (PS+210)	0	19-Jan-16*	19-Jan-16		0	<ul> <li>Possession of F</li> </ul>	ortion CR11 of the Site (PS	5+210)			
CKD-5260	Possession of Portion CR12 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	♦ Possession of Portion CR12 of the	Site (PS+30)				
CKD-5270	Possession of Portion CR13 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	◆ Possession of Portion CR13 of the	Site (PS+30)				
CKD-5280	Possession of Portion CR14 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	◆ Possession of Portion CR14 of the	Site (PS+30)				
CKD-5290	Possession of Portion CR15 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	◆ Possession of Portion CR15 of the	Site (PS+30)				
CKD-5300	Possession of Portion CR16 of the Site (PS+210)	0	19-Jan-16*	19-Jan-16		0	Possession of F	ortion CR16 of the Site (PS	3+210)			
CKD-5310	Possession of Portion CR17 of the Site (PS+210)	0	19-Jan-16*	19-Jan-16		0	Possession of F	ortion CR17 of the \$ite (PS	3+210)			
CKD-5320	Possession of Portion CR17A of the Site (PS+210)	0	19-Jan-16*	19-Jan-16		0	<ul> <li>Possession of F</li> </ul>	ortion CR17A of the Site (I	PS+210)			
CKD-5330	Possession of Portion CR20 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	◆ Possession of Portion CR20 of the	Site (PS+30)				
CKD-5340	Possession of Portion CR21 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	◆ Possession of Portion CR21 of the	Site (PS+30)				
CKD-5350	Possession of Portion CR22 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	◆ Possession of Portion CR22 of the	Site (PS+30)				
CKD-5360	Possession of Portion CR23 of the Site (PS+210)	0	19-Jan-16*	19-Jan-16		0	Possession of F	ortion CR23 of the \$ite (PS	3+210)			
CKD-5370	Possession of Portion CR24 of the Site (PS+30)	0	23-Jul-15*	23-Jul-15		0	<ul> <li>Possession of Portion CR24 of the</li> </ul>	Site (PS+30)				
CKD-5380	Possession of Portion CR28 of the Site (PS+210)	0	19-Jan-16*	19-Jan-16		0	<ul> <li>Possession of F</li> </ul>	ortion CR28 of the Site (PS	3+210)			
CKD-5390	Possession of Portion CR30 of the Site (PS+210)	0	19-Jan-16*	19-Jan-16		0	<ul> <li>Possession of F</li> </ul>	ortion CR30 of the \$ite (PS	3+210)			
CKD-5400	Possession of Portion CR34 of the Site (PS+210)	0	19-Jan-16*	19-Jan-16		0	Possession of F	ortion CR34 of the Site (PS	3+210)			
CKD-5410	Possession of Portion CR35 of the Site (PS+210)	0	19-Jan-16*	19-Jan-16		0	Possession of F	ortion CR35 of the \$ite (PS	3+210)			
CKD-5420	Possession of Portion C5P2 of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	Possessie	n of Portion C5P2 of the Si	ite (PS+270)			
CKD-5430	Possession of Portion C5P2a of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	Possessie	n of Portion C5P2a of the S	Site (PS+270	)		
CKD-5440	Possession of Portion CR5 of the Site (PS+87)	0	18-Sep-15*	18-Sep-15		0	<ul> <li>Possession of Portion CR5 or</li> </ul>	the Site (PS+87)				
CKD-5450	Possession of Portion CR6 of the Site (PS+87)	0	18-Sep-15*	18-Sep-15		0	<ul> <li>Possession of Portion CR6 o</li> </ul>	the Site (PS+87)				
CKD-5460	Possession of Portion CR7 of the Site (PS+87)	0	18-Sep-15*	18-Sep-15		0	<ul> <li>Possession of Portion CR7 or</li> </ul>	the Site (PS+87)				
CKD-5470	Possession of Portion CR8 of the Site (PS+87)	0	18-Sep-15*	18-Sep-15		0	<ul> <li>Possession of Portion CR8 or</li> </ul>	the Site (PS+87)				
CKD-5480	Possession of Portion CR8A of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	Possessi	n of Portion CR8A of the S	ite (PS+270)			
CKD-5490	Possession of Portion CR8B of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	<ul> <li>Possessi</li> </ul>	n of Portion CR8B of the S	site (PS+270)			
CKD-5500	Possession of Portion CR19 of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	Possessi	n of Portion CR19 of the S	ite (PS+270)			
CKD-5510	Possession of Portion CR25 of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	Possessi	n of Portion CR25 of the S	ite (PS+270)			
CKD-5520	Possession of Portion CR26 of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	Possessi	n of Portion CR26 of the S	ite (PS+270)			
CKD-5530	Possession of Portion CR27 of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	Possessi	n of Portion CR27 of the S	ite (PS+270)			
CKD-5540	Possession of Portion CR29 of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	Possessi	n of Portion CR29 of the S	ite (PS+270)		1 1	
CKD-5550	Possession of Portion CR31 of the Site (PS+87)	0	18-Sep-15*	18-Sep-15		0	Possession of Portion CR31	of the Site (PS+87)				
CKD-5560	Possession of Portion CR32 of the Site (PS+87)	0	18-Sep-15*	18-Sep-15		0	<ul> <li>Possession of Portion CR32</li> </ul>	of the Site (PS+87)				
CKD-5570	Possession of Portion CR33 of the Site (PS+87)	0	18-Sep-15*	18-Sep-15		0	<ul> <li>Possession of Portion CR33</li> </ul>	of the Site (PS+87)				
CKD-5580	Possession of Portion CR37 of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	<ul> <li>Possessi</li> </ul>	n of Portion CR37 of the S	ite (PS+270)			
CKD-5590	Possession of Portion CR38 of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	<ul> <li>Possessi</li> </ul>	n of Portion CR38 of the S	ite (PS+270)			
CKD-5600	Possession of Portion CR39 of the Site (PS+270)	0	19-Mar-16*	19-Mar-16		0	<ul> <li>Possessi</li> </ul>	n of Portion CR39 of the S	ite (PS+270)			
									· · ·			



Milestone
 Critical Activity
 Non-Critical Activity
 Remaining Level of Effort
 Actual Work

Detail Works Programme Rev. B1 Data Date: 24-Jun-15 Run Date: 14-Apr-16

Layout : LT6DWPB1 Page 2 of 37 Apr-16

Project ID :LT6-DWPB1

 Detail Works Programme

 Date
 Revision
 Checked
 Approved

 13-Apr-16
 Revision B1



CEDD



AE	COM	Liantang / H	eung Yuei	n Wai Bou	Indary Co	ntrol Poir	nt Site Fo	ormati	on and Infrastructu	re Works	- CONTR	ACT 6			CE	DD	
ivity ID	ActivityName		Orig	Start	Finish	Late Start	Late Finish	Total 2		2016		20		20			2019
			Dur					Float -1	1 1 2 3 4 5 6 7 8 9 10 1	11 12 1 <mark>3 14 15 1</mark>	6 17 18 19 2	21 22 23 24	25 26 27 28 29 30	0 31 3 33 34 35 36	37 38 39 4	) 41 42 43 4 4	15 46 47 4
SUB-2060	Preparation of Draft Submiss	sion Drawings & Documents	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Preparation of Draft Submission	n Drawings & Do	cuments						
SUB-2070	Presentation to ACABAS / C	EDD & A ECOM	14	09-Jul-15	22-Jul-15	09-Jul-15	22-Jul-15	0	Presentation to ACABAS / Cl	EDD & A ECOM					<u>.</u>		
SUB-2080	Finalization of Package and	Submission	28	09-Jul-15	05-Aug-15	09-Jul-15	05-Aug-15	0	Finalization of Package and	Submission					J		
SUB-2090	Verbral Confirmation on App	oroval from ACABAS	18	06-Aug-15	23-Aug-15	06-Aug-15	23-Aug-15	0	Verbral Confirmation on A	Approval from AC	ABAS						
- AIP Subm	ission - Tunnel Portal Al	ternative Design															
SUB-2120	Tunnel Portal AD - Prep/Sub	mit Draft AIP Drawings	45	24-Jun-15	07-Aug-15	16-Jul-15	29-Aug-15	22	Turinel Portal AD - Prep/Su	bmit Draft AIP D	rawings				1		
SUB-2130	Tunnel Portal AD - Prep/Sub	mit Final AIP Drawings + ICE	18	08-Aug-15	25-Aug-15	30-Aug-15	16-Sep-15	22	Tunnel Portal AD - Prep/S	Submit Final AIP	Drawings + ICI						
SUB-2150	Tunnel Portal AD - Engineer	Review/Comment & Resubmit	24	26-Aug-15	18-Sep-15	17-Sep-15	10-Oct-15	22	Tunnel Portal AD + Eng	gineer Review/Ço	mment & Resul	mit					
SUB-2160	Turnel Portal AD - AIP		28	19-Sep-15	16-Oct-15	11-Oct-15	07-Nov-15	22	Tunnel Portal AD - A	AIP							
- AIP Subm	ission - Ventilation Build	ling Altenative Design															
SUB-2170	South Vent Bldg AD - Prep/S	Submit Draft AIP Drawings	90	24-Jun-15	21-Sep-15	25-Nov-15	22-Feb-16	154	South Vent Bldg AD - 1	Prep/Submit Draf	t AIP Drawings						
SUB-2180	South Vent Bldg AD - Prep/S	Submit Final AIP Drawings + ICE	24	22-Sep-15	15-Oct-15	23-Feb-16	17-Mar-16	154	South Vent Bldg AD	- Prep/Submit Fi	nal AIP Drawir	gs + ICE					
SUB-2190	South Vent Bldg AD - Engin	eer Review/Comment & Resubmit	36	16-Oct-15	20-Nov-15	18-Mar-16	22-Apr-16	154	South Vent Bldg	AD - Engineer R	Review/Commer	t & Resubmi					
SUB-2200	South Vent Bldg AD - AIP		28	21-Nov-15	18-Dec-15	23-Apr-16	20-May-16	154	South Vent B	ldg AD - AIP							
3.3 - DDA	- Alternative Design													1	1		
DDA Subn	viscion Duidge A	•													+		
- DDA Subi	inssion - Bridge A								······	·····			·····		÷		
DDA Sub	mission - Bridge A Substri	ucture	26	10 4 15	04.0 15	10 4 15	04.0 15								+		
SUB-3000	Bridge A Substructure - Prep	Submit DDA Drawings + ICE	26	10-Aug-15	04-Sep-15	10-Aug-15	04-Sep-15	0	Bridge A Substructure -	Prep/Submit D D/	A Drawings + IC	E			÷		
SUB-3010	Bridge A Substructure - Eng	ineer Review/Comment & Resubmit	60	05-Sep-15	03-Nov-15	05-Sep-15	03-Nov-15	0	Bridge A Substruc	ture - Engineer R	e vie w/Commer	t & Resubmit			<u>.</u>		
SUB-3030	Bridge A Substructure - DD/	P	18	04-Nov-15	21-Nov-15	04-Nov-15	21-Nov-15	0	📕 Bridge A Súbstri	ucture DDA					÷+-		
DDA Sub	mission - Bridge A Supers	tructure				1	I		· · · · · · · · · · · · · · · · · · ·								
SUB-3050	Bridge A Superstructure - Pr	ep/Submit of DDA Drawings + ICE	48	09-Sep-15	26-Oct-15	01-Oct-15	17-Nov-15	22	Bridge A Superstru	icture - Prep/Subr	nit of DDA Dra	wings + ICE					
SUB-3060	Bridge A Superstructure - Er	ngineer Review/Comment & Resubmit	60	27-Oct-15	25-Dec-15	18-Nov-15	16-Jan-16	22	Bridge A Su	perstructure - Ehs	gineer Review/0	orhment & R	esubmit		÷		
SUB-3070	Bridge A Superstructure - D	DA	18	26-Dec-15	12-Jan-16	17-Jan-16	03-Feb-16	22	Bridge A S	Superstructure - E	DA						
- DDA Subn	nission - Bridge B														<u>.</u>		
DDA Sub	mission - Bridge B Substr	ucture													<u>.</u>		
SUB-3100	Bridge B Substructure - Prep	o/Submit DDA Drawings + ICE	24	10-Aug-15	02-Sep-15	25-Aug-15	17-Sep-15	15	Bridge B Substructure - I	Prep/Submit DDA	A Drawings + IC	Е			<u>.</u>		
SUB-3110	Bridge B Substructure - Eng	ineer Review/Comment & Resubmit	60	03-Sep-15	01-Nov-15	18-Sep-15	16-Nov-15	15	Bridge B Substruc	ture - Engineer R	eview/Commen	t & Resubmit					
SUB-3130	Bridge B Substructure - DD	A	18	02-Nov-15	19-Nov-15	17-Nov-15	04-Dec-15	15	Bridge B Substru	ucture DDA							
DDA Sub	mission - Bridge B Supers	tructure															
SUB-3140	Bridge B Superstructure - Pr	rep/Submit DDA Drawings + ICE	36	10-Aug-15	14-Sep-15	13-Oct-15	17-Nov-15	64	Bridge B Superstructure	e - Prep/Submit D	DA Drawings	ICE					
SUB-3150	Bridge B Superstructure - En	ngineer Review/Comment & Resubmit	60	15-Sep-15	13-Nov-15	18-Nov-15	16-Jan-16	64	Bridge B Superst	ructure - Enginee	r Review/Com	nent & Resul	mit				
SUB-3160	Bridge B Superstructure - D	DA	18	14-Nov-15	01-Dec-15	17-Jan-16	03-Feb-16	64	Bridge B Super	rstructure - DDA					1		
- DDA Subn	nission - Bridge C																
DDA Sub	mission - Bridge C Substr	ucture												1	++-		
SUB-3200	Bridge C Substructure - Prep	o/Submit DDA Drawings + ICE	60	24-Aug-15	22-Oct-15	26-Aug-15	24-Oct-15	2	Bridge C Substructu	ure - Prep/Submit	DDA Drawing	+ ICE					
SUB-3210	Bridge C Substructure - Eng	ineer Review/Comment & Resubmit	60	23-Oct-15	21-Dec-15	24-Dec-15	21-Feb-16	62	Bridge C Sub	ostructure - Engin	eer Review/Co	nment & Res	ıbmit	1	++-		
SUB-3230	Bridge C Substructure - DD.	A	18	22-Dec-15	08-Jan-16	22-Feb-16	10-Mar-16	62	Bridge C S	ubstructure - DD	A				÷		
DDA Sub	mission - Bridge C Supers	tructure													++-		
SUB-3240	Bridge C Superstructure - Pr	ep/Submit DDA Drawings + ICE	54	23-Sep-15	15-Nov-15	25-Sep-15	17-Nov-15	2	Bridge C Suberst	tructure - Prep/Su	ıbmit DDA Dra	wings + ICE					
SUB-3250	Bridge C Superstructure - Er	ngineer Review/Comment & resubmit	60	16-Nov-15	14-Jan-16	18-Nov-15	16-Jan-16	2	Bridge C S	Superstructure - H	Engineer Review	/Comment &	resubmit	1			
SUB-3260	Bridge C Superstructure - D	DA	18	15-Jan-16	01-Feb-16	17-Jan-16	03-Feb-16	2	Bridge C	Superstructure -	DDA						
- DDA Subr	nission - Bridge D													· { }	÷	·····	
	unission - Di luge D								}						÷		
SUB 2200	Bridge D Substructure Bro	a/Submit DDA Dromings + ICE	22	10 Aug 15	21 Aug 15	10 Ang 15	21 Aug 15	0	Deides D Substanting	Decen/Sylamit DDA	Deswings + 10			·	+		
SUB-3300	Bridge D Substructure - Pre	b Submit DDA Drawings + ICE	22	10-Aug-15	31-Aug-15	10-Aug-15	31-Aug-15	0	Bridge D Substructure - I	Prep/Submit DDP	A Drawings + IC	E P			+		
SUB-3310	Bridge D Substructure - Eng		10	31 Oct 15	17 Nov 15	21 Oct 15	17 Nov 15	0	Diridge D Substruc	une - Eligineer K	conew/Commen	co resuomit			+-		
SUB-3330	Bridge D Substructure - DD	A	18	31-Oct-15	17-NOV-15	31-001-15	1 /-INOV-15	0	Bridge D Subsiri	ucture DDA					+		
DDA Sub	mission - Bridge D Supers	tructure										; ;	1	<u> </u>	: :		1
														Detail W	orks Progra	mme	
	4	Milestone								Project ID :L7	F6-DWPB1		Date	Povie Rovie		Checked	Annrove
中國語		Critical Activity			Data!	\// a ul	Due	-	Day D4	Layout : LT6I	JWPB1		13-Apr 14	Revision P1		Checked	, .pp:0ve
CR		Non-Critical Ac	tivity		Detai	I WORKS	rogra	amme	e Kev. Bi	Page 4 of 37			13-Apr-16				
CRRCC	EC-KADEN Loint	Venture Remaining Leve	el of Effort		Data D	ate: 24-Jun-15		Run	Date: 14-Apr-16								
OLDO-O	LO-MADEN JOIN	Actual Work							-								

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vity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	2015 J J A S O N D J F M A	2016 2017 M J J A S O N D J F M A M J J A S O N D J F	2018 2 M A M J J A S O N D J F M	2019 4 A M J
GUD 2240			01.0.15	22.0.115	17.0 15	07.31 15		1 1 2 3 4 5 6 7 8 9 10	11 12 13 14 15 16 17 18 19 2 21 22 23 24 25 26 27 28 29 30 31 3	33 34 35 36 37 38 39 40 41 42 43 4 45	5 46 47 48
SUB-3340	Bridge D Superstructure - Prep/Submit DDA Drawings + ICE	52	01-Sep-15	22-Oct-15	1/-Sep-15	0 /-Nov-15	16	Bridge D Superstr	ructure - Frep/Supmit DDA Drawings + ICE		
SUB-3350	Bridge D Superstructure - Engineer Review/Comment & Resubmit	60	23-Oct-15	21-Dec-15	08-Nov-15	00-Jan-16	16	Bridge D St	uperstructure - Engineer Review/Comment & Resubmit		
SUB-3360	Bridge D Superstructure - DDA	28	22-Dec-15	18-Jan-16	0/-Jan-16	03-Feb-16	10	Bridge L	J Superstructure - DDA		
- DDA Subn	ussion - Tunnel Portal Alternative Design										
SUB-3400	Tunnel North Portal AD - Prep/Submit DDA Drawings + ICE	20	27-Sep-15	16-Oct-15	19-Oct-15	07-Nov-15	22	Tunnel North Porta	al AD - Prep/Submit DDA Drawings + ICE		
SUB-3410	Tunnel North Portal AD - Engineer Review/Comment & Resubmit	60	17-Oct-15	15-Dec-15	08-Nov-15	06-Jan-16	22	Tunnel North	h Portal AD - Engineer Review/Comment & Résubmit		
SUB-3420	Tunnel North Portal AD - DDA	18	16-Dec-15	02-Jan-16	07-Jan-16	24-Jan-16	22	Tum el No	rth Portal AD - IDDA		
SUB-3421	Tunnel South Portal AD - Prep/Submit DDA Drawings + ICE	30	17-Oct-15	15-Nov-15	03-Feb-16	03-Mar-16	109	Turnel South Po	ortal AD - Prep/Submit DDA Drawings + ICE		-4
SUB-3422	Tunnel South Portal AD - Engineer Review/Comment & Resubmit	60	16-Nov-15	14-Jan-16	04-Mar-16	02-May-16	109	Tunhel So	outh Portal AD - Engineer Review/Comment & Resubmit		-4
SUB-3423	Tunnel South Portal AD - DDA	28	15-Jan-16	11-Feb-16	03-May-16	30-May-16	109	I unne	I South Portal AD - DDA		
- DDA Subn	nission - Ventilation Building Alternative Design										
SUB-3430	South Vent Bldg AD - Prep/Submit DDA Drawings + ICE	60	19-Dec-15	16-Feb-16	21-May-16	19-Jul-16	154	South	1 Vent Bldg AD - Prep/Submit DDA Drawings + ICE		
SUB-3440	South Vent Bldg AD - Prep/Submit DDA Drawings + ICE	60	17-Feb-16	16-Apr-16	20-Jul-16	17-Sep-16	154		South Vent Bldg AD - Prep/Submit DDA Drawings + ICE		
SUB-3450	South Vent Bldg AD - DDA	28	17-Apr-16	14-May-16	18-Sep-16	15-Oct-16	154		South Vent Bldg AD - DDA		
3.4 - Statu	tory Submission and Approval										
- Contracor	Blasting Assessment Report (CBAR)										
SUB-4000	CBAR - Prep/Submit with ICE	26	06-Jul-15	31-Jul-15	11-Sep-15	06-Oct-15	67	CBAR - Prep/Submit with I	ICE		
SUB-4010	CBAR - Engineer Review and Comment	28	01-Aug-15	28-Aug-15	07-Oct-15	03-Nov-15	67	CBAR - Engineer Revie	w and Comment		
SUB-4020	CBAR - Submit to MD/GEO/BD/FSD	28	29-Aug-15	25-Sep-15	04-Nov-15	01-Dec-15	67	CBAR - Submit to M	ID/GEØ/BD/FSD		
SUB-4030	CBAR - MD/GEO/BD Review and Comment	120	26-Sep-15	23-Jan-16	02-Dec-15	30-Mar-16	67	CBA'R -	MD/GED/BD Review and Commert		
SUB-4040	CBAR - Final Submission to MD/GEO/BD/Police/FSD	90	25-Dec-15	23-Mar-16	01-Mar-16	29-May-16	67		BAR - Final Submission to: MD/GEQ/BD/Police/FSD		
SUB-4050	CBAR - Approval	28	24-Mar-16	20-Apr-16	30-May-16	26-Jun-16	67		CBAR - Approval		
- Blasting N	Lethod Statement							T			
SUB 4100	North Portal Placting Mathod Statement Pran/Submit with ICE	42	18 Iol 15	28 Aug 15	10 Sep 15	30 Oct 15	63	North Portal Plasting M	athed Statement   Dran/Submit with ICE		
SUB 4110	North Portal Blasting Method Statement - Engineer Paview and Comment	92	20 Aug 15	25 San 15	21 Oct 15	27 Nov 15	63	North Portal Plasting	Mathad Statement Engineer Parian and Comment		
SUB 4120	North Portal Blasting Method Statement - Engineer Review and Comment	20	26 Sap 15	23-3cp-15	28 Nov 15	25 Dec 15	63	North Portal Plast	ing Mathed Statement Submit to MD		
SUB 4120	North Portal Blasting Method Statement - MD Paviaw and Commant	120	20-3cp-15	20 Eab 16	26 Dec 15	23-Dec-15	63	North Fortal Diast	Portal Placting Mathod Statement   MD Paview and Comment		
SUB 4140	North Portal Blasting Method Statement - Portherit to MD	00	24-0ct-15	20-100-10	01 Mar 16	20 May 16	62	North	Josth Dostal Blogting Method Statement - Deputwit to MD		
SUB-4140	North Portal Blasting Method Statement - Approval by MD	90	29-Dec-13	27-Wai-16	20 May 16	29-Way-10	62		North Portal Plasting Method Statement - Assessed by MD		
SUB-4150	North Portai Blasting Method Statement - Approval by MD	28	28-Mar-16	24-Apr-1 6	30-May-16	20-Jun-10	0.5	· · · · · · · · · · · · · · · · · · ·	North Fortal Blasting Method Statement - Approval by MD		
-Archaeolo	gical Survey								·····		
SUB-4200	Archaeological Survey - Appoint Specialist	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Archaeological Survey - Appo	oint Specialist		
SUB-4210	Archaeological Survey - Prepare/Submit Method Statement	14	08-Jul-15	21-Jul-15	08-Jul-15	21-Jul-15	0	<ul> <li>Archaeological Survey - Pre</li> </ul>	pare/Submit Method Statement		
SUB-4220	Archaeological Survey - Engineer Review/Resubmit/Approve	18	22-Jul-15	08-Aug-15	22-Jul-15	08-Aug-15	0	Archaeological Survey;- E	ingineer Review/Resubmit/Approve		
SUB-4230	Archaeological Survey - License Application/Approval	60	09-Aug-15	07-Oct-15	09-Aug-15	07-Oct-15	0	Archaeologica Surv	vey - License Application/Approval		
-Asbestos S	urvey				1						
SUB-4300	Asbestor Survey - Appoint Specialist	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	<ul> <li>Asbest</li></ul>	ecialist		
SUB-4310	Asbestor Survey - Sampling on Site	28	08-Jul-15	04-Aug-15	08-Jul-15	04-Aug-15	0	Asbestor Survey - Sampling	g on Site		
SUB-4320	Asbestor Survey - Submit Asbestor Abatement Plan	40	30-Jul-15	07-Sep-15	30-Jul-15	07-Sep-15	0	Asbestor Survey - Subn	mit Asbestor Abatement Plan		
SUB-4330	Asbestor Survey - AAP Approval	42	27-Aug-15	07-Oct-15	27-Aug-15	07-Oct-15	0	Asbestor Survey - A	AP Approval		
3.5 - Contr	actor's Superintendence										
SUB-5010	Nominate Surveyor for Approval - PS 1.09	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Surveyor for Approv	val - P\$ 1.09		1
SUB-5020	Nominate Piling Supervisor for Approval - PS 1.11	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Piling Supervisor for	or Approval - PS 1.11		
SUB-5030	Nominate Site Agent for Approval - PS 1.12(1)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Site Agent for Appr	roval - PS 1.12(1)		]
SUB-5040	Nominate Construction Manager for Approval - PS 1.12(2)(a)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Construction Manag	ger for Approval - PS 1.12(2)(a)		
SUB-5050	Nominate Construction Team Leader (Tunnel) for Approval - PS 1.12(2)(b)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Construction Team I	Leader (Tunnel) for Approval - PS 1.12(2)(b)		1
SUB-5060	Nominate Construction Team Leader (Viaduct) for Approval - PS 1.12(2)(c)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Construction Team I	Leader (Viaduct) for Approval - PS 1.12(2)(c)		
SUB-5070	Nominate Grouting Team Leader for Approval - PS 1.12(2)(d)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Grouting Team Lead	der for Approval - PS 1.12(2)(d)		
SUB-5080	Nominate Blasting Specialist for Approval - PS 1.12(2)(f)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Blasting Specialist f	for Approval - PS 1.12(2)(f)		
				1				• • • • • •			
	♦ Milestone								Project ID :LT6-DWPB1	Detail Works Programme	
<b>小</b> 中國語	各稿 States Critical Activity					-			Layout : LT6DWPB1 Date	Revision Checked A	Approved
CR	BC C Maden Non-Critical Activity			Detai	I Works	s Progra	amm	e Rev. B1	Page 5 of 37 13-Apr-16 Re	VISION B1	
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ctivity ID	ActivityName		Orig	Start	Finish	Late Start	Late Finish	Total 20			
			Dur					-1	1 2 3 4 5 6 7 8 9 10	1 12 18 14 15 16 17 18 19 2 21 22 23 24 25 26 27 28 29 30 31 3	33 34 35 36 37 38 39 40 41 42 43 4 45 46 47 48
SUB-5090	Nominate Risk Manager for	Approval - PS 1.12(2)(g)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Risk Manager for A	proval - PS 1.12(2)(g)	
SUB-5100	Nominate Programme Manag	ger for Approval - PS 1.12(2)(h)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Programme Manage	for Approval - PS 1.12(2)(h)	
SUB-5110	Nominate Safety Manager for	r Approval - PS 1.12(2)(i)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Safety Manager for	Approval - PS 1, 12(2)(i)	
SUB-5120	Nominate Precast Concrete S	Supervisor for Approval - PS 1.12(2)(j)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Precast Concrete Su	ervisor for Approval - PS 1.12(2)(j)	
SUB-5130	Nominate Building Team Lea	ader for Approval - PS 1.12(2)(k)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Building Team Lead	er for Approval - PS 1.12(2)(k)	
SUB-5140	Nominate Community Relation	on Officer for Approval - PS 1.12(2)(l)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Community Relation	Officer for Approval - PS 1.12(2)(1)	
SUB-5150	Nominate Environmental Off	icer for Approval - PS 1.12(2)(l)	14	24-Jun-15	07-Jul-15	24-Jun-15	07-Jul-15	0	Nominate Environmental Offic	er for Approval - PS 1.12(2)(l)	
SUB-5160	Nominate Geotechnical Supe	rvision Staff - PS 1.93E	90	24-Jun-15	21-Sep-15	24-Jun-15	21-Sep-15	0	Nominate Geotechnica	Supervision Staff - PS 1,93E	
SUB-5920	Complete Contractor's Superi	ntendence Mobilization	0		21-Sep-15*		21-Sep-15	0	<ul> <li>Complete Contractor's</li> </ul>	Superintendence Mobilization	
3.6 - Worl	ks Programme										
SUB-5800	Initial Works Programme - S	ubmission	7	24-Jun-15	30-Jun-15	10-Jul-15	16-Jul-15	16	Initial Works Programme - Sub	nission	
SUB-5810	Initial Works Programme - C	omment/Resubmit/Approve	66	01-Jul-15	04-Sep-15	17-Jul-15	20-Sep-15	16	Initial Works Programm	- Comment/Resubmit/Approve	
SUB-5820	Works Programme - Submiss	ion	60	05-Sep-15	03-Nov-15	21-Sep-15	19-Nov-15	16	Works Programm	- Submission	
SUB-5830	Works Programme - Commer	nt/Resubmit/Approve	42	04-Nov-15	15-Dec-15	20-Nov-15	31-Dec-15	16	Works Progr	mme - Comment/Resubmit/Approve	
SUB-5840	3-month Rolling Programme	- Submit 1 st Issue	7	24-Jun-15	30-Jun-15	10-Jul-15	16-Jul-15	16	3-month Rolling Programme - S	ubmit 1st Issue	
SUB-5845	Approval of Works Programm	ne	0		31-Dec-15*		31-Dec-15	0	Approval of	Works Programme	
4.0 - Off-S	ite Works										
4.0 - 011-5									· · · · · · · · · · · · · · · · · · ·		
4.1 - Segn	nent Fabrication				-						
OSW-1000	Segment Off-site Fabrication	Yard Set-up	160	17-Aug-15	23-Jan-16	15-Sep-15	21-Feb-16	29	Segment	Off-site Fabrication Yard Set-up	
OSW-1050	Segment Mould Design and I	Fabrication	147	30-Aug-15	23-Jan-16	28-Sep-15	21-Feb-16	29	Segment	Mould Design and Fabrication	
OSW-1100	Submit/Approve Geometry C	ontrol Design	90	22-Nov-15	19-Feb-16	24-Nov-15	21-Feb-16	2	Súbmi	/Approve Geometry Control Design	
OSW-1105	Submit/Approve Method Stat	ement Segment Fabrication and Handling	90	22-Nov-15	19-Feb-16	24-Nov-15	21-Feb-16	2	Súbmi	Approve Method Statement Segment Fabrication and Handling	
OSW-1107	Bridge A - Segment Fabricat	ion 4 69 nos @ 8 nos/week	450	20-Feb-16	14-May-17	22-Feb-16	16-May-17	2		Bridge A - Segment Fabrication	on 4 69 nos @ 8 nos week
OSW-1210	Bridge B - Segment Fabricat	ion 185 nos @ 5 nos/week	286	11-Jun-16	23-Mar-17	17-Jun-16	29-Mar-17	6		Bridge B - Segment Fabrication 18:	5 nos @ 5 nos/week
OSW-1310	Bridge C - Segment Fabricat	ion 234 nos @ 5 nos/week	336	09-Sep-16	10-Aug-17	15-Sep-16	16-Aug-17	6		Bridge C - Segment	Fabrication 234 nos @ 5 nos/week
OSW-1410	Bridge D - Segment Fabricat	ion 2272 nos @ 30 nos/week	540	20-Feb-16	12-Aug-17	22-Feb-16	14-Aug-17	2		Bridge D - Segment	Fabrication 2272 nos @ 30 nos/week
4.2 - Porti	ion WA2										
OSW-2300	Establishment of Precast Seg	ment Unloading Berth at WA2	70	18-Apr-16	26-Jun-16	29-Apr-16	07-Jul-16	11		Establishment of Precast Segment Unloading Berth at WA2	
5.0 - Sha	Tau Kok Interchange										
51 - Proli	minary Works										
5.1 - Fren									<mark>-</mark>		
- Site Posse	ession and Site Establishr	nent works							·····		
	orth)										
STK-3000	Portion CR3 - Condition + 11	ee Survey	28	21-Aug-15	22-Sep-15	03-Sep-15	07-Oct-15	11	Portion CR3 - Conditi	n + Irde Survey	
STK-3010	Portion CR3 - Asbestos Surve	ey	28	21-Aug-15	22-Sep-15	03-Sep-15	07-Oct-15	11	Portion CR3 - Asbesto	s Survey	
STK-3020	Portion CR3 - Archaeologica	I Survey / Final Report	48	08-Oct-15	03-Dec-15	08-Oct-15	03-Dec-15	0	Portion CR3 -	Archaeological Survey / Final Report	
STK-3030	Portion CR3 - Tree Felling +	Site Clearance + Demolition	48	08-Oct-15	03-Dec-15	08-Oct-15	03-Dec-15	0	Portion CR3 -	Tree Felling + Site Clearance + Demolition	
STK-3040	Portion CR3 - Initial Survey		48	08-Oct-15	03-Dec-15	08-Oct-15	03-Dec-15	0	Portion CR3 -	Initial Survey	
STK-3065	Portion CR3 - Demolition of	Existing Footbridge	60	04-Dec-15	20-Feb-16	04-Dec-15	20-Feb-16	0	Portio	1 CR3 - Demolition of Existing Footbridge	
STK-3400	Portion WKS - Condition Sur	vey +Tree Survey	24	21-Sep-15	20-Oct-15	13-Nov-15	10-Dec-15	43	Portion WKS - Cor	dition Survey + Tree Survey	
STK-3410	Portion WKS - Asbestos Surv	ley	24	21-Sep-15	20-Oct-15	13-Nov-15	10-Dec-15	43	Portion WKS - Asb	stos Survey	
STK-3420	Portion WKS - Archaeologic	al Survey / Final Report	43	08-Oct-15	27-Nov-15	27-Nov-15	18-Jan-16	42	Portion WKS -	Archaeological Survey / Final Report	
STK-3430	Portion WKS - Tree Felling	+ Site Clearance + Demolition	32	23-Oct-15	28-Nov-15	11-Dec-15	19-Jan-16	42	Portion WKS -	Tree Felling + \$ite Clearance + Demolition	
STK-3440	Portion WKS - Initial Survey		32	23-Oct-15	28-Nov-15	02-Jun-16	11-Jul-16	178	Portion WKS -	Initial Survey	
STK-3700	Portion CR8 - Condition + Tr	ee Survey	18	18-Sep-15	10-Oct-15	26-Dec-15	16-Jan-16	81	Portion CR8 - Condi	ion + Tree Survey	
STK-3710	Portion CR8 - Asbestor Surve	ży	24	18-Sep-15	17-Oct-15	26-Dec-15	23-Jan-16	81	Portion CR8 - Asbe	tor Survey	
STK-3720	Portion CR8 - Archaeologica	l Syrvey / Final report	40	12-Oct-15	27-Nov-15	25-Jan-16	17-Mar-16	87	Portion CR8 - 1	rchaeological Syrvey / Final report	
STK-3730	Portion CR8 - Tree Felling +	Site Clearance + Demolition	24	19-Oct-15	16-Nov-15	25-Jan-16	27-Feb-16	81	Portion CR8 - T	ee Felling + Site Clearance + Demplition	
STK-3740	Portion CR8 - Initial Survey		24	19-Oct-15	16-Nov-15	25-Jan-16	27-Feb-16	81	Portion CR8 - Ir	tial Survey	
	201	Milaetona								Project ID 1 T6 DWPR1	Detail Works Programme
A ===		Critical Activity								Layout : LT6DWPB1 Date	Revision Checked Approved
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tivity ID	Activity Name	Orig	Start	Finish	Late Start	Late Finish	Total 2			
		Dur					Float -1	1         2         3         4         5         6         7         8         9         10         11         12         18         14         15         16         17         18         19         2         12         12         23         24         25         26         27         28         29         30         31         3	13 34 35 36 37 38 39 40	41 42 43 4 45 46 47 48
STK-3750	Portion CR8A/B - Condition + Tree Survey	12	19-Mar-16	06-Apr-16	29-Jul-16	11-Aug-16	106	Portion CR8A/B - Condition + Tree Survey		
STK-3760	Portion CR8A/B - Tree Felling + Site Clearance + Demolition	30	19-Mar-16	27-Apr-16	29-Jul-16	01-Sep-16	106	Portion CR8A/B - Tree Felling + Site Clearance + Demolition		
STK-3770	Portion CR8A/B - Initial Survey	12	14-Apr-16	27-Apr-16	19-Aug-16	01-Sep-16	106	Portion CR8A/B - Initial Survey		
STKI (So	Uth) Darties DD & CD5A Initial Surray	49	24 Jun 15	20 Aug 15	00 Jul 15	0.2 Son 15	11	Disting DD % CD5A Labial Schwarz		
STK-1010	Portion CD5 CD6 & CD7 (SD52) Condition   Tree Surray	40	24-Jul-15	20-Aug-15	19-Jul-15	02-Sep-15		Portion CD & CCOR + Initial Startey		
STK-4110	Portion CR5, CR6 & CR7 (SRS2) - Columbia + Fire Sulvey	24	29-Sep-15	28-Oct-15	29-Sep-15	28-Oct-15	0	Portion CBS (CR6 & CH7 (SRS2) - Tree Falling + Site Clearance		
STK-4120	Portion CR5_CR6 & CR7 (SRS2) - Initial Survey	24	29-Sep-15	28-Oct-15	15-Oct-15	12-Nov-15	13	Portion CR5, CR6 & CR7 (SRS2) - Interforming - Site Clearance		
STK-4130	Portion C2P2 - Condition Survey + Tree Survey	15	16-Jan-16	02-Feb-16	21-Jan-16	06-Feb-16	4	Fortion C2P2- Condition Survey + Tree Survey		
STK-4220	Portion C2P2 - Tree Felling + Site Clearance	15	16-Jan-16	02-Feb-16	21-Jan-16	06-Feb-16	4	Portion (2P2) - Tree Felling + Site Clearance		
STK-4230	Portion C2P2 - Initial Survey	15	16-Jan-16	02-Feb-16	21-Jan-16	06-Feb-16	4	Portion C2P2 - Initial Survey		
STK-4300	Portion CR5 & CR6 (SRS1) - Condition + Tree Survey	24	29-Oct-15	25-Nov-15	13-Nov-15	10-Dec-15	13	Portion CR5 & CR6 (SRS1) - Condition + Tree Survey		
STK-4305	Portion CR5 & CR6 (SRS1) - Tree Felling + Site Clearance	30	26-Nov-15	31-Dec-15	11-Dec-15	16-Jan-16	13	Portion/CR5 & CR6 (SRS1) - Tree Felling + Site Clearance		
STK-4310	Portion CR5 & CR6 (SRS1) - Initial Survey	18	24-Dec-15	15-Jan-16	11-Jan-16	30-Jan-16	13	Portion CR5 & CR6 (SRS1) - Initial Survey		
STK-4333	Portion C2P1 - Condition + Tree Survey	6	16-Jan-16	22-Jan-16	25-Jan-16	30-Jan-16	7	Portion C2P1 - Condition + Tree Survey		
STK-4335	Portion C2P1 - Tree Felling + Site Clearance	6	20-Jan-16	26-Jan-16	28-Jan-16	03-Feb-16	7	Portion C2P1 + Free Felling + Site Clearance		
STK-4340	Portion C2P1 - Initial Survey	6	23-Jan-16	29-Jan-16	01-Feb-16	06-Feb-16	7	Portion C2P1 - Initial Survey		
STKI (W	est)			,						
STK-6010	Portion CR4 - Initial Survey + Site Clearance & Establishment	90	23-Jul-15	07-Nov-15	28-May-16	12-Sep-16	250	Portion Cl 4 - Initial Survey + Site Clearance & Establishment		
- TTA Subr	nission									
STK-1100	STKI - Submit/Approve TTA for Site Access	45	24-Jun-15	17-Aug-15	14-Aug-15	07-Oct-15	42	STKI - Submit/Approve TTA for Site Access		
STK-1150	STKI - Submit/Approve TTA for Bridge A Pier Construction	60	18-Aug-15	29-Oct-15	11-Jan-16	30-Mar-16	120	STKI - Submit/Approve TTA for Bridge A Pier Construction		
STK-1200	STKI - Submit/Approve TTA for Bridge A Segment Erection	60	30-Oct-15	09-Jan-16	08-Dec-16	23-Feb-17	330	STKI - Submit/Anprove TTA for Bridge A Segment Erection		
STK-1250	STKI - Submit/Approve TTA for STKI Construction	120	24-Jun-15	16-Nov-15	08-Aug-15	30-Dec-15	37	STKI - Submit/Approve TTA for STKI Construction		
5.2 - STKI	TTA Stage 1 Enabling Works									
STK-4138	STKJ/CR5/CR6/CR7 - Temporary Road Site Formation	85	29-Oct-15	06-Feb-16	29-Oct-15	06-Feb-16	0	STKI/CR5/CR6/CR7 - Temporarly Road Site Formation		
STK-4142	STKI/CR5/CR6/CR7 - Temporary Road for TTA Stage 1	60	31-Dec-15	17-Mar-16	31-Dec-15	17-Mar-16	0	STKI/CR5/CR6/CR7 - Temporary Road for TTA Stage 1		
STK-4143	STKI/C2P2/CR6/CR5/C2P1 - Temporary Road for TTA Stage 1	28	15-Feb-16	17-Mar-16	15-Feb-16	17-Mar-16	0	STKI/C2P2/CR6/CR5/C2P1 - Temporary Road for TTA Stage 1		
STK-4145	STKI TTA Stage 1 - STK Rd Diversion to Temporary Road	6	18-Mar-16	24-Mar-16	18-Mar-16	24-Mar-16	0	STKI TTA Stage 1 - STK Rd Diversion to Temporary Road		
5.3 - STKI	TTA Stage 2 Enabling Works									
STK-5380	STKI TTA Stage 2 - WKS Rd Diversion through STK Rd by Bridge E	6	24-Feb-17	02-Mar-17	24-Feb-17	02-Mar-17	0	STKI TTA Stage 2 - WKS Rd: Divers	ion through STK Rd by Br	ridge E
- Bridge E										
STK-5191	Temp Work Design - Submit/No A dyerse Comment - Bridge E Abutment	90	19-Oct-15	03-Feb-16	04-Feb-16	31-May-16	90	Tenin Work Design - Submit/No A dye rse Comment - Bridge E Abutment		
STK-5193	Temp Work Design - Submit/No A dverse Comment - Bridge E Deck	90	30-Dec-15	25-Apr-16	17-Jun-16	03-Oct-16	133	Temb Work Design - Submit/No Adverse Comment - Bridge E Deck		
STK-5210	Bridge E - Diversion of Existing Utilities	42	29-Mar-16	18-May-16	29-Mar-16	18-May-16	0	Bridge E - Diversion of Existing Utilities		
STK-5220	Bridge E - Abutment A021 Pre-drilling	24	29-Mar-16	26-Apr-16	06-Apr-16	03-May-16	6	Bridge E - Abutment A0/21 Pre-drilling		
STK-5230	Bridge E - Abutment A021 Piling (5 nos)	54	19-May-16	22-Jul-16	19-May-16	22-Jul-16	0	Bridge E - Abutment A021 Piling (5 nos)		
STK-5240	Bridge E - Abutment A021 Construction	48	06-Aug-16	03-Oct-16	06-Aug-16	03-Oct-16	0	Bridge E - Abutment A0 21 Construction		
STK-5260	Bridge E - Abutment A022 Pre-drilling	15	19-Oct-15	05-Nov-15	25-Jan-16	17-Feb-16	81	Bridge E - Abutment A0 22 Pre-drilling	··†····†	
STK-5270	Bridge E - Abutment A022 Piling (5 nos)	54	10-Mar-16	17-May-16	10-Mar-16	17-May-16	0	Bridge E - Abutment A0 22 Piling (5 nos)		
STK-5280	Bridge E - Abutment A022 Construction	48	01-Jun-16	28-Jul-16	01-Jun-16	28-Jul-16	0	Bridge E - Ablutment A022 Construction		
STK-5290	Bridge E - RC Deck Construction	68	04-Oct-16	21-Dec-16	04-Oct-16	21-Dec-16	0	Bridge E - RC Deck Construction		
STK-5300	Bridge E - Parapet + Utility Trough	12	08-Dec-16	21-Dec-16	08-Dec-16	21-Dec-16	0	Bridge É - Parapet + Utility Trough		
STK-5310	Bridge E - Parapet + Noise Barrier NB6-b Anchor	12	08-Dec-16	21-Dec-16	08-Dec-16	21-Dec-16	0	Bridge E - Parapet + Noise Barrier NB6-b A	nchor	
- Roadwork	S									
STK-5312	STKI/CR5/CR7 - Noise Barrier NB7 Site Formation	48	26-Dec-15	27-Feb-16	30-Dec-15	02-Mar-16	3	STKI/CR5/CR7 - Noise Barrier NB7 Site Formation		
STK-5313	STKI/CR5/CR7 - Noise Barrier NB7 R.C. Footing (10 bays)	115	29-Feb-16	19-Jul-16	03-Mar-16	22-Jul-16	3	STKJCR5/CR7 - Noise Barrier NB7 R.C. Footing (10 bays)		
STK-5315	Portion CR5-RD - Noise Barrier NB6-c Site Formation	90	06-Apr-16	22-Jul-16	06-Apr-16	22-Jul-16	0	Portion CR5-RD - Noise Barrier NB6-c Site Formation		
									·	
	Milestone							Project ID :LT6-DWPB1	Detail Works Program	nme
中國	各稿 Starsag					-		Layout : LT6DWPB1 Date	Revision	Checked Approved
CR	BC Kaden a Non-Critical Activity			Detai	Works	Progra	amme	Page 7 of 37	sion B1	
CRRCC	EC-KADEN loint Venture	t		Data D	ate: 24-Jun-15	5	Run	Jate: 14-Apr-16		
	Actual Work									

AECOM Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6												CE	DD												
Activity ID	ActivityName			Orig	Start	Finish	Late Start	Late Finish	Total 2				2016		ND	IEM	20	017			20	18		2019	
				Dur					Float -	1 2 3 4 5 6	7 8 9	10 11	12 13 14	15 16 1	17 18 1	9 2 21	22 23 24	25 26 27	28 29 30	31 3 33	34 35 36	37 38 39 4	41 42 43	4 45 46 4	7 48
STK-5320	Portion CR5-RD - Noise Bar	rier NB6-c R.C. Foo	ting (8 bays)	80	23-Jul-16	26-Oct-16	23-Jul-16	26-Oct-16	0						Portior	n CR5-R	D - Nois	e Barrier l	NB6-c R.0	2. Footing	; (8 bays)	L			
STK-5322	Portion CR5-RD - Retaining	Wall STK/RW2A + I	RW2C	24	10-Sep-16	10-Oct-16	13-Sep-16	12-Oct-16	2					<b>Р</b> Р	Portion (	CR5-RE	- Retain	ing Wall S	TK/RW2/	A +RW20	3	Ļ			
STK-5325	Portion CR5-RD-CR8 - Road	d Formation (STK/F7	7)	48	21-Sep-16	16-Nov-16	21-Sep-16	16-Nov-16	0	ļ					Port	ion CR5	-RD-CR8	3 - Road F	ormation (	(STK/F7)					
STK-5340	Portion CR5-RD-CR8 - Wate	ermain		54	17-Nov-16	18-Jan-17	17-Nov-16	18-Jan-17	0							Portio	m CR5-R	D-CR8 -	Watermair	2		L			
STK-5350	Portion CR5-RD-CR8 - Utili	ties		54	17-Nov-16	18-Jan-17	17-Nov-16	18-Jan-17	0							Portio	m CR5-R	D-CR8 -	Utilities						
STK-5360	Portion CR5-RD-CR8 - Drai	nage & Sewerage		54	17-Nov-16	18-Jan-17	17-Nov-16	18-Jan-17	0							Portio	n CR5-R	D-CR8 -	Drainage a	& Sewera	ge	Ll.			
STK-5370	Portion CR5-RD-CR8 - Road	d Paving & Marking		24	19-Jan-17	23-Feb-17	19-Jan-17	23-Feb-17	0	ļ						<b>—</b> Р	ortion CR	5-RD-CR	8 - Road I	Paving & !	Marking	Ļ			
- Portion C	R3											<u> </u>										<u>                                      </u>			
STK-3060	Portion CR3 - Road Formati	on (STK/F9+STKF6	)	72	02-Aug-16	26-Oct-16	02-Aug-16	26-Oct-16	0	l		.i			Portior	n CR3 -	Road Fo	mation (S	TK/F9+S	TKF6)		Lİ.			
STK-3070	Portion CR3 - Watermain			72	27-Oct-16	18-Jan-17	27-Oct-16	18-Jan-17	0							Portio	m CR3 -	Watermain	1						
STK-3080	Portion CR3 - Utilities			72	27-Oct-16	18-Jan-17	27-Oct-16	18-Jan-17	0	<u> </u>		<u>.</u>				Portio	n CR3 -	Utilities	<u>.</u>			<u>.</u>			
STK-3090	Portion CR3 - Drainage & Se	ewerage		72	27-Oct-16	18-Jan-17	27-Oct-16	18-Jan-17	0							Portio	on CR3 -	Drainage	& Seweraş	ge		L			
STK-3300	Portion CR3 - Road Paving a	& Marking		24	19-Jan-17	23-Feb-17	19-Jan-17	23-Feb-17	0							<b>—</b> P	ortion CR	3 - Road	Paving &	Marking		<u> </u>			
- Portion C	R8																					1			
STK-3780	Portion CR8 - Retaining Wall	I RW2B		42	29-Jul-16	15-Sep-16	29-Jul-16	15-Sep-16	0					Por	tion CR	8 - Reta	ining Wa	ll RW2B							
STK-3790	Portion CR8 - Retaining Wall	RW2D		30	29-Jul-16	01-Sep-16	29-Jul-16	01-Sep-16	0			1		Portic	on CR8	- Retain	ing Wall	RW2D	1		1	[			
STK-3800	Portion CR8 - Noise Barrier	NB6-a R.C. Footing	(5 bays)	42	02-Sep-16	22-Oct-16	02-Sep-16	22-Oct-16	0					-	Portion	n CR8 - 1	Noise Bar	rier NB6	a R.C. Fo	wing (5 b	ays)				
STK-3815	Portion CR8 - Road Formatic	on (STK/F8+STK/F6	+STK/F3)	45	03-Oct-16	23-Nov-16	03-Oct-16	23-Nov-16	0			1		_	Por	tion CR8	- Road	Formation	(STK/F8-	+STK/F6	+STK/F3)				
STK-3820	Portion CR8 - Watermain			48	24-Nov-16	18-Jan-17	24-Nov-16	18-Jan-17	0						-	Portio	m CR8 -	Watermain	1						
STK-3830	Portion CR8 - Utilities			48	24-Nov-16	18-Jan-17	24-Nov-16	18-Jan-17	0			-				Portic	n CR8 -	Utilities		1					
STK-3840	Portion CR8 - Drainage & Se	ewerage		48	24-Nov-16	18-Jan-17	24-Nov-16	18-Jan-17	0			1				Portic	n CR8 -	Drainage	& Sewerag	ge		[			}
STK-3900	Portion CR8 - Road Paving &	k Marking		24	19-Jan-17	23-Feb-17	19-Jan-17	23-Feb-17	0							P	ortion CR	8 - Road	Paving & 1	Marking					
5.4 - STKI	TTA Stage 3 Enabli	ng Works										1										ſ			}
STK-6510	TTA Stage 3 - STK Road Di	iversion Through Brid	loe F	6	24-Oct-17	31-Oct-17	24-Oct-17	31-Oct-17	0										TT4	A Stage 3	STK Ra	ad Diversio	Through B	ridge E	}
- Bridge F				-						}		+						+	+		·+				{
STK 6028	Tamp Work Dasign Submit/	No A duarca Comme	nt Bridge E Abutment	90	22 Dec 15	10 Apr 16	13 Oct 16	25 Jan 17	236			Т	Work	Dation	Subm	it/No A	uara Co	mmont E	tidae E A	butment	· • • • • • • • • • • • • • • • • • • •	<u> </u>			}
STK 6020	Temp Work Design - Submit/	No Adverse Comme	t - Bridge F Abuthent	90	11 Mar 16	19-Api-10	13-Oct-10	2.3-Jall-17	230	·····			Tan	Work	- Subfil	Cuhan	t/NIo A da	hindi - E	want Dai	Junient					}
STK 6040	Dridge E Abstract A 021 J	Dradri lling	it - bi kige r Deck	90	22 Aug 16	30-Juli-10	12 Sep 16	27 Son 16	19				Ten	Daid	Design	A hosteroo	+ A 02 1 1	wodeilling	neni - Bi i	age r De	<i>ж</i>	÷			
STK 6050	Bridge F - Abutment A 021 1	Diling (6 nm)		79	25-Aug-10	03-Sep-10	13-Sep-10	27-Sep-10	2			÷			ger	Duida	E Aby	mont A 03	1 Diling (		·}!				
STK 6060	Bridge F - Abutment A 021 (	Commution		60	24 Jan 17	12 Apr 17	13-Oct-10	11-Jair 17	2							Bridge	Prida		demont A 03	21 Comm	dation	÷			
STK (070	Bridge F - Abutment A 022 1	Coist uctori		24	24-Jail-17	12-Api-17	20-Jan-17	10-Api-17	164		Delder	÷		22.0	1 - 2 - 1 - 2		Dilug	CF - ADU	ament A 03						
STK-6070	Bridge F - Abutment A 032 1	Predning		24	25-NOV-15	22-Dec-15	20-Jun-16	18-Jul-10	104		Bridge	r - At	umentAt		in i ng	A 1	+ 1 022 1						·		
STK-6080	Bridge F - Abutment A032 1	Pling (4 nos)		60	2/-Jun-10	03-Sep-16	19-Jul-16	27-Sep-10	18					Brid	ge r - 1	Abumer	Alutur	11ing (4 n	(s)						}
STK-6090	Bridge F - Abuiment A032	Construction		120	28-Sep-10	07-Dec-16	03-NOV-10	11-Jan-17		······			····		BI	rnage F	- Adum	ent A032	Construct	on 		Line Pole	·····		{
S1K-0100	Bridge F - Deck Constructio	on inci. Parapet		120	13-Apr-1/	07-Sep-17	03-Jul-17	21-INOV-1/	62									·	Bridge F	Deck C	onstruction	1 Inci. Paraj	et		·}
- Retaining	Walls at Portion RD/CR	(4											<u>i</u>												
STK-6120	Retaining Wall STK/RW1A F	Excavation		24	24-Jun-16	22-Jul-16	27-Jun-16	25-Jul-16	2	ļ			R	etaining	Wall S	TK/RW	A Excav	ation							
STK-6130	Retaining Wall STK/RW1A I	Base s la b		24	16-Jul-16	12-Aug-16	19-Jul-16	15-Aug-16	2					Retaini	ng Wall	I STK/R	W1A Bas	eslab			.ļ!				
STK-6140	Retaining Wall STK/RW1A V	Wall		48	13-Aug-16	10-Oct-16	16-Aug-16	12-Oct-16	2	ļ					Retainin	ng Wall S	TK/RW1	A Wall				Ļ			·}
STK-6150	Retaining Wall STK/RW1A F	Back filling		30	11-Oct-16	14-Nov-16	13-Oct-16	16-Nov-16	2	ļ					Reta	ining Wa	all STK/F	W1A Bac	k filling						
STK-6160	Retaining Wall STK/RW3A F	Excavation		12	24-Jun-16	08-Jul-16	27-Jun-16	11-Jul-16	2	<u> </u>			Re	taining V	Vall ST	K/RW3	A Exca va	tion				L			·}
STK-6170	Retaining Wall STK/RW3A N	Modif y Existing Box	Culvert	18	09-Jul-16	29-Jul-16	12-Jul-16	01-Aug-16	2				<b>I</b> I	Retaining	g Wall S	STK/RW	3A Mod	ify Existin	g Box Cul	vert	!				
STK-6180	Retaining Wall STK/RW3A F	Baseslab		12	30-Jul-16	12-Aug-16	02-Aug-16	15-Aug-16	2					Rețaini	ng Wall	I STK/R	W3A Bas	eslab			.ļ!	ļļ.			
STK-6190	Retaining Wall STK/RW3A V	Wall		24	13-Aug-16	09-Sep-16	16-Aug-16	12-Sep-16	2					Reta	uining W	Vall STK	/RW3A	Wall							
STK-6200	Retaining Wall STK/RW3A I	Back filling		24	10-Sep-16	10-Oct-16	13-Sep-16	12-Oct-16	2	ļ				F	Retainin	ng Wall S	TK/RW3	A Back fi	lling			ļļ.			
STK-6220	Retaining Wall STK/RW3B -	Excavation		12	03-Mar-17	16-Mar-17	03-Mar-17	16-Mar-17	0								Retainin	g Wall ST	Ķ/RW3В -	Excavati	ion	<b>.</b>			
STK-6230	Retaining Wall STK/RW3B -	Modify Existing Bo	x Culvert	18	17-Mar-17	07-Apr-17	17-Mar-17	07-Apr-17	0								Retair	ing Wall S	TK/RW31	B - Modif	y Existing	Box Culver			
STK-6240	Retaining Wall STK/RW3B -	Base Slab		18	08-Apr-17	04-May-17	08-Apr-17	04-May-17	0								📕 Ret	aining Wa	U STK/RV	₩3B - Bas	se Slab	ļ			
STK-6250	Retaining Wall STK/RW3B -	Wall		30	26-Apr-17	02-Jun-17	26-Apr-17	02-Jun-17	0									Retaining	Wall STK	/RW3B -	Wall	<u>.</u>			
STK-6255	Retaining Wall STK/RW3B -	Back filling/Road Fo	ormation	24	03-Jun-17	30-Jun-17	03-Jun-17	30-Jun-17	0			1						Retaini	ng Wall S	rK/RW3F	3 - Backfil	ling/Road F	ormation		]
			♦ ♦ Milestone									T	Project I	D :LT6-	DWPE	31					Detail Wc	rks Progra	Imme		
▲ 中國		· ·	Critical Activity			_		_					Layout :	LT6DW	VPB1				Date		Revis	ion	Checke	d Appro	ved
CR		laden 🚟	Non-Critical Activity			Detai	Works	Progra	ammo	e Rev. B1			Page 8 o	f 37				1:	3-Apr-16	Revisi	on B1				
		Venture	Remaining Level of Effort			Data D	ate: 24-Jun-15		Run	Date: 14-Anr-16															
CKRC-C	EC-KADEN JOINT	venture	Actual Work			Duid D			i vali																
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ctivity ID	ActivityName	Orig	Start	Finish	Late Start	Late Finish	Total 2 Eloat J	015 JASOND	JF	MAM	2016 J J A S O N	DJFI	2017 MAMJJJAS	TOINID	JEM		SIOINID	201 J F M	19 AMJ
		D'u.					-1	1 2 3 4 5 6	78	9 10 11 1	2 13 14 15 16 17	18 19 2 2	1 22 23 24 25 26 27	28 29 30	31 3 33	34 35 36 37 38 3	39 40 41 42 4	43 4 45	46 47 48
- Road Wor	ks at Portion RD/CR4								İ										
STK-6260	Portion CR4-RD/STK Rd - Road Formation	60	19-Apr-17	30-Jun-17	19-Apr-17	30-Jun-17	0						Portion	CR4-RD/	STK Rd -	Road Formation			
STK-6270	Portion CR5-RD/STK Rd - Watermain	72	17-Jun-17	09-Sep-17	17-Jun-17	09-Sep-17	0		l					Portion C	R5-RD/ST	K Rd - Waterma	in		
STK-6280	Portion CR4-RD/STK Rd - Utilities	72	17-Jun-17	09-Sep-17	17-Jun-17	09-Sep-17	0							Portion C	R4-RD/ST	fK Rd - Utilities			
STK-6290	Portion CR4-RD/STK Rd - Drainage & Sewerage	72	17-Jun-17	09-Sep-17	17-Jun-17	09-Sep-17	0							Portion C	R4-RD/ST	K Rd - Drainage	& Sewerage	<i>i</i>	
STK-6500	Portion CR4-RD/RW3B - Road Paving	36	11-Sep-17	23-Oct-17	11-Sep-17	23-Oct-17	0							Porti	on CR4-R	D/RW3B - Road	Paving		
- Portion W	'KS																		
STK-3450	Portion WKS - Road Formation (STK/F6+STK/F5+STK/F3)	24	22-Jun-17	20-Jul-17	24-Jun-17	22-Jul-17	2		1				Porti	on WKS -	Road Forr	mation (STK/F6+	STK/F5+ST	K/F3)	
STK-3460	Portion WKS - Water main	42	21-Jul-17	07-Sep-17	24-Jul-17	09-Sep-17	2							Portion W	KS - Wate	er ma in			
STK-3470	Portion WKS - Utilities	42	21-Jul-17	07-Sep-17	24-Jul-17	09-Sep-17	2		1					Portion W	KS - Utili	lties			
STK-3480	Portion WKS - Drainage & Sewerage	42	21-Jul-17	07-Sep-17	24-Jul-17	09-Sep-17	2							Portion W	KS - Drat	inage & Sewerage	; ; ;		
STK-3600	Portion WKS - Road Paving & Marking	36	11-Sep-17	23-Oct-17	11-Sep-17	23-Oct-17	0							Porti	on WKS -	Road Paving & N	/larking		
5.6 - STKI	Remaining Works															[			
- STKI Sou	th + Slip Roads S1 and S2													+					
STK 4330	STKI South Noise Parrier ND0 P.C. Footing	72	01 Nov 17	25 Jan 18	01 Nov 17	25 Jan 18	0								STR	T South Moise P	arriar NIDO P	C Foots	
STK 4345	STKI South - Noise Barrier ND10 P.C. Footing	72	01 Nov 17	25-Jan-18	01-Nov-17	25-Jan 18	0								STR	I South Noise P	artiar NB10	P.C. Foot	15 ting
STK 4350	STKI South - Noise Barrier NDS D C Footing	72	01 Nov 17	25-Jan-18	01 Nov 17	25-Jan 18	0								STR	T South Noise P	arriar NDS D	C Foots	g
STK 4355	STKI South - Noise Barrier NB6 K.C. Footing	00	01 Nov 17	15 Eab 18	01 Nov 17	2.5-Jair 10	0								SIK	FKI South Pood	Edemation (\$	TK/F1±K	45 2⊥E4 and
STK 4360	STKI South - Road Formation (STR/F1/F2/F4 and STR/C1)	72	20 Dec 17	22 Mar 18	20 Dec 17	22 Mar 18	0									STELSouth W	atermain	1 K/1 1 - K	2 1 4 410
STK 4365	STKI South - Watermann	72	20-Dec-17	22-Mar 18	20-Dec-17	22-Mar 18	0							÷7		STRISouth II	tilitiae		
STK-4305	STRI South - Outlies	72	20-Dec-17	22-War 18	20-Dec-17	22=Wat=10	0							÷7		STRISouth D	namono e Cat		
STK-4370	STKI South - Drainage & Sewerage	72	20-Dec-17	22-Mar-18	20-Dec-17	22-Mar-18	0		ļ					<b>.</b>		SIKISoun - Dr	amage & Sev	werage	
SIK-43/5	STKI South - Noise Barrier Panels	72	13-Feb-18	19-May-18	13-FeD-18	19-May-18	0									STKI Sou	m- Noise Ba	Trier Pane	cis
SIK-4380	STKI South - Iranic Signs + Road Furnitures + Misc. works	12	13-Feb-18	19-May-18	13-Feb-18	19-May-18	0		¦						{}		n - frame 5	Igns + Ko	ad Furniu
SIK-4385	STKI South - Road Paving & Marking (including Pootpain)	100	14-Apr-18	26-Jun-18	14-Apr-18	20-Jun-18										SIKI	Soun - Roau	Paving	2 Marking
STK-4390	STKTSouth - Landscaping	120	14-Apr-18	04-Sep-18	12-Jul-18	01-Dec-18	/3							÷			51KI Souu	1 - Landso	aping
- STKI Nor	th Portion		*** ***		A0 X 40	0.0.1.10													·
STK-8050	STKI - Remaining Noise Barrier Panel	36	28-Jun-18	08-Aug-18	28-Jun-18	08-Aug-18	0									S	TKI - Reman	ning Nois	e Barrier
STK-8100	STKI - Remaining Traffic Signs + Road Furnitures + Misc. Works	70	28-Jun-18	17-Sep-18	28-Jun-18	17-Sep-18	0		¦					!			STKI - Re	emaining	Iraffic Si
STK-8150	STKI - Traffic Island	98	28-Jun-18	23-Oct-18	28-Jun-18	23-Oct-18	0										STKI	- Traffic	Island
STK-8200	STKI - Remaining Road Paving & Marking	28	18-Sep-18	23-Oct-18	18-Sep-18	23-Oct-18	0		¦					!	ļ		STKI	- Remain	ing Road
STK-8250	STKI - Remaining Landscaping	120	05-Sep-18	28-Jan-19	03-Dec-18	23-Apr-19	73		ļ									SIK	I - Reman
5.7 - STKI	Miscellaneous Works								¦										
- Existing U	Utility Diversion																		
STK-9060	STKI - Divert & Abandon Existing Utility	120	23-Mar-18	17-Aug-18	01-Jun-18	23-Oct-18	54		-						, T	,	STKI - Diver	rt & Aban	don Existi
- Utility Tre	ench LV007													1	1				
STK-9141	Temp Work Design Submit/No A dve rse Comment - Util ity Trench LV007	90	19-May-16	02-Sep-16	26-Jul-16	09-Nov-16	56		1		Ťemp V	Work Design	n Şubmit/No A dve rse	Comment	- Util ity T	rench LV007			
STK-9145	Utility Trench LV007 Near Bridge E - Jacking Pit	60	04-Oct-16	12-Dec-16	20-Oct-16	28-Dec-16	14					Utility 1	French LV007 Near	Bridge E -	Jacking P	<sup>‡</sup> it			
STK-9155	Utility Trench LV007 Near Bridge E - Receiving Pit	48	13-Dec-16	14-Feb-17	29-Dec-16	02-Mar-17	14					τ	Julity Trench LV007	Near Brid	dge E - Re	ceiving Pit	T		
STK-9165	Utility Trench LV007 Near Bridge E - Jacking Plant Set-Up	24	13-Dec-16	09-Jan-17	29-Dec-16	25-Jan-17	14					📕 Utili	ty Trench LV007 Ne	ar Bridge	E - Jackin	g Plant Set-Up			
STK-9175	Utility Trench LV007 Near Bridge E - Pipe Jacking	48	10-Jan-17	14-Mar-17	26-Jan-17	30-Mar-17	14						Utility Trench LV0	07 Near I	åridge E -	Pipe Jacking			
STK-9185	Utility Trench LV007 Near Bridge E - Manhole	90	15-Mar-17	06-Jul-17	05-May-17	19-Aug-17	38		1			1	Utility	Trench LV	V007 Nea	¢ Bridge E - Man	hole		
- Utility Tre	ench LV008																		
STK-9191	Temp Work Design Submit/No A dve rse Comment - Utility Trench LV003	90	24-Jun-16	10-Oct-16	03-Nov-16	23-Feb-17	110		1		Ter	np Work De	sign Submit/No A dv	erse Comn	nent - Util	ity Trench LV00?	3		
STK-9195	Utility Trench LV003 Near Bridge F - Jacking Pit	60	13-Dec-16	28-Feb-17	26-Jan-17	18-Apr-17	38						Utility Trench LV00	3 Near Br	idge F - J	acking Pit			
STK-9205	Utility Trench LV003 Near Bridge F - Receiving Pit	48	01-Mar-17	29-Apr-17	19-Apr-17	16-Jun-17	38						Utility Trench	1 LV003 N	ear Bridg	e F - Receiving P	it		
STK-9215	Utility Trench LV003 Near Bridge F - Jacking Plant Set-Up	24	29-Mar-17	29-Apr-17	19-Apr-17	18-May-17	14						Utility Trench	LV003 N	lear Bridg	e F - Jacking Plar	nt Set-Up		
STK-9225	Utility Trench LV003 Near Bridge F - Pipe Jacking	48	02-May-17	28-Jun-17	19-May-17	15-Jul-17	14		+				Utility	Trench LV	003 Near	Bridge F - Pipe	Jacking		
STK-9235	Utility Trench LV003 Near Bridge F - Manhole	90	29-Jun-17	13-Oct-17	17-Jul-17	31-Oct-17	14							Utility	v Trench L	V003 Near Brid	ge F - Manhe	ole	
										. ·	<u> </u>	1							
	♦ Milestone									P	roject ID :LT6-D	WPB1			<sup>D</sup>	Jetail Works Pro	ogramme	<u>, , , , , , , , , , , , , , , , , , , </u>	
中國:	各稿 States Critical Activity					-				L	ayout : LT6DWP.	B1		Date	- David I	Revision	Cher	cked Ap	proved
CR	BC Kaden Mon-Critical Activity			Detai	Works	Progra	amme	e Rev. B1		P	age 9 of 37		1	3-Apr-16	Revisio	מ או			
CRRCC	EC-KADEN loint Venture Remaining Level of Effort			Data D	ate: 24-Jun-15	_	Run	Date: 14-Apr-16											l
UNDU-U	Actual Work							•											l

	AE	COM.	Liantang / Heung	Yue	1
\cti	ivity ID	ActivityName		Orig Dur	
	- Reprovisio	oning Works			
	STK-6305	WKS Garden - Site Formati	42		
	STK-6310	WKS Garden - Underground	d Utilities	42	

## n Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

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suvity ID	Activity Name	Dur	Sian	Finish	Late Start	Laterinish	Float	JASO	NDJ	F M A	A M J .	ASC	ND	JFM	AMJJ	ASON	DJF	FMA	MJJAS	3 O N	DJFI	MAMJ
								1 1 2 3 4	5 6 7	8 9 1	0 11 12 1:	14 15 1	5 17 18 1	9 2 21	22 23 24 25 2	26 27 28 29	30 31 3	3 33 34 3	35 36 37 38 39	3 40 41 4	42 43 4 4	5 46 47 48
- Reprovisio	ning Works			1		1		ļ														
STK-6305	WKS Garden - Site Formation	42	22-Jun-17	10-Aug-17	29-Jun-17	17-Aug-17	6									WKS Ga	den - Site	te Format	rion			
STK-6310	WKS Garden - Underground Utilities	42	11-Aug-17	28-Sep-17	18-Aug-17	06-Oct-17	6	ļ								WK	S Garden	n - Under	rground Utiliti	es		
STK-6320	WKS Garden - Subgrade Layer	30	29-Sep-17	04-Nov-17	07-Oct-17	11-Nov-17	6								ļ		WKS Gar	arden - Su	ubgrade Layer			
STK-6330	WKS Garden - Kerb Installation	30	21-Oct-17	25-Nov-17	30-Oct-17	02-Dec-17	6										WKS C	Garden -	Kerb Installati	ion		
STK-6340	WKS Garden - Pergola & Pavilion	60	27-Nov-17	06-Feb-18	04-Dec-17	13-Feb-18	6											WKS G	arden - Pergo	la & Pav	ilión	
STK-6350	WKS Garden - Paving Works	60	07-Feb-18	28-Apr-18	14-Feb-18	07-May-18	6												WKS Garder	1 - Pavin	g Works	
STK-6360	WKS Garden - Landscaping Works	180	30-Apr-18	01-Dec-18	08-May-18	08-Dec-18	6													÷	WKS Ga	arden - Land
STK-6370	WKS Garden - Furnitures & Miscellaneous Works	140	30-Apr-18	15-Oct-18	08-May-18	23-Oct-18	6													WK	S Garden	- Furnitures
STK-6390	Reprovision of Public Toilet - Substructure	30	15-Sep-17	20-Oct-17	22-Sep-17	27-Oct-17	6									🛑 R	eprovisior	on of Publ	ic Toilet - Sub	structure		
STK-6400	Reprovision of Public Toilet - Superstructure	60	21-Oct-17	02-Jan-18	30-Oct-17	09-Jan-18	6										E Rej	eprovision	1 of Public Toil	et - Supe	erstructure	
STK-6450	Reprovision of Public Toilet - BS & ABWF Works	90	03-Jan-18	28-Apr-18	10-Jan-18	07-May-18	6											<u> </u>	Reprovision c	of Public	Toilet - BS	S & ABWF
6.0 - Bridge	A (Ch6850 to Ch7295)																					
6 1 - Site E	stablisment							·····												-+		
PRA 1010	Portion CP4/CP10/CP11/CP12 Condition + Trae Survey	30	22 Jul 15	26 Aug 15	27 Jul 15	20 Aug 15	2	Dorti	on CP4/CE		11/CP15	Conditio	n + Tree	Suevay								
BRA-1010	Portion CP4/CP10/CP11/CP12 Tree Falling + Site Clearance	44	20 Jul 15	18 Sap 15	03 Aug 15	2.9=Aug=15	2	Po	vetion CP4/		D11/CRIE	2 Tree I	alling # 9	Site Clar								
DRA-1020	Portion CR4/CR10/CR11/CR12 - File Ferning - She clearance	44	17 Aug 15	18-3cp-15	20 Aug 15	12 Oct 15	2		Doution CD		VCD11/CI	2 = 1100 1	ol Composi							-+		
BRA-1030	Portion CR4/CR10/CR11/CR12 - Initial Survey	44	02 Son 15	20 Oct-15	20-Aug-15	02 Nov 15	2		Portion (	CD //CD	10/CD11	CD12 - IIIU	an Sui voy	Constan	htion							
DRA-1040	Portion CR4/CR10/CR11/CR12 - Haut Road Construction	40	02-Sep-15	30-Oct-13	03-Sep-13	15 Oct 15			Portion C2		CIU/CKI,I/	CK12 - H		Constru						-+		
BRA-1110	Portion C2P5 - Condition + Free Survey	12	21-Sep-15	06-Oct-15	02-0ct-15	15-Oct-15	8		Portion C2	P5 - 40	natuon +	ree Surve	.y									
BRA-1120	Portion C2P5 - Tree Felling + Site Clearance	15	07-Oct-15	24-06-15	16-Oct-15	03-Nov-15	8		Portion C	.2Pp - 1	Iree Fellin	g + Sile C	learance		↓	····-				-+		
BRA-1130	Portion C2P5 - Initial Survey	15	07-Oct-15	24-Oct-15	16-Oct-15	03-Nov-15	8		Portion C	.2P5 - 1	nitial Surv	ey										
BRA-1210	Portion C2P3 - Condition Survey	12	09-Dec-17	22-Dec-17	12-Dec-17	26-Dec-17	2	ļ									Porti	tion C2P3	3 - Condition S	survey		
BRA-1220	Portion C2P3 - Site Clearance	12	09-Dec-17	22-Dec-17	12-Dec-17	26-Dec-17	2	ļ									Porti	tion C2P3	3 - Site Cleara	nice		
BRA-1230	Portion C2P3 - Initial Survey	12	09-Dec-17	22-Dec-17	12-Dec-17	26-Dec-17	2										Porti	tion C2P3	3 - Initial Surv	ey		
6.2 - Grou	nd Investigation																					
BRA-2000	Bridge A - Pre-drilling at Portion CR4/CR10 (17 holes)	28	22-Sep-15	27-Oct-15	30-Sep-15	03-Nov-15	6		Bridge A	∖-Fre-d	trilling at	Portion CR	4/CR10	(17 hole	es)							
BRA-2010	Bridge A - Pre-drilling at Portion C2P5/CR4 (12 holes)	24	28-Oct-15	24-Nov-15	04-Nov-15	01-Dec-15	6		📕 Bridg	ge A - Pr	e-drilling	at Portion	C2P5/Cl	R4 (12 l	holes)							
BRA-2020	Bridge A - Pre-drilling at Portion WKS for AP005 (2 holes)	10	30-Nov-15	10-Dec-15	20-Jan-16	30-Jan-16	42		Brid	dge A - I	Pre-drillir	g at Portic	on WKS f	or AP00	05 (2 hd es)							
BRA-2022	TTA - WoKeng Shan Rd. Local Diversion for AP006	30	29-Mar-16	03-May-16	31-Mar-16	05-May-16	2		1		TTA -	WoKeng	, Shan Rd	. Lœal	Diversion for A	AP006				1		1
BRA-2023	Diversion of Existing Utilities Diversion for AP006	42	04-May-16	23-Jun-16	06-May-16	25-Jun-16	2					Diversion	of Existin	g Utiliti	es Diversion fo	or AP006						
BRA-2025	Bridge A - Pre-drilling at Portion RD-CR4 for AP006 (4 holes)	24	04-May-16	01-Jun-16	06-May-16	03-Jun-16	2	[ ] ]			📕 Br	dge A - P	re-drillin	g at Port	tion RD-CR4 f	or AP006 (	4 holes)			1		
BRA-2035	Diversion of Existing Utilities Diversion for AP004	42	29-Mar-16	18-May-16	29-Mar-16	18-May-16	0			Ē	Dive	rsion of E	xisting U	tilities I	liversion for A	P004				1		
BRA-2039	Bridge A - Pre-drilling at Portion RD-CR3 for AP004 (4 holes)	24	29-Mar-16	26-Apr-16	13-Apr-16	10-May-16	12				<ul> <li>Bridge</li> </ul>	A - Pre-d	rilling at	Portion	RD-CR3 for A	P004 (4 ho	les)			1		
BRA-2040	Bridge A - Pre-drilling at Portion C2P2 for AP003 (2 holes)	12	23-Jan-16	05-Feb-16	01-Feb-16	20-Feb-16	7			Eridg	e A - Pre	drilling at	Port ion (	2P2 fo	r AP003 (2 ho	les)				1		
BRA-2050	Bridge A - Pre-drilling at Portion C2P2 for AP002 (2 holes)	12	23-Jan-16	05-Feb-16	01-Feb-16	20-Feb-16	7			Eridg	e A - Pre	drilling at	Port ion C	2P2 fo	r AP002 (2 ho	les)				1		
BRA-2060	Bridge A - Pre-drilling at Portion C2P2 for AA001 (5 holes)	18	06-Feb-16	04-Mar-16	22-Feb-16	12-Mar-16	7			📕 🛱	idge A - P	e-drilling	at Portic	nC2P2	for AA001 (5	holes)						
6.3 - Bored	Piles																					
BRA-3000	Bridge A - Bored Piling at Portion CR4/CR10 (17 ms)	108	04-Nov-15	17-Mar-16	04-Nov-15	17-Mar-16	0	·····		E I	Bridge A -	Bored Pil	ing at Por	tion CR	4/CR10 (17 m	os)						
BRA-3010	Bridge A - Bored Piling at Portion C2P5/CR4 (10 nos)	80	16-Dec-15	30-Mar-16	16-Dec-15	30-Mar-16	0		· · · · · · · · · · · · · · · · · · ·		Bridge A	Bored P	il ing at P	ortion C	2P5/CR4 (10 r	10S)						
BRA-3020	Bridge A - Bored Piling at Portion WKS for AP005 (2 nos)	36	23-Jul-16	02-Sep-16	26-Jul-16	05-Sep-16	2	·		····		Br	idge A - I	Bored P	il ing at Portion	WKS for A	P005 (2)	nos)!				
BRA-3030	Bridge A - Bored Piling at Portion RD/CR4 for AP006 (4 nos)	60	24-Jun-16	02-Sep-16	27-Jun-16	05-Sep-16	2	·····			· · · · · · · · · · ·		idge A - I	Bored P	ing at Portion	RD/CR4 fo	r AP006	(4  nos)		•		
BRA-3040	Bridge A - Bored Piling at Portion RD/CR3 for AP004 (4 nos)	48	26-May-16	22-Jul-16	26-May-16	22-Jul-16	0					Bridge	A - Bore	d Piling	at Portion RD/	CR3 for AP	004 (4 n	nos)				
BRA-3050	Bridge A - Bored Piling at Portion C2P2 for AP003 (2 nos)	30	06-May-16	11-hm-16	06-May-16	11-hm-16	0	·····	····-	····	В	idge A - 1	Bored Pil	ing at P	rtion C2P2 for	r AP003 (2	nos					
BRA-3060	Bridge A - Bored Pilling at Partian C2P2 for AP002 (2 nos)	30	06-May-16	11-Jun-16	06-May-16	11-Jun-16	0					idge A - 1	Bored Pil	ing at P	artion C2P2 for	r A P0/02 (2	nos			-+		
BRA-3600	Bridge A - Bored Piling at Partian (2P2 for AA001 (5 nos)	60	31-Mar-16	11-Jun-16	31-Mar-16	11-Jun-16	0	}	····-		B	idge A - 1	Bored Pil	ing at P	artion C2P2 for	r AA001 (4	5 nok)					
BRA-5000	bridge A* Borea Filling at Faction (212 for AA001 (5 hos)	00	51-Wal-10	11-501-10	51=10121=10	11-July 10	· · ·					luge A + 1		ing at 1 v	4 101 021 2 10	. AApor (.	105)					
6.4 - Pile C	ap			00 P I 16		10 7 1 1 6					·											
BRA-3991	Temp Work Design Submit/No A dverse Comment - Brid ge A Pier Pilecap	90	11-Nov-15	08-Feb-16	22-Nov-15	19-Feb-16	11		<u>i</u>	em	p Work De	sign Subm	ut/No Ad	verse Co	ymment - Bridg	ge A Pier Pi	ecap					
BRA-3992	Temp Work Design Submit/No A dve rse Comment - Brid ge A A but ment Pile cap	90	23-Dec-15	21-Mar-16	23-Jan-16	21-Apr-16	31			- 10	Temp Wor	t Design S	Submit/No	Adver	se Comment - I	BridgęAAt	utment Pi	i le cap		:		<u> </u>
	Milestone										Proie	et ID ·I T	6-DWP	31				Deta	il Works Pro	gramm	e	
	Critical Activity										Lavo	ut : LT6	WPB1			Date	э	F	Revision	С	hecked	Approved
	Continental Kaden			Detai	l Works	Progra	amm	e Rev	B1		Page	10 of 37				13-Apr-	16 Re	evision P	31			
- UKL	Remaining Level of Effor	t		Botur		·····	-															
CRBC-C	EC-KADEN Joint Venture			Data D	ate: 24-Jun-15		Run	uate: 14-Apr-1	0													
			1								1					1						



ivity ID	ActivityName	Oric							
DD 4 4000		Dur	g Start	Finish	Late Start	Late Finish	Total 2 Float J	2015 2016 2017 2018 2019 201 JASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMA	MJ
BRA-4000	Bridge A - Pilecap for Abut AA011	36	22-Apr-	16 03-Jun-16	22-Apr-16	03-Jun-16	0	-1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 9 2 21 22 23 24 25 26 27 28 29 30 31 3 33 34 35 36 37 38 39 40 41 42 43 4 45 46 Bridge A - Pilecan for Abut AA011	47 48
BRA-4010	Bridge A - Pilecap at Portion CR4/CR10 (2	P) - 4 nos 42	15-Apr-	16 03-Jun-16	15-Apr-16	03-Jun-16	0	Bridge A - Pilecap at Portion CR4/CR10 (2P) - 4 nos	
BRA-4020	Bridge A - Pilecap at Portion CR4/CR10 (1	e) - 4 nos 42	15-Apr-	16 03-Jun-16	15-Apr-16	03-Jun-16	0	Bridge A - Pilecap at Portion CR4/CR10 (1P) - 4/nos	
BRA-4040	Bridge A - Pilecap at Portion C2P5/CR4 (1)	) - 6 nos 36	26-Apr-	16 07-Jun-16	26-Apr-16	07-Jun-16	0	Bridge A - Pilecap at Portion C2P5/CR4 (1P) - 6 nos	
BRA-4050	Bridge A - Pilec ap for Abut AA051N	30	08-Jun-	16 14-Jul-16	08-Jun-16	14-Jul-16	0	Bridge A - Pilecap for Abut AA051N	
BRA-4060	Bridge A - Pilec ap for Abut AA051S	30	08-Jun-	16 14-Jul-16	08-Jun-16	14-Jul-16	0	Bridge A - Pilet ap for Abut AA05 S	
BRA-4070	Bridge A - Pilecap for AP005 (1P) - 2 nos	42	26-Sep-	16 14-Nov-16	28-Sep-16	16-Nov-16	2	Bridge A - Pilecap for AP005 (1P) - 2 nos	
BRA-4080	Bridge A - Pilecap for AP006 (2P) - 2 nos	42	26-Sep-	16 14-Nov-16	28-Sep-16	16-Nov-16	2	Bridge A - Pilecap for AP006 (2P) - 2 nos	
BRA-4090	Bridge A - Pilecap for AP004 (2P) - 2 nos	30	06-Aug-	16 09-Sep-16	06-Aug-16	09-Sep-16	0	Bridge A + Pilecap for AP004 (2P) - 2 nos	
BRA-4100	Bridge A - Pilecap for AP003 (1P) - 2 nos	30	30-Jun-	16 04-Aug-16	30-Jun-16	04-Aug-16	0	Bridge A - Pilecap for AP003 (1P) - 2 nos	
BRA-4120	Bridge A - Pilecap for AP002 (1P) - 2 nos	30	30-Jun-	16 04-Aug-16	30-Jun-16	04-Aug-16	0	Bridge A - Pilecap for AP002 (1P) - 2 nos	
BRA-4500	Bridge A - Pilecap for Abut AA001	42	30-Jun-	16 18-Aug-16	08-Jul-16	25-Aug-16	6	Bridge A - Pilecap for Abut AA001	
6.5 - Brid	ge Pier								
- Pier Colu	ımn / Abutment								
BRA-4991	Temp Work Design Submit/No A dve rse Con	ment - Bridge A Pier Column 90	29-Nov-	15 26-Feb-16	10-Dec-15	08-Mar-16	11	Temp Work Design Submit/No Adverse Comment - Bridge A Pier Column	
BRA-4992	Temp Work Design Submit/No A dve rse Con	ment - Bridge A A but ment Wall 90	22-Jan-	16 20-Apr-16	06-Mar-16	03-Jun-16	44	Temp Work Design Subritit/No A dverse Comment - Brid ge A Abutment Wall	
BRA-5000	Bridge A - Abutment AA011 + Bearing	36	04-Jun-	16 18-Jul-16	04-Jun-16	18-Jul-16	0	Bridge A - Abutment AA() 11 + Bearing	
BRA-5010	Bridge A - Pier Column at Portion CR4/CR1	0 - 8 nos 42	13-May	16 04-Jul-16	13-May-16	04-Jul-16	0	Bridge'A - Pier Column at Portion CR4/CR10 + 8 nos	
BRA-5020	Bridge A - Pier Column at Portion C2P5/CR	4 - 6 nos 36	25-May	16 07-Jul-16	25-May-16	07-Jul-16	0	Bridge A - Prer Column at Port on C2P5/CR4 + 6 nos	
BRA-5030	Bridge A - Abutment AA0518 + Bearing	30	15-Jul-	16 25-Aug-16	15-Jul-16	25-Aug-16	0	Bridge A - Abument AAO 111/2 Bearing	
DRA-5040	Bridge A - Abuthent AA0515 + Bearing	50	1.5 Nov	16 23-Aug-10	13-Jui-10	25-Aug-10		Diage A - Adulteria AAU-13 Pin Aberrary	
BRA-5065	Bridge A - Pier AP005 Column - 2 nos	.) 60	15-Nov-	16 23-Jan-17	17-Nov-16	25-Jan-17	2	Bridge A - Piet AP000 Column - 4 nos (W.9.)	
BRA-5070	Bridge A - Pier AP004 Column - 2 nos	30	10-Sep-	16 17-Oct-16	10-Sep-16	17-Oct-16	0	Bridge A - Pier A P004 Column - 2 mos	
BRA-5190	Bridge A - Pier AP003 Column - 2 nos	30	05-Aug-	16 08-Sep-16	05-Aug-16	08-Sep-16	0	Bridge A - Pier AP003 Column - 2 nos	
BRA-5210	Bridge A - Pier AP002 Column - 2 nos	30	05-Aug	16 08-Sep-16	05-Aug-16	08-Sep-16	0	Bridge A - Pier AP002 Column - 2 nos	
BRA-5230	Bridge A - Abutment AA001 + Bearing	42	26-Aug-	16 15-Oct-16	26-Aug-16	15-Oct-16	0	Fridge A - Abutment AA001 + Bearing	
- Pier Hea	d Segment				0				
BRA-5291	Temp Work Design Submit/No A dve rse Com	ment - Bridge A Pier Head Segment 90	11-Dec-	15 09-Mar-16	22-Dec-15	20-Mar-16	11	Temp Work Design Submit/No A dverse Comment - Brid ge A Pier Head Segment	
BRA-5292	Temp Work Fabrication - Bridge A Pier Hea	d Segment 75	21-Feb-	16 05-May-16	30-Mar-16	12-Jun-16	38	Tenty Work Pabrication, Bridge A Pier Head Segment	
BRA-5300	Bridge A Pier Head Segment at Portion CR4	/CR10 - 8 nos 60	13-Jun-	16 22-Aug-16	13-Jun-16	22-Aug-16	0	Bridge A Pier Head \$egment at Portion CR4/CR10 - 8 nos	
BRA-5310	Bridge A Pier Head Segment for AP008/AF	052 - 4 nos 45	08-Jul-	16 29-Aug-16	08-Jul-16	29-Aug-16	0	Bridge A Pier Head Segment for AP008/AP052 - 4 nos	
BRA-5315	Bridge A Pier Head Segment for AP007 - 2	nos cast-in-situ 60	20-Jun-	16 29-Aug-16	20-Jun-16	29-Aug-16	0	Bridge A Pier Head Segment for AP007; - 2 nos cast-in-situ	
BRA-5430	Bridge A Pier Head Segment for AP006 - 4	nos (M.J.) 60	24-Jan-	17 12-Apr-17	26-Jan-17	18-Apr-17	2	Bridge A Pier Head Segment for AP006 - 4 nos (M.J.)	
BRA-5435	Bridge A Pier Head Segment for AP005 - 2	nos 60	24-Jan-	17 12-Apr-17	26-Jan-17	18-Apr-17	2	Bridge A Pier Head Segment for AP005 - 2 nos	
BRA-5440	Bridge A Pier Head Segment for AP004 - 2	nos 36	18-Oct-	16 28-Nov-16	18-Oct-16	28-Nov-16	0	Bridge A Pier Head Segment for AP004 - 2 nos	
BRA-5450	Bridge A Pier Head Segment for AP003 - 2	nos 36	09-Sep-	16 22-Oct-16	09-Sep-16	22-Oct-16	0	Bridge A Pier Head Segment for AP003 - 2 hos	
BRA-5510	Bridge A Pier Head Segment for AP002 - 2	nos 36	09-Sep-	16 22-Oct-16	09-Sep-16	22-Oct-16	0	Bridge A Pier Head Segment for AP002 - 2 nos	
6.6 - Brid	ge Deck								
- Segments	4								
BRA-5591	Temp Work Design Submit/No A dve rse Con	ment - Bridge A Segment Erection 120	) 04-Jan-	16 02-May-16	15-Jan-16	13-May-16	11	Temp Work Design Submit/No A dverse Comment - Brid ge A Segment Erection	
BRA-5592	Temp Work Fabrication - Bridge A Segment	Erection 90	09-Apr-	16 07-Jul-16	20-Apr-16	18-Jul-16	11	Temp Work Fabrication - Bridge A Segment Erection	
BRA-5595	Method Statement - Bridge A Segment Hand	ling and Erection 90	09-Apr-	16 07-Jul-16	20-Apr-16	18-Jul-16	11	Method Statement - Bridge A Segment Handling and Erection	
BRA-6000	Bridge A Pier AP007-AA011 Seg Install (1	4 T-Spans + 6 E-Spans) - 273 nos 78	19-Jul-	16 19-Oct-16	19-Jul-16	19-Oct-16	0	Bridge A Pier AP007-AA011 Seg Install (14 T-Spans + 6 E-Spans) - 273 nos	
BRA-6010	Bridge A Pier AA001-AP003 Seg Install (4	T-Spans + 2 E-Spans) - 71 nos 36	24-Oct-	16 03-Dec-16	24-Oct-16	03-Dec-16	0	Bridge A Pier AA001-AP003; Seg Install (4 T-Spans + 2 E-Spans) - 71 nos	
BRA-6020	Bridge B Segment Erection	148	8 08-Dec-	16 04-May-17	08-Dec-16	04-May-17	0	Bridge B Segment Erection	
BRA-6030	Bridge A Pier AP004-AP006 Seg Install (6	F-Spans) - 102 nos 36	10-May	17 21-Jun-17	10-May-17	21-Jun-17	0	Bridge A Pier AP004-AP006 Seg Install (6 T-Spans) - 102 nos	
- Prestress	ing								
€ CRBC-(	醫會 後回話 Kaden BC KADEN Joint Venture	Milestone     Critical Activity     Non-Critical Activity     Remaining Level of Effort     Actual Work		Detai Data D	I Works	s Progra	amme Run I	Project ID :LT6-DWPB1     Detail Works Programme       Layout : LT6DWPB1     Date     Revision     Checked     App       Page 11 of 37     13-Apr-16     Revision B1     Image: Checked     App	roved

AE	COM <sup>®</sup> Liantang / Heung	Yue	n Wai Bou	Indary Co	ntrol Poir	nt Site Fo	ormatio	on and Infrastruct	ture Wo	orks - CC	ONTRA	CT 6					CI	EDD	
Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total 2 Float J	015 JASONDJFM	2016 A M J J	ASONI	J J F M	20' A M J	JAS	ONDJ	FMA	2018 M J J	AS	0 N D J F N	2019 M A M J
BRA-6150	Bridge A02 Final Stressing - 4 nos	36	22-Jun-17	03-Aug-17	24-Jun-17	05-Aug-17	2	1 2 3 4 5 6 7 8 9 1	10 11 12 13	14 15 16 17 1	8 19 2 21	22 23 24	25 26 27 2 Brid	28 29 30 31 ge A02 Finz	al Stressin	2 - 4 nos	38 39 4	0 41 42 43 4 4	5 46 47 48
BRA-6200	Bridge A01 Final Stressing - 2 nos	36	22-Jun-17	03-Aug-17	24-Jun-17	05-Aug-17	2						Brid	ge A01 Fine	al Stressin	g - 2 nos			
- Parapet				U															
BRA-6241	Temp Work Design Submit/No A dverse Comment - Brid ge A Parapet	120	19-Jul-16	15-Nov-16	09-Jan-17	08-May-17	174				Temp Work	Design Su	bmit/No A	dverse Com	iment - Br	id ge A Pa	rapet		
BRA-6242	Temp Work Fabrication - Bridge A Parapet	90	16-Nov-16	13-Feb-17	09-May-17	06-Aug-17	174				Te	mp Work H	Fabrication	- Bridge A	Parapet				
BRA-6250	Bridge A02 - Longitudinal Stitch	36	04-Aug-17	14-Sep-17	07-Aug-17	16-Sep-17	2							Bridge A02	- Longitu	dinal Stit	ch		
BRA-6300	Bridge A02 - Parapet - 1042m	90	04-Aug-17	18-Nov-17	07-Aug-17	21-Nov-17	2		·					Brid	ge A02 - I	Parapet -	1042m		-1
BRA-6350	Bridge A01 - Parapet - 1040m	90	04-Aug-17	18-Nov-17	07-Aug-17	21-Nov-17	2							Brid;	ge A01 - I	Parapet -	1040m		
- Road Wor	ks																		
BRA-6410	Bridge A S/B - Sign Gantry DS3	60	14-Oct-17	23-Dec-17	17-Oct-17	27-Dec-17	2							P	Bridge A S	/B - Sign	Gant ry I	DS3	1
BRA-6430	Bridge A N/B - Road Furnitures + Utilities + Traffic Signs + Misc Works	120	20-Nov-17	21-Apr-18	22-Nov-17	24-Apr-18	2									Bridge	A N/B	Road Furnitures	+ Utilities +
BRA-6440	Bridge A N/B - Noise Barrier Panel at C2P3	103	09-Dec-17	21-Apr-18	12-Dec-17	24-Apr-18	2							_		Bridge	A N/B	Noise Barrier Pa	nel at C2P3
BRA-6450	Bridge A N/B - Install Movement Joint	60	31-Jan-18	21-Apr-18	02-Feb-18	24-Apr-18	2									Bridge	A N/B	Install Mpvement	Joint
BRA-6460	Bridge A N/B - Deck Draim ge	60	31-Jan-18	21-Apr-18	02-Feb-18	24-Apr-18	2								_	Bridge	AN/B •	Deck Drainage	
BRA-6490	Bridge A N/B - Road Paving & Marking	48	23-Apr-18	20-Jun-18	25-Apr-18	22-Jun-18	2									P	Bridge A	N/B - Rdad Pavir	ng & Marki
BRA-6510	Bridge A S/B - Road Fumitures + Utilities + Traffic Signs + Misc Works	120	20-Nov-17	21-Apr-18	22-Nov-17	24-Apr-18	2									Bridge	A S/B - F	toad Furnitures+	Utilities +
BRA-6540	Bridge A S/B - Noise Barrier Panel at C2P3	103	09-Dec-17	21-Apr-18	12-Dec-17	24-Apr-18	2									Bridge	AS/B-N	Voise Barrier Pan	1el at C2P3
BRA-6570	Bridge A S/B - Instal I Movement Joint	60	31-Jan-18	21-Apr-18	02-Feb-18	24-Apr-18	2									Bridge	A S/B - I	nstall Movement	Joint
BRA-6580	Bridge A S/B - Deck Drainage	60	31-Jan-18	21-Apr-18	02-Feb-18	24-Apr-18	2		·							Bridge	A S/B - I	Deck Drainage	
BRA-6590	Bridge A S/B - Road Paving & Marking	48	23-Apr-18	20-Jun-18	25-Apr-18	22-Jun-18	2	·					·				aridge A	S/B - Road Pavin	ig & Markir
6.7 - Misco	ellaneous Works																		
BRA-7000	RW-A101 - Pre-bored H-pile (17 nos)	60	05-Jan-17	23-Mar-17	17-Feb-17	04-May-17	30					RW-A10	1 - Pre-bb	red H-pile (	(17 nos)				
BRA-7010	RW-A101 - Excavation	30	24-Mar-17	04-May-17	05-May-17	09-Jun-17	30					RW-	A101 - Ex	cavation					
BRA-7050	RW-A101 - Base Slab (3 bays)	48	05-May-17	30-Jun-17	10-Jun-17	05-Aug-17	30	·····					RW-A10	I - Base Sk	ab(3 bays	s) V 0			
BRA-/100	RW-A101 - Wall (3 bays X 2 skles)	60	03-Jul-17	09-Sep-17	07-Aug-17	16-Oct-17	30		·····				, k	W-AIUI -	Wall (1) ba	ays X 2 si	id es)		
BRA-7150	RW-A101 - Backning	20	11-Sep-17	16-Oct-17	17-Oct-17	21-NOV-17	30							RW-AIU	A 101	alling			
BRA-7100	Slip PD S2 Dood Works	90	17-Oct-17	21-NOV-17	22-Nov-17	27-Dec-17	30							Kw-	AIUI - Fa	DS2 Pro	d Works		
7.0 South	Doutel Works	70	17-001-17	01-100-10	22-1101-17	15-14141-10	50								i Shpire	5 55 IQU	1 WORKS		
7.0 - South																			
7.1 - South	i Portal Preliminary Works																		
TSP-1010	Portion CR4 - Initial Survey +Site Clearance	47	23-Jul-15	15-Sep-15	23-Jul-15	15-Sep-15	0	Portion CR4 - Initial	1 Survey +Sit	e Clearance									
TSP-1020	Portion CR4 - Archeological Survey / Final Report	36	08-Oct-15	19-Nov-15	23-Dec-16	10-Feb-17	361	Portion CR4	- Archeologi	al Survey / Fi	nal Report								
TSP-1030	Portion CR4 - Haul Road to South Portal	32	10-Aug-15	15-Sep-15	10-Aug-15	15-Sep-15	0	Portion CR4 - Hau	Road to Sout	h Portal									
1SP-1035	Portion CR4 - Local Road Diversion	30	15-Oct-15	19-Nov-15	1 /-Jan-1 /	28-Feb-17	370	Portion CR4	- Local Road	Diversion									
7.2 - South	Portal Site Formation																		
- SP Slope F	Excavation to +46.5mPD																		
	abilization Works				1	L													
TSP-1070	SP/NTHS - Soil Nail at Slope C4 (104nos)	30	21-Sep-15	28-Oct-15	15-Mar-16	22-Apr-16	140	SP/NTHS - Spi	il Nail at Slo	e C4 (104nos	)								
TSP-1075	SP/NTHS - Soil Nail at Slope C3 (71nos)	30	07-Oct-15	11-Nov-15	01-Apr-16	06-May-16	140	SPINTHS - S	oil Nail at SI	ope C3 (71no	s) 						·	·····	
TSP-1080	SP/NTHS - Soil Nail at Slope C2 (128nos)	30	22-Oct-15	25-Nov-15	16-Apr-16	21-May-16	140	SP/NIHS	Soil Nail at S	lope Ç2 (128	nos)								
TSP-1085	SP/N1HS - Soil Nail at Slope C1 (116nos)	30	05-Nov-15	09-Dec-15	30-Apr-16	04-Jun-16	140	SP/N1H5	- Soil Nail al	Slope CI (II	onos)								
Cut Slan	Sr - Boulder Stabilization (12 hos)	73	12-001-13	09-Jan-10	04-14141-10	04-Juii-10	115	SF - 60		anon,(12 nos			+						
TSP-1200	SP - Slove Haul Road	28	31-Aug-15	03-Oct-15	31-400-15	03-Oct-15	0	SP - Slope Haul R	load										
TSP-1210	SP/B1 - Cut Slope to ±108.9 mPD (488m3)	30	09-Sep-15	15-Oct-15	09-Sep-15	15-Oct-15	0	SP/B1 - Cut Slor	to $\pm 1.08.9$	mPD (488m3	· · · · · · · · · · · · · · · · · · ·								
TSP-1220	SP/B2 - Cut Slope to ±101.4 mPD (2163m3)	33	26-Sep-15	06-Nov-15	26-Sep-15	06-Nov-15	0	SP/B2 - Cut S	lone to $\pm 101$	4 mPD (2163	m3)								
TSP-1230	SP/B3 - Cut Slope to +93.9 mPD (4578m3)	36	16-Oct-15	27-Nov-15	16-Oct-15	27-Nov-15	0	SP/B3 - Cut	Slope to +93	.9 mPD (457	8m3)								
TSP-1240	SP/B4 - Cut Slope to +86.4 mPD (7779m3)	42	07-Nov-15	26-Dec-15	07-Nov-15	26-Dec-15	0	SP/B4	Cut Slope to	-86.4 mPD (7	779m3)								
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	◆ ◆ Milestone								Project	ID :LT6-DV	/PB1		$\vdash$	Data	Det	all Work	.s Progr	Chooked	Approved
日日 中國	各福 参大MITRATE Kaden 基 Critical Activity			Data:		Droger		Day P1	Layou	: LT6DWPE	81		13.	Apr-16	Revision	B1	<u> </u>		-ppi oved
CR	BC Strainer in States			Detal	I WORKS	rogra	amme	Kev. DI	Page 1	2 of 37									
CRBC-C	EC-KADEN Joint Venture			Data D	ate: 24-Jun-15		Run I	Date: 14-Apr-16											

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vity ID	ActivityName		Orig	Start	Finish	Late Start	Late Finish	Total 2 Eloat J	2015		2016 MJJJA	Islo	NDJ	IFIM	2017	SIOINIC	JEM		2019 J F M A M J
			50.					-1	1 1 2 3	4 5 6 7 8 9 10	0 11 12 13 14	15 16	17 18 19	2 21	22 23 24 25 26 2	27 28 29 3	0 31 3 33	34 35 36 37 38 39 40 41 42	43 4 45 46 47 48
TSP-1250	SP/B5 - Cut Slope to +78.9 1	mPD (10977m3)	48	28-Nov-15	25-Jan-16	28-Nov-15	25-Jan-16	0	ļ	SP/B5 -	- Cut Slope to	+78.9	mPD (10	)977m	3)			·····	
TSP-1260	SP/B6 - Cut Slope to +71.4 1	mPD (14065m3)	48	28-Dec-15	29-Feb-16	28-Dec-15	29-Feb-16	0		SP/I	/B6 - Cut Slop	be to +7	1.4 mPD	(1406	5m3)				
TSP-1270	SP/B7 - Cut Slope to +63.9 1	mPD (17231m3)	48	26-Jan-16	31-Mar-16	26-Jan-16	31-Mar-16	0			SP/B7 - Cut S	Slope to	+63.9 m	PD (1	7231m3)			· · · · · · · · · · · · · · · · · · ·	
TSP-1280	SP/B8 - Cut Slope to +56.4 1	nPD (19745m3)	48	01-Mar-16	29-Apr-16	01-Mar-16	29-Apr-16	0			SP/B8 - C	ut Slope	e to +56.4	4 mPD	(19745m3)				
TSP-1290	SP/B9 - Cut Slope to +48.9 1	mPD (23489m3)	48	01-Apr-16	28-May-16	01-Apr-16	28-May-16	0			SP/B9	- Cut Sl	lope to +4	18.9 m	PD (23489m3)				
TSP-1295	SP/B10 - Cut Slope to +46.5	mPD	36	30-Apr-16	13-Jun-16	30-Apr-16	13-Jun-16	0			SP/B	10 -¦Cut	t Slope to	+46.5	mPD			·····	
Berm &	Drainage														ļ			ļļļ	
TSP-1410	SP/B1 - Berm/Drain/Stair +1	08.9 mPD (63m)	18	14-Nov-15	04-Dec-15	28-Dec-15	18-Jan-16	36		SP/B1 Bern	m/Drain/Stair	+108.9	) mPD (6	3m)					
TSP-1420	SP/B2 - Berm/Drain/Stair +1	01.4 mPD (115m)	18	05-Dec-15	26-Dec-15	19-Jan-16	15-Feb-16	36		SP/B2 - Be	erm/Drain/St	air +101	1.4 mPD	(115m	1)				
TSP-1430	SP/B3 - Berm/Drain/Stair +9	93.9 mPD (160m)	18	11-Nov-15	01-Dec-15	31-Dec-15	21-Jan-16	42		SP/B3 Berm	n/Drain/Stair	+93.9 n	mPD (160	0m)	ļ				
TSP-1440	SP/B4 - Berm/Drain/Stair +8	36.4 mPD (175m)	15	02-Dec-15	18-Dec-15	22-Jan-16	15-Feb-16	42		SP/B4 - Ber	rm/Drain/Sta	ır +86.4	1 mPD (1	75m)	ļ				
TSP-1450	SP/B5 - Berm/Drain/Stair +	(8.9 mPD (190m)	15	28-Dec-15	14-Jan-16	16-Feb-16	03-Mar-16	36		SP B5 - I	Berm/Drain/	Stair +7	8.9 mPD	0 (190r	n)				
TSP-1460	SP/B6 - Berm/Drain/Stair +	(1.4 mPD (185m)	15	22-Jan-16	15-Feb-16	04-Mar-16	21-Mar-16	30	ļ	SP/B0	6 - Berm/Dra	ain/Stair	+/1.4 m	nPD (T	85m)			·	
TSP-14/0	SP/B/ - Berm/Drain/Stair +t	53.9 mPD (180m)	15	26-Feb-16	14-Mar-16	22-Mar-16	12-Apr-16	21		SP	P/B/ - Berm/	Dram/St	tair +63.9	9 mPD	(180m)				
1 SP-1480	SP/B8 - Berm/Drain/Stair +3	66.4 mPD (190m)	15	29-Mar-16	15-Apr-16	13-Apr-16	29-Apr-16	12			SP/B8 Bei	rm/Dran	n/Stair +:	56.4 m	1PD (190m)			}	
TSP-1490	SP/B9 - Berm/Drain/Stair +4	18.9 mPD (185m)	15	23-Apr-16	10-May-16	30-Apr-16	18-May-16	6			SP/B9 - 1	Berm/Di	rain/Stair	+48.9	P mPD (185m)				
Soil Nail	anmi a 1137 11	22			10.33		AC 75 - 44												
TSP-1310	SP/B1 - Soil Nail at +108.9	mPD	30	09-Oct-15	13-Nov-15	21-Nov-15	26-Dec-15	36	ļ	SP/B1 - Soil, Na	ail at +108.9	mPD							
TSP-1320	SP/B2 - Soil Nail at +101.4	mPD	30	20-Oct-15	24-Nov-15	12-Dec-15	18-Jan-16	45		SP/B2 - Soil N	Nail at +101.	4 mPD							
TSP-1330	SP/B3 - Soil Nail at +93.9 n	1PD	30	24-Oct-15	27-Nov-15	31-Oct-15	04-Dec-15	6		SP/B3 - Soil N	Nail at +93.9	mPD							
TSP-1331	SP/B4 - Soil Nail at +86.4 n	1PD	30	14-Nov-15	18-Dec-15	21-Nov-15	26-Dec-15	6		SP/B4 - Soi	il Nail at +86	.4 mPD	)						
TSP-1332	SP/B5 - Soil Nail at +78.9 n	1PD	30	05-Dec-15	11-Jan-16	19-Dec-15	25-Jan-16	12		SP/B5 - S	Soil Nail at +	78.9 mI	PD		ļ			ļ	
TSP-1333	SP/B6 - Soil Nail at +71.4 n	1PD	30	05-Jan-16	15-Feb-16	19-Jan-16	29-Feb-16	12		SP/Be	86 - Soil Nail	at +71.4	4 mPD						
TSP-1334	SP/B7 - Soil Nail at +63.9 n	1PD	30	02-Feb-16	14-Mar-16	23-Feb-16	31-Mar-16	12		SP	P/B7 - Soil N	ail at +6	53.9 mPE	)					
TSP-1335	SP/B8 - Soil Nail at +56.4 n	1PD	30	08-Mar-16	15-Apr-16	22-Mar-16	29-Apr-16	12			SP/B8 Soi	l Nail at	t +56.4 n	nPD					
TSP-1336	SP/B9 - Soil Nail at +48.9 n	1PD	30	09-Apr-16	13-May-16	16-Apr-16	21-May-16	6			SP/B9	Soil Nai	il at +48.	.9 mPE	2			·····	
- SP 70 Deg	. Temporary Slope								L			İ	l		ll			L	
TSP-1505	SP 70 D eg. Temp. Sl ope - Se	tting-out	5	31-May-16	04-Jun-16	31-May-16	04-Jun-16	0			SP 70	Deg. Te	emp. Slop	pe - Set	tting-out				
TSP-1510	SP 70 D eg. Temp. Sl ope - C	ut Slope + Soil Nail at +47.0mPD	18	06-Jun-16	27-Jun-16	06-Jun-16	27-Jun-16	0	ļ		SP '	70 D eg.	Temp. S	lope -	Cut Slope + Soil N	lail at +47.	0mPD	ļļļ	
TSP-1860	SP 70 D eg. Temp. Sl ope - C	ut Slope + Soil Nail at +45.0mPD	18	17-Jun-16	08-Jul-16	17-Jun-16	08-Jul-16	0			SP SP	70 Deg	g. Temp. S	Slope -	Cut Slope + Soil	Nail at +45	5.0mPD		
TSP-1870	SP 70 D eg. Temp. Sl ope - C	ut Slope + Soil Nail at +43.0mPD	18	28-Jun-16	19-Jul-16	28-Jun-16	19-Jul-16	0			S S	P 70 De	eg. Temp.	Sl ope	- Cut Slope + Soil	l Nail at +4	3.0mPD		
TSP-1880	SP 70 D eg. Temp. Sl ope - C	ut Slope + Soil Nail at +41.0mPD	18	09-Jul-16	29-Jul-16	09-Jul-16	29-Jul-16	0				SP 70 D	Deg. Temp	p. Slope	e - Cut Slape + So	il Nail at +	41.0mPD		
TSP-1900	SP 70 D eg. Temp. Sl ope - C	ut Slope + Soil Nail at +38.0mPD (2 rows)	18	20-Jul-16	09-Aug-16	20-Jul-16	09-Aug-16	0				SP 70 I	Deg. Ten	np. Sloj	pe - Cut Slope + S	oil Nail at	+38.0mPD	(2 rows)	
TSP-1920	SP 70 D eg. Temp. Sl ope - C	ut Slope + Soil Nail at +35.0mPD (2 rows)	18	30-Jul-16	19-Aug-16	30-Jul-16	19-Aug-16	0				SP 70	) Deg. Te	mp. Sl	ope - Cut Slope +	Scil Nail a	t +35.0mP	D (2 rows)	
TSP-1940	SP 70 D eg. Temp. Sl ope - C	ut Slope + Soil Nail at +32.0mPD (2 rows)	18	10-Aug-16	30-Aug-16	10-Aug-16	30-Aug-16	0				SP 7	0 Deg. T	emp. S	ope - Cut Slope +	Soil Nail	at +32.0ml	D (2 rows)	
TSP-1970	SP 70 D eg. Temp. Sl ope - C	ut Slope + Soil Nail at +29.0mPD (2 rows)	18	20-Aug-16	09-Sep-16	20-Aug-16	09-Sep-16	0				SP 1	70 Deg. 1	Temp.	Slope - Cut Slope	+ Soil Nail	at +29.0n	iPD (2 rows)	
TSP-1990	SP 70 D eg. Temp. Sl ope - C	ut Slope + Soil Nail at +26.0mPD (2 rows)	18	31-Aug-16	21-Sep-16	31-Aug-16	21-Sep-16	0				SP SP	P 70 Deg.	. Temp	Slope - Cut Slop	e + Soil Na	il at +26.0	mPD (2 rows)	
TSP-2000	SP 70 D eg. Temp. Sl ope - C	ut Slope + Soil Nail at +23.3mPD	18	10-Sep-16	03-Oct-16	10-Sep-16	03-Oct-16	0				📕 S	SP 70 Deg	g. Tem	p. Slope - Cut Slop	be+ Sαl N	ail at +23.	3mPD	
TSP-2160	South Portal Set-up for Tunne	el Mix Ground Excavation	9	22-Sep-16	03-Oct-16	22-Sep-16	03-Oct-16	0				S S	South Port	tal Set-	up for Tunnel Mix	Ground E	xcavation		
- SP Mass (	Concrete Retaining Wall																		
TSP-2110	SP Mass Concrete Retaining	Wall Stage 1	112	05-Jan-17	31-May-17	28-Feb-17	17-Jul-17	39							SP Mass	Concrete 1	Re tai ning V	all Stage 1	
TSP-2120	SP Mass Concrete Retaining	Wall Stage 2 - N/B Tunnel	42	06-Jul-17	23-Aug-17	18-Jul-17	04-Sep-17	10								SP Mass C	Concrete Re	taining Wall Stage 2 - N/B Tu	nnel
TSP-2130	SP Mass Concrete Retaining	Wall Stage 2 - S/B Tunnel	42	06-Jul-17	23-Aug-17	18-Jul-17	04-Sep-17	10								SP Mass C	Concrete Re	taining Wall Stage 2 - S/B Tu	nnel
TSP-2140	S\P Backfill to Final Slope P	rofile + Berm + Draim ge	75	24-Aug-17	21-Nov-17	05-Sep-17	02-Dec-17	10								<b></b> 9	SVP Backfil	to Final Slope Profile + Bern	n + Draina ge
TSP-2150	SP Soil Nail - Row A, B & C		60	06-Oct-17	15-Dec-17	18-Oct-17	28-Dec-17	10									SP Soil N	ail - RowA, B & C	
- SP Retain	ing Wall															1	1		
CSTSP/A	RW4 & CSTSP/RW1																	<u></u>	
TNP-4470	SP Ret. Wall A/RW4 - Excav	ation	90	14-Jun-16	28-Sep-16	06-Jul-16	20-Oct-16	18				SI SI	P Ret Wa	al I A/R	W4 - Excavation				
TNP-4480	SP Ret. Wall A/RW4 - Base	Slab	42	29-Sep-16	17-Nov-16	21-Oct-16	08-Dec-16	18					SP R	et. Wal	A/RW4 - Base S	laþ	· †	;;;;;;	
						1	1				<u>`</u>				·			otail Works Programma	
	i.	◆ ♦ Milestone									Project I	D :LT6	-DWPB	1	-	Data	1	Revision	cked Approved
中國		Critical Activity			D-4-!!	\ <b>\</b> \ <b>\</b>	Dream		. D	D4	Layout :	LT6DV	WPB1		-	13_Anr_14	B Revici	n B1	Approved Approved
CR		Non-Critical Activity			Detail	WORKS	rogra	amme	e kev	. B'I	Page 13	of 37			-	10-Api-10	- Intevisi		
CRRC	EC-KADEN loint	Venture Remaining Level of Effo	rt		Data D	ate: 24-Jun-15		Run	Date: 14-A	pr-16									
UNDU-C		Actual Work																	

AECOM	Liantang / Heung Yue	n Wai Bo	undary Co	ntrol Poir	nt Site Fo	ormati	on and Infrastruc	ture Work	s - CONTRACT 6			EDD	
ctivity ID Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	2015 J J A S O N D J F M	2016 A M J J A	2017 S O N D J F M A M J J A S		2018 M A M J J A	20 <sup>-</sup> S O N D J F M	019 A M J
TND 4400 SD Dot Woll A/DW/A Woll	60	19 Nov 16	26 Jan 17	00 Dec 16	24 Eab 17	- 19	1 1 2 3 4 5 6 7 8 9	10 11 12 13 14	15 16 17 18 19 2 21 22 23 24 25 26 27	28 29 30 31 3 3	3 34 35 36 37 38	39 40 41 42 43 4 45	46 47 48
TND 4500 SP Dat Wall A/DWA - Dealefilling	42	11 Eak 17	20-Jan-17	04 Mar 17	24-FC0-17	10			SFREE Wall A (P)	all WA Dookfilling	-+		
TCD 1700 CD Det Well DW1 Exception	42	11-Feb-17	31-Mar-1/	04-Mar-17	20-Apr-1 /	18			SP Ret WallA/R	v4 - Backning			
TCD 1700 SP Ret Wall RW1 - Excavation	24	29-Sep-10	27-Oct-16	00 Dec 16	05 Ion 17	26	· · · · · · · · · · · · · · · · · · ·		SF Ret, wall RW1 - Excavation				
TCD 1800 CD Dat Wall DW1 Wall	24	28-001-10	12 Jan 17	09-Dec-10	03-Jan-17	26			SP Ret wall RW1 - base Slab				
TCD 1810 CD Det Well DW1 De deCiline	42	23-NOV-10	12-Jan-17	00-Jai-17	03-Iviai-17	26	•		SP Rot wall Rw1 - wall	D. J.C.			
ISP-1810 SP Ret wall Rw1 - Backfilling	42	13-Jan-1/	10-Mar-1/	04-Mar-1/	20-Apr-1 /	30	· · · · · · · · · · · · · · · · · · ·	·····	SP Ket. Wall Kw1	Backfilling			
USISP/A/RW5 & USISP/RW2	00	14 Jun 16	28 8 16	06 1-1 16	20.0+16	10	-		CD D + W/11 A (DW/5 Ersternform				
TND 4520 CD Det Wall A/DW5 Deep Clob	90	20 San 16	28-Sep-10	21 Oct 16	20-001-10	10	· · · · · · · · · · · · · · · · · · ·	·····	SP Ret, wall A/RWS - Excavation				
TND 4520 CD Det Well A/DW5 Well	40	29-Sep-10	24-100-10	21-Oct-10	24 E-h 17	10			SF Ret WallA/RW 5 - Base Siz	0			
TND 4540 CD Det Well A/RW5 - Deel-Elling	/2	04-NOV-10	20-Jan-17	23-INOV-16	24-Feb-17	18	•		SP Ret WallA/RW3 - V	all			
TSD 1820 SP Ret Wall A/RW2 - Execution	42	20 Sep 16	31-Mai-17	04-ivial-17	20-Apt-17	10	· · · · · · · · · · · · · · · · · · ·	·····	SP Det Well 4 /DW2 Execution	v5 - Backfilling			
TSD 1920 SP Ret Wall A/RW2 - Excavation	24	29-Sep-10	27-Oct-16	18 Nov 16	17-NOV-10	10			SP Ret Wall A /DW2 - Bacavalion				
TSD 1840 SD Det Wall A/DW2 Wall	24	28-001-10	12 Jan 17	16 Dec 16	10 Eab 17	10	· · · · · · · · · · · · · · · · · · ·		SP Ret Wall A/RW2 - Dase Siz				
TSD 1950 SP Ret Wall A/RW2 - Wall	42	12 Jan 17	12-Jall-17	10-Dec-10	10-reb-17	10	· · · · · · · · · · · · · · · · · · ·		SP Det Well A /DW2	II Dealefilling			
13F-1850 SF Ket walfA/Kw2 - Backfilling	24	13-Jan-17	1/-reo-1/	11-reb-17	10-14141-17	10	•		Sf Ket wait A/Kw2	BackTIIIMIg			
- SP Road Formation								·····	<u></u>	,			
TSP-1710 Fill Slope CSTSP/F1 & F2	48	02-Aug-16	27-Sep-16	25-Feb-17	26-Apr-17	169			Fill Slope CSTSP/F1 & F2				
TSP-1720 Cut Slope CSTSP/C2	60	13-Jan-17	31-Mar-17	11-Feb-17	26-Apr-17	18			Cut Slope CSTSP	C2			
TSP-1730 Fill Slope CSTSP/F3 & F3A	60	13-Jan-17	31-Mar-17	11-Feb-17	26-Apr-17	18			Fill Slope CSTSP	F3 & F3A			
TSP-1740 Cut Slope CSTSP/C3	45	08-Feb-17	31-Mar-17	01-Mar-17	26-Apr-17	18			Cut Slope CSTSP	C3			
TSP-1750 SP Road - Road Formation	90	16-Dec-16	08-Apr-17	06-Jan-17	05-May-17	18			SP Road - Road	Formation			
7.3 - SP Road Works													
TSP-1520 SP Road - Water main	150	09-Nov-17	17-May-18	22-Nov-17	31-May-18	11					SP Road	Watermain	
TSP-1530 SP Road - Utilities	150	09-Nov-17	17-May-18	22-Nov-17	31-May-18	11					SP Road	Utilities	
TSP-1540 SP Road - Drainage & Sewerage	150	09-Nov-17	17-May-18	22-Nov-17	31-May-18	11					SP Road	Drainage & Sewerage	e
TSP-1560 SP Road - Road Paving & Marking	120	18-May-18	09-Oct-18	01-Jun-18	23-Oct-18	11						SP Road - Road	Paving &
TSP-1570 SP Road - Road Furnitures & Misc. Works	120	18-May-18	09-Oct-18	01-Jun-18	23-Oct-18	11						SP Road - Road	Furniture
7.4 - South Ventilation Building													
SVB-1000 SVB - Substructure Stage 1	49	17-Nov-16	12-Jan-17	17-Nov-16	12-Jan-17	0	· · · · · · · · · · · · · · · · · · ·		SVB - Substructure Stage	1			
SVB-1100 SVB - Substructure Stage 2	36	24-Jan-17	14-Mar-17	24-Jan-17	14-Mar-17	0			SVB - Substructure	Stage 2			
SVB-1200 SVB - Substructure Stage 3	36	25-Mar-17	12-May-17	25-Mar-17	12-May-17	0	·		SVB - Substr	ucture Stage 3			
SVB-1300 SVB Construct Ground Floor Slab	24	13-May-17	10-Jun-17	13-May-17	10-Jun-17	0	· · · · · · · · · · · · · · · · · · ·		SVB Con	truct Ground Fle	or Slab		
SVB-1350 SVB Construct 1st Floor Slab	18	12-Jun-17	03-Jul-17	12-Jun-17	03-Jul-17	0			SVB C	anstruct 1st Floor	Slab		
SVB-1400 SVB Construct 2nd Floor Slab	18	04-Jul-17	24-Jul-17	04-Jul-17	24-Jul-17	0	· · · · · · · · · · · · · · · · · · ·	·····	SVB	Construct 2nd Fl	oor Slab		
SVB-1450 SVB Construct 3rd Floor Slab	18	25-Jul-17	14-Aug-17	25-Jul-17	14-Aug-17	0			SV	B Construct 3rd	Floor Slab		
SVB-1500 SVB Construct 4th Floor Slab	18	15-Aug-17	04-Sep-17	15-Aug-17	04-Sep-17	0	•			VB Construct 4t	h Floor Slab		
SVB-1550 SVB Construct 5th Floor Slab	18	05-Sep-17	25-Sep-17	05-Sep-17	2.5-Sep-17	0				SVB Construct	5th Floor Slab		
SVB-1600 SVB Construct Roof Slab	18	26-Sep-17	17-Oct-17	26-Sep-17	17-Oct-17	0	· · · · · · · · · · · · · · · · · · ·			SVB Constru	ct Roof Slah		
SVB-1650 SVB Construct Top Roof Slab	18	18-Oct-17	08-Nov-17	18-Oct-17	08-Nov-17	0	·	••••••		SVB Cons	runt Ton Roof Slah		
SVB-1700 SVB ABWF & BS Works	120	08-Aug-17	28-Dec-17	08-Aug-17	28-Dec-17	0				SVB	ABWF & BS Work	s	
SVB-1710 SVB Landscaning	120	09-Nov-17	23-bee-17	20-Sep-18	23-Apr-19	255	•	·····	··· •···· • · · · · · · · · · · · · · ·	311	SVB	[andscaning]	
8.0 - North Portal Works	100	09-1404-17	25-541-16	20-56p-10	25-rtp-17	235					575	Saturscaping	
8.1 - North Portal Preliminary Works							-						
TNP-1010 NP - Condition Survey	54	24-Jun-15	27-Aug-15	24-Jun-15	27-Aug-15	0	NP - Condition Surve	v					
TNP-1020 NP - Tree Survey	54	24-Jun-15	27-Aug-15	24-Jun-15	27-Aug-15	0	NP - Tree Survey	í <del> </del>					
TNP-1030 NP - Site Clerance	58	10-Jul-15	15-Sep-15	10-Jul-15	15-Sep-15	0	NP - Site Clerance						
TNP-1040 NP - Site Access/Haul Road + Wheel Washing bay	30	24-Jul-15	27-Aug-15	24-Jul-15	27-Aug-15	0	NP - Site Access Hat	I Road + Wheel	Washing hav				
TNP-1050 NP - GLDrill Holes - 6 nos (DWG7603)	36	07-Aug-15	17-Sep-15	07-Aug-15	17-Sep-15	0	NP - GI Drill Hole	s - 6 nos (DWG7	603)		-+		
	50	.,	1, Sep 15	., <u>.</u>	., oep 15	Ŭ.	or printing	100 (10 //07					
	♦ Milestone							Project ID	LT6-DWPB1		Detail Works Pr	ogramme	
	Critical Activity							Layout : L	T6DWPB1	Date	Revision	Checked Ar	pproved
CRBC CONTINENTAL Kaden	Non-Critical Activity		Detai	I Works	Progra	amm	e Rev. B1	Page 14 of	f 37 13	-Apr-16 Revi	sion B1		
	Remaining Level of Effort						Data: 11 Ann 16	-					
CRBC-CEC-KADEN Joint Venture	Actual Work		Data L	ate: 24-JUN-15		Run	Date: 14-Apt-10						

AECOM		Liantang / Heung	Yuen	Wai Bo	undary Co	ntrol Poi	nt Site Fo	ormatio	on and Infrastructu	ure Works - CONTRACT 6		CE	DD
ctivity ID Activity Name			Orig Dur	Start	Finish	Late Start	Late Finish	Total 20 Float J	015 JASONDJFMA	2016 2017 M J J A S O N D J F M A M J J A H 40 44 45 45 45 47 49 49 20 20 20 20 20 20 20 20 20 20 20 20 20	SONDJF	2018 M A M J J A S ( 22 24 25 26 27 28 20 4	2019 D N D J F M A M J D 41 42 43 4 45 45 47 48
TNP-1060 NP - Initial Survey			44	31-Jul-15	19-Sep-15	31-Jul-15	19-Sep-15	0	NP - Initial Survey	1 11 12 13 14 13 16 17 16 19 2 21 22 23 24 23 20	27 20 29 30 31 31	33 34 35 36 37 36 39 4	0 41 42 43 4 45 40 47 40
8.2 - North Portal Site Format	ion												
- NP Slope Excavation to +59.0mPE	)												
Cut Slope													
TNP-2010 NP - Slope Haul Road			28	14-Aug-15	15-Sep-15	14-Aug-15	15-Sep-15	0	NP - Slope Haul Road	d			
TNP-2020 NP/B1 - Cut Slope to + 99.0	5 mPD (297/m3)		24	21-Aug-15	17-Sep-15	21-Aug-15	17-Sep-15	0	NP/B1 - Cut Slope to	+ 99.0  mPD (29.7/m3)			
TNP-2030 NP/B2 - Cut Slope to + 91 TNP-2040 NP/B3 - Cut Slope to + 84.0	) mPD (9273m3)		24	19-Oct-15	16-Nov-15	19-Oct-15	17-0ct-15	0	NP/B2 - Cut Sippe	lope to $+$ 84.0 mPD (9273m3)			
TNP-2050 NP/B4 - Cut Slope to + 76.5	5 mPD (12528m3)		24	17-Nov-15	14-Dec-15	17-Nov-15	14-Dec-15	0	NP/B4 - Cut	t Slope to + 76.5 mPD (12528m3)			
TNP-2060 NP/B5 - Cut Slope to + 69.0	) mPD (16034m3)		24	08-Dec-15	06-Jan-16	08-Dec-15	06-Jan-16	0	📕 NP/B5 - 0	Cut Slope to + 69.0 mPD (16034m3)			
TNP-2070 NP/B6 - Cut Slope to + 61.5	5 mPD (19136m3)		24	22-Dec-15	20-Jan-16	22-Dec-15	20-Jan-16	0	■ NP/B6 -	- Cut Slope to + 61.5 mPD (19136m3)			
TNP-2080 NP/B7 - Cut Slope to + 59.0	) mPD (14351m3)		24	07-Jan-16	03-Feb-16	07-Jan-16	03-Feb-16	0	NP/B7	- Cut Slope to + 59.0 mPD (14351m3)			
TNP-311.0 NP/B1 - Berm & U-channel	at +99 0mPD (55m)		18	18-Sep-15	10-Oct-15	17-Nov-15	07-Dec-15	48	■ NP/B1 - Berm & U	I-channel at +99 0mPD (55m)			
TNP-3120 NP/B2 - Berm & U-channel	at +91.5mPD (80m)		18	19-Oct-15	09-Nov-15	08-Dec-15	29-Dec-15	42	NP/B2 - Berm &	& U-channel at +91.5mPD (80m)			
TNP-3130 NP/B3 - Berm & U-channel	at +84.0mPD (93m)		18	24-Nov-15	14-Dec-15	30-Dec-15	20-Jan-16	30	NP/B3 - Ber	rm & U-channel at +84.0mPD (93m)			
TNP-3140 NP/B4 - Berm & U-channel	at +76.5mPD (118m)		18	22-Dec-15	13-Jan-16	11-Jan-16	30-Jan-16	15	🗰 NF/B4 -	Berm & U-channel at +76,5mPD (118m)			
TNP-3150 NP/B5 - Berm & U-channel	at +69.0mPD (142m)		18	04-Jan-16	23-Jan-16	21-Jan-16	17-Feb-16	15	NP/B5	- Berm & U-channel at +69.0mPD (142m)			
TNP-3160 NP/B6 - Berm & U-channel	at +61.5mPD (162m)		18	14-Jan-16	03-Feb-16	01-Feb-16	27-Feb-16	15	NP/B6	- Berm & U-channel at +61.5mPD (162m)			
Sou Nau TNP-2110 NP/B3 - Soil Nail at +84.0r	nPD Row X		18	27-Oct-15	16-Nov-15	24-Nov-15	14-Dec-15	24	NP/B3 - Soil N	Vail at +84.0mPD Row X			
TNP-2111 NP/B4 - Soil Nail at +76.5r	nPD Row U		18	24-Nov-15	14-Dec-15	11-Dec-15	02-Jan-16	15	NP/B4 - Soi	il Nail at +76.5mPD Row U			
TNP-2112 NP/B5 - Soil Nail at +69.0r	nPD Row R		18	15-Dec-15	06-Jan-16	30-Dec-15	20-Jan-16	12	NP/B5 - 5	Soil Nail at +69.0mPD Row R			
TNP-2113 NP/B6 - Soil Nail at +61.5r	nPD Row O		18	30-Dec-15	20-Jan-16	14-Jan-16	03-Feb-16	12	NP/B6 -	- Soil Nail at +61.5mPD Row O			
- NP Remaining Slope Excavation t	o Road Level												
TNP-4210 NP - Cut 30 Deg. Slope to +	+ 84.0 mPD Including Berm	& Drainage	18	27-Oct-15	16-Nov-15	30-Oct-15	19-Nov-15	3	NP - Cut 30 De	eg. Slope to + 840 mPD Including Berm & Drainage			
TNP-4220 NP - Cut 30 Deg. Slope to +	- 76.5 mPD Including Berm	& Drainage & Drainage	18	1/-Nov-15 08-Dec-15	07-Dec-15	20-Nov-15	02-Jan-16	3	NP- Cut 30	Deg. Skipe to + 76.5 mPD including Bern & Drain	nage		
TNP-4240 NP - Cut 30 Deg. Slope to +	+ 61.5 mPD Including Berm	& Drainage	18	30-Dec-15	20-Jan-16	04-Jan-16	23-Jan-16	3	NP - Cu	at 30 Deg. Slope to + 61.5 mPD Including Bern & D	rainage		
TNP-4250 NP - Cut 30 Deg. Slope to +	54.0 mPD Including Berm	& Drainage	18	21-Jan-16	17-Feb-16	25-Jan-16	20-Feb-16	3	NP -	Cut 30 Deg. Slope to + 54:0 mPD Including Berm &	Drainage		
TNP-4260 NP - Cut 30 Deg. Slope to +	46.5 mPD Including Berm	& Drainage	18	18-Feb-16	09-Mar-16	22-Feb-16	12-Mar-16	3	NP	P - Cut 30 Deg. Slope to + 46.5 mPD Including Berr	& Drainage		
TNP-4270 NP - Cut 30 Deg. Slope to +	- 39.0 mPD Including Berm	& Drainage	18	10-Mar-16	02-Apr-16	14-Mar-16	07-Apr-16	3		NP - Cul 30 Deg, Slope to + 39.0 mPD Including Be	m & Drainage		
TNP-4280 NP - Cut 30 Deg. Slope to F	Road Formation Level		18	05-Apr-16	25-Apr-16	08-Apr-16	28-Apr-16	3		NP - Cut 30 Deg. Slope to Road Formation Level			
TNP-4300 NP - Cut 40 Deg. Rock Slo	ne to $\pm 48.0$ mPD		24	14-Jan-10	16-Mar-16	03-May-16	31-May-16	60	INF-	P - Cut 40 Deg. Rock Slope to $\pm 34.0$ mPD			
TNP-4310 NP - Cut 40 Deg. Rock Slop	pe to Tunnel Formation Leve	1	72	17-Mar-16	15-Jun-16	01-Jun-16	25-Aug-16	60		NP - Cut 40 Deg. Rock Slope to Tunnel Forr	nation Level		
- NP 70 Deg. Temporary Slope													
TNP-4000 NP 70 Deg Temp. Slope - S	Setting-out		9	07-Jan-16	16-Jan-16	07-Jan-16	16-Jan-16	0	NP 70 D	Deg. Temp. Slope - Setting-but			
TNP-4010 NP 70 Deg Temp. Slope - 0	Cut Slope to +56.0mPD + Se	il Nail	12	18-Jan-16	30-Jan-16	18-Jan-16	30-Jan-16	0	■ NP70	Deg. Temp. Slope - Cut Slope to +5 6.0mPD + Soil 1	lail		
TNP-4020 NP 70 Deg Temp. Slope - 0	Cut Slope to +5 3.0mPD + Se	il Nail	12	01-Feb-16	20-Feb-16	01-Feb-16	20-Feb-16	0	NP 7	0 Deg Temp. Slope - Cut Slope to +5 3.0mPD + Soi	l Nail		
TNP-4040 NP 70 Deg Temp. Slope - C	Cut Slope to $\pm 30.0$ mPD $\pm 30$	il Nail	12	07-Mar-16	19-Mar-16	07-Mar-16	19-Mar-16	0	NP	70  Deg Temp. Stope - Cut Stope to +50.0mPD + S	Soil'Nail		
TNP-4050 NP 70 Deg Temp. Slope - 0	Cut Slope to +44.0mPD + Sc	il Nail	12	21-Mar-16	07-Apr-16	21-Mar-16	07-Apr-16	0		NP 70 Deg. Temp. Slope - Cut Slope to+44.0mPD	+ Søil Nail		
TNP-4060 NP 70 Deg Temp. Slope - 0	Cut Slope to +41.0mPD + Se	il Nail	12	08-Apr-16	21-Apr-16	08-Apr-16	21-Apr-16	0	•••••	NP 70 Deg. Temp. Slope - Cut Slope to +41 0mPE	) + \$oil Nail		
TNP-4070 NP 70 Deg Temp. Slope - 0	Cut Slope to +3 8.0mPD + Se	il Nail	14	22-Apr-16	07-May-16	22-Apr-16	07-May-16	0		NP70 Deg Temp. Slope - Cut Slope to +38.0ml	PD + Soil Nail		
TNP-4080 NP 70 Deg Temp. Slope - C	Cut Slope to +3 5.0mPD + Se	il Nail	14	09-May-16	25-May-16	09-May-16	25-May-16	0		NP70 Deg Temp. Slope - Cut Slope to +3 5.0r	nPD + Soil Nail		
TNP-4090 NP 70 Deg Temp. Slope - 0	Lut Slope to $\pm 32.0$ mPD $\pm 5$ Cut Slope to $\pm 30.5$ mPD $\pm 5$	il Nail	14	26-May-16	11-Jun-16	26-May-16	11-Jun-16	0		NP / 0 Deg Temp. Slope - Cat Slope to +32.	mPD + Soil Nail	-+++-	
TNP-4100 North Portal Set-up for Tum	tel Mix Ground Excavation	n rall	12	30-Jun-16	14-Jul-16	30-Jun-16	14-Jul-16	0		North Portal Set-up for Tunnel Mix Grou	d Excavation		
		▲ Milestone						-				Detail Works Progra	amme
▲ <b>中開取物 ◆</b> →→→→→→		Critical Activity								Layout : LT6DWPB1	Date	Revision	Checked Approved
	Kaden 🚆 👘	Non-Critical Activity			Detai	I Works	Progra	amme	e Rev. B1	Page 15 of 37	13-Apr-16 Revi	sion B1	
CRBC-CEC-KADEN Join	t Venture	Remaining Level of Effort Actual Work			Data D	Date: 24-Jun-15	- <b>J</b> -	Run D	Date: 14-Apr-16				

<b>A=</b> (	COM Liantang / Heun	g Yue	en Wai Bo	oundary Co	ntrol Poir	nt Site Fo	ormati	on and Infra	astru	cture \	Work	s - CONTRAC	Т 6				C	EDD		
Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total 2 Float	015 JASOND 1 1 2 3 4 5 6	J F 7 8	20 M A M J 9 10 11 12	D16 JA 2 13 14 1	S O N D J F M A 5 16 17 18 19 2 21 22	2017 M J J A S 23 24 25 26 27	O N D	J F M /	201 A M J 4 35 36	8 J A S 37 38 39	ONDJ 40414243	2019 F M A 4 45 46	M J δ 47 48
- NP Mass (	Concrete Retaining Wall																			-
TNP-2140	NP Mass Concrete Retaining Wall Stage 1	112	12-Jan-17	07-Jun-17	28-Feb-17	17-Jul-17	33				]		NP M ass	Concrete F	Retaining W	all Stage	1		]]]	
TNP-2150	NP Mass Concrete Retaining Wall Stage 2 - N/B Tunnel	42	06-Jul-17	23-Aug-17	18-Jul-17	04-Sep-17	10				<u> </u>		1	P Mass Ce	oncrete Ret	aining Wa	all Stage	2 - N∕B Tunn	el	
TNP-2160	NP Mass Concrete Retaining Wall Stage 2 - S/B Tunnel	42	06-Jul-17	23-Aug-17	18-Jul-17	04-Sep-17	10				ļ		<b>I</b> 1	IP Mass C	oncrete Ret	aining Wa	all Stage	- S/B Tunne	:l	
TNP-2170	NP Back fill to Final Slope Profile + Berm + Drainage	75	24-Aug-17	21-Nov-17	05-Sep-17	02-Dec-17	10							N N	PBackfill t	o Final S	lope Prof	le + Berm +	Drainage	•
TNP-2180	NP Soil Nail - Row L, K, J, I & H	60	06-Oct-17	15-Dec-17	18-Oct-17	28-Dec-17	10								NP Soil Na	il - Row	L, K, J, I	&Н		
- NP Retain	ing Wall													!						
CSTNP/A	/RW5 & CSTNP/RW2	10	20 E L 17	20.4.16	02.14 16	02.14					1				<b>↓</b>					·····}
TNP-4320	Ret. Wall A/RW5 - Excavation	48	29-Feb-10	28-Apr-16	03-Mar-16	15 hm 16	3			Ret	Dot Wo	RW5 - Excavation		+		·····+				·}
TNP-4330	Ret. Wall A/RW5 - Base Slab	54	29-Apr-10 28 May 16	01 Aug 16	03-May-16	15-Jun-16	3	••••••			Ret. wa	Wall A /PW/5 Wall		. <u>.</u>						
TNP-4350	Ret. Wall A/RW5 - Backfilling	48	02-Aug-16	27-Sep-16	05-Aug-16	30-Sep-16	3					Ret Wall A/RW5'- B	ackfilling							·
TNP-4360	Ret. Wall RW2 - Base Slab & Wall	42	13-Jun-16	01-Aug-16	16-Jun-16	04-Aug-16	3				Re	t Wall RW2 - Base Slab	& Wall	+i		·				·}
CSTNP/A	/RW6 & CSTNP/RW3													+	+	•••••				
TNP-1471	Ret. Wall A/RW6 - Excavation	72	22-Feb-16	20-May-16	25-Feb-16	24-May-16	3			R	et Wall	A/RW6 - Excavation		+						
TNP-4370	Ret. Wall A/RW6 - Base Slab	42	21-May-16	11-Jul-16	25-May-16	14-Jul-16	3				Ret.	Wall A/RW6 - Base \$lab		+1						
TNP-4380	Ret. Wall A/RW6 - Wall	60	05-Jul-16	12-Sep-16	08-Jul-16	15-Sep-16	3					Ret. Wall A/RW6 - Wal	1	1	1					
TNP-4390	Ret. Wall A/RW6 - Backfilling	30	13-Sep-16	19-Oct-16	17-Sep-16	22-Oct-16	3					Ret. Wall A/RW6 -	Backfilling	1						
TNP-4400	Ret. Wall A/RW3 - Base Slab & Wall	54	12-Jul-16	12-Sep-16	15-Jul-16	15-Sep-16	3					Ret. Wall A/RW3 - Bas	e Slab & Wall							
8.3 - NP R	oad Works																			
- NP Road											1			1						
TNP-1541	NP Road - Road Formation	36	15-Jul-16	25-Aug-16	15-Jul-16	25-Aug-16	0					NP Road - Road Formati	on							
TNP-4410	NP Road - Watermain	90	15-Nov-17	08-Mar-18	22-Nov-17	15-Mar-18	6				1				<b></b> N	PRoad -	Waterma	in		
TNP-4420	NP Road - Utilities	90	15-Nov-17	08-Mar-18	22-Nov-17	15-Mar-18	6								<b>     </b>	PRoad-	Utilities			
TNP-4430	NP Road - Drainage & Sewerage	90	15-Nov-17	08-Mar-18	22-Nov-17	15-Mar-18	6								<b>–</b> N	PR oad +	Drainage	& Sewerage		
TNP-4440	NP Road - Road Paving & Marking	90	09-Mar-18	29-Jun-18	16-Mar-18	06-Jul-18	6								<b>!!</b> !		NP R oa	1 - Road Pav	ing & Ma	arking
TNP-4450	NP Road - Road Furnitures & Misc. Works	90	09-Mar-18	29-Jun-18	16-Mar-18	06-Jul-18	6										NP R oa	1 - Road Fur	nitures &	Misc. V
- NP Area 1											<u> </u>				.					
TNP-1481	Cut Slope CSTNP/C2	24	13-Sep-16	12-Oct-16	06-Oct-16	02-Nov-16	18				ļ	Cut Slope CSTNP/C	2		ļļ.					
TNP-1491	Cut Slope CSTNP/C3	24	13-Sep-16	12-Oct-16	06-Oct-16	02-Nov-16	18					Cut Slope CSTNP/C	3		<u>↓</u>					
TNP-1501	Rockfill CSTNP/RF1	60	13-Oct-16	21-Dec-16	03-Nov-16	11-Jan-17	18					RockfillCS	I'NP/RFI							
TNP-1511	Road L11 - Road Formation	30	22-Dec-10	25-Jan-17	12-Jan-17	23-Feb-1/	18	·····			ļ	Koad L1	1 - Road Porm	auon		· · · · · · · · · · ·	Deeda	11 Wete		·····
TNP-1520	Road L11 - Watermain Pood L11 - Utilities	48	03-May-18	29-Jun-18	10-May-18	06 Jul 18	6										Road L	1 - waterma	in .	
TNP-1540	Road L11 - Drainage & Sewerage	40	03-May-18	29-Jun-18	10-May-18	06-Jul-18	6							+			Road L	1 - Drainaor	e & Sewe	erage
TNP-1550	Road L11 - Road Paving & Marking	48	30-Jun-18	24-Aug-18	07-Jul-18	31-Aug-18	6							+			R R	oad L11 - Ro	ad Pavir	ng & Ma
TNP-1560	Road L11 - Road Furnitures & Misc. Works	48	30-Jun-18	24-Aug-18	07-Jul-18	31-Aug-18	6							+		·····	R	oad L11 - Re	oad Furni	itures &
- NP Area 2											1									
TNP-1361	Cut Slope CSTNP/C5	9	13-Sep-16	23-Sep-16	28-Sep-16	08-Oct-16	12				÷	Cut Slope CSTNP/C5		+						}
TNP-1371	Cut Slope CSTNP/C4	30	13-Sep-16	19-Oct-16	28-Sep-16	02-Nov-16	12				1	Cut Slope CSTNP/	24	++						}
TNP-1381	Construct Retaining Wall CSTNP/RW1	90	20-Oct-16	09-Feb-17	03-Nov-16	23-Feb-17	12				1	Constru	ict Retaining W	all CSTNP	/RW1					
TNP-1391	Fill Slope CSTNP/F1	24	05-Jan-17	09-Feb-17	19-Jan-17	23-Feb-17	12				1	Fill Slo	pe CSTNP/F1	1	1					
TNP-1410	Road L10 - Road Formation	30	10-Feb-17	16-Mar-17	24-Feb-17	30-Mar-17	12				1	Roa	nd L10 - Road	Formation						
TNP-1420	Road L10 - Watermain	42	07-Jul-18	24-Aug-18	14-Jul-18	31-Aug-18	6									1	<b>—</b> R	oad L10 - W	atermain	
TNP-1430	Road L10 - Utilities	42	07-Jul-18	24-Aug-18	14-Jul-18	31-Aug-18	6								<u>.</u>	j. j	R R	ad L10 - Ut	ilities	
TNP-1440	Road L10 - Drainage & Sewerage	42	07-Jul-18	24-Aug-18	14-Jul-18	31-Aug-18	6				1			1			<b>—</b> R	oad L10 - Dr	rainage &	د Sewer
TNP-1450	Road L10 - Road Paving & Marking	42	25-Aug-18	15-Oct-18	01-Sep-18	23-Oct-18	6								<i>.</i>			Road L10	) - Road	Paving
TNP-1460	Road L10 - Road Furnitures & Misc. Works	42	25-Aug-18	15-Oct-18	01-Sep-18	23-Oct-18	6				<u> </u>							Road L10	) - Road	Furnitu
																-4-31147	alua D			$ \longrightarrow $
	Milestone									Pr	oject ID	:LT6-DWPB1	-	Date	De	Revisi	ns Prog		ed Apr	proved
RB 中國部	格権 ジェミュ Kadan 丛 Critical Activity			Data	Works	Droam	- m m	Day D1		La	iyout : L	T6DWPB1	1	3-Apr-16	Revision	1 B1	201			10000
CR	B C V Non-Critical Activity	~ #ł		Detai	VUIKS	rivyn	amm	E REV. DI		Pa	ige 16 of	51	- F							
CRBC-C	EC-KADEN Joint Venture	urt		Data I	ate: 24-Jun-15		Run	Date: 14-Apr-16												

AE		iantang / Heung `	Yue	n Wai Bou	Indary Co	ntrol Poi	nt Site Fo	ormati	on and Infrast	tructu	ire Works - CONTRACT 6
Activity ID	ActivityName		Orig Dur	Start	Finish	Late Start	Late Finish	Total 2 Float J	JASONDJ	FMA	2016 2017 2018 2019 M J J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J
9.4 North	Nontilation Duilding							-1	1 2 3 4 5 6 7	8 9 10	11 12 13 14 15 16 17 18 19 2 21 22 23 24 25 26 27 28 29 30 31 3 33 34 35 36 37 38 39 40 41 42 43 4 45 46 47 48
0.4 - INOPU	NVR Substructure Store 1 (Incl. 7 nos. Borad Bilac)		90	28 San 16	11 Jan 17	28 San 16	11 Ion 17	0			NVD Substructure Strong 1 (Incl. 7 non Bardd Bilan)
NVB-1080	NVB - Substructure Stage 2		36	26-Jap-17	16-Mar-17	26-Jan-17	16-Mar-17	0			NVB - Substructure Stage 7
NVB-1100	NVB - Substructure Stage 3		36	31-Mar-17	18-May-17	31-Mar-17	18-May-17	0			NVB - Substructure Stage 3
NVB-1200	NVB Construct Ground Floor Slab		24	19-May-17	16-Jun-17	19-May-17	16-Jun-17	0			NVB Construct Ground Floor Slab
NVB-1250	NVB Construct 1 st Floor Slab		18	17-Jun-17	08-Jul-17	17-Jun-17	08-Jul-17	0			NVB Construct 1st Floor Slab
NVB-1300	NVB Construct 2nd Floor Slab		18	10-Jul-17	29-Jul-17	10-Jul-17	29-Jul-17	0			NVB Construct 2 nd Floør Slab
NVB-1350	NVB Construct 3rd Floor Slab		18	31-Jul-17	19-Aug-17	31-Jul-17	19-Aug-17	0			NVB Construct 3rd Floor Slab
NVB-1400	NVB Construct 4th Floor Slab		18	21-Aug-17	09-Sep-17	21-Aug-17	09-Sep-17	0			NVB Construct 4th Floor Slab
NVB-1450	NVB Construct 5th Floor Slab		18	11-Sep-17	30-Sep-17	11-Sep-17	30-Sep-17	0			NVB Construct 5th Floor Slab
NVB-1500	NVB Construct Roof Slab		18	02-Oct-17	23-Oct-17	02-Oct-17	23-Oct-17	0			NVB Construct Roof Slab
NVB-1550	NVB Construct Top Roof Slab		18	24-Oct-17	14-Nov-17	24-Oct-17	14-Nov-17	0			NVB Construct Top Roof Slab
NVB-1600	NVB ABWF & BS Works		120	08-Aug-17	28-Dec-17	08-Aug-17	28-Dec-17	0			NVB ABWF & BS Works
NVB-1650	NVB Landscaping		180	15-Nov-17	29-Jun-18	20-Sep-18	23-Apr-19	250			NVB Landscaping
8.5 - Nortl	h Portal Miscellaneous Work										
BCP-9245	Temp Work Design Submit/No A dve rse Comment - Utility	French LV001	90	13-Sep-16	28-Dec-16	24-Jun-17	09-Oct-17	228			Temp Work Design Submit/No A dverse Comment - Utility Trench LV001
NVB-6110	Wo Keng Shan Road - Utility Trench LV001 Jack ing Pit		48	17-Mar-17	18-May-17	18-Sep-17	14-Nov-17	150			Wo Keng Shan Road - Utility Trench LV001 Jack ing Pit
NVB-6120	Wo Keng Shan Road - Utility Trench LV001 Receiving Pit		48	19-May-17	15-Jul-17	15-Nov-17	11-Jan-18	150			Wo Keng Shan Road - Utility Trench LV001 Receiving Pit
NVB-6130	Wo Keng Shan Road - Utility Trench LV001 Jack ing Plant	Set-up	24	14-Jul-17	10-Aug-17	15-Nov-17	12-Dec-17	104			Wo'Keng Shan Road - Utility Trench LV001 Jacking Plant Sel-up
NVB-6140	Wo Keng Shan Road - Utility Trench LV001 Pipe Jacking		48	11-Aug-17	06-Oct-17	13-Dec-17	08-Feb-18	104			Wo Keng Shan Road - Utility Trench LV001 Pipe Jacking
NVB-6150	Wo Keng Shan Road - Utility Trench LV001 Manhole + Re	instatement	120	07-Oct-17	06-Mar-18	11-Apr-18	31-Aug-18	146			Wo Keng Shan Road - Utility Trench LV001 Man
9.0 - Cheur	ng Shan Tunnel Works										
9.1 - Preli	minary Works										
TUN-1000	Procuremnt of Jumbos		90	04-Sep-15	02-Dec-15	20-Nov-15	17-Feb-16	77	Proc	curemnt of .	Jumbos
TUN-1100	Manufacture and Deliver Jumbo		148	03-Dec-15	28-Apr-16	18-Feb-16	14-Jul-16	77			Manufacture and Deliver Jumbo
9.2 - Exca	vation Works										
- South Bou	ind Tunnel (S/B)										
TUN-1531	Temp Work Design - Tunnel Works Geotechnical Design		120	16-Dec-15	18-May-16	05-Apr-16	25-Aug-16	83			Temp Work Design - Tunnel Works Geotechnical Design
TUN-1540	S/B Tunnel through SP - Mix Ground Excav CH138-204 (6	56m)	114	04-Oct-16	21-Feb-17	04-Oct-16	21-Feb-17	0			S/B Tunnel through SP - Mix Ground Exclav CH138-204 (66m)
TUN-1600	S/B Tunnel through North Portal - Mix Ground Excav CH8	13-783 (30m)	54	15-Jul-16	15-Sep-16	15-Jul-16	15-Sep-16	0			S/B Tunnel through North Portal - Mix Ground Excav CH813-783 (30m)
TUN-1610	S/B Tunnel through North Portal - D&B Excav Preparation	Works	30	26-Aug-16	30-Sep-16	26-Aug-16	30-Sep-16	0			S/B Turanel through North Portal - D&B Excav Preparation Works
TUN-1622	S/B Tunnel through North Portal - D&B Excav CH783-749	(34m)	18	03-Oct-16	22-Oct-16	03-Oct-16	22-Oct-16	0	·		S/B Tunnel through North Portal - D&B Excav CH783; 749 (34m)
TUN-1628	S/B Tunnel through NP - D&B Excav CH749-654 (95m) +	- CP-07 (4.5m)	74	24-Oct-16	17-Jan-17	24-Oct-16	17-Jan-17	0			S/B Tunnel through NP - D&B Excav CH749-654 (95m) + CP-07 (4.5m)
TUN-1633	S/B Tunnel through NP - D&B Excav CH654-559 (90m) +	CP-06 (4.5m)	56	18-Jan-17	31-Mar-17	18-Jan-17	31-Mar-17	0	·		S/B Tunnel through NP - D&B Excav CH654-359 (90m) + CP-06((4.5m))
TUN-1635	S/B Tunnel through NP - D&B Excav CH559-469 (90m) +	CP05 (4.5m)	19	01-Apr-1 /	05-May-17	01-Apr-1 /	05-May-17	0			S/B Tunnel through NP - D&B Excav CH539-469 (90m) + CP05 (4.5m)
TUN-1639	S/B Tunnel through NP D&B Excav CH409-578 (9111) +	CP 02 (4.5m)	10	27 May 17	17 Jun 17	27 May 17	17 Jun 17	0			SIB 1 united an ought NR + D&B Excav CH409-578 (9111) + CF04 (4.511)
TUN-1641	S/B Tunnel through NP - D&B Excav CH204-285 (81m) +	CP-02 (4.5m)	14	19-Jun-17	05-Jul-17	19-Jun-17	05-Jul-17	0			S/B Tunnet through VI = D&B Excav CH204-285 (81m) + CP-02 (4.5m)
North Ro	sib Tunnel (N/P)	CI-02 (4.511)	14	1)-Jui-17	05-50-17	19-501-17	05-341-17				
TUN-1571	N/B Tunnel through South Portal - Mix Ground Excay CH1	38-204 (66m)	114	04-Oct-16	21-Feb-17	12-Oct-16	01-Mar-17	7			N/B Tunnel through South Portal - Mix Ground Evrlay CH138-204 (66m)
TUN-1572	N/B Tunnel through South Portal - Mix Ground Excav CP-0	1 (14m)	36	22-Feb-17	05-Apr-17	02-Mar-17	13-Apr-17	7			N/B Tunnel through South Portal - Mix Ground Excay (P-01 (14m)
TUN-1650	N/B Tunnel through North Portal - Mix Ground Excav CH8	06-776 (30m)	90	15-Jul-16	29-Oct-16	15-Jul-16	29-Oct-16	0			N/B'Tunnel through North Portal - Mix Ground Excav CH806-776 (30m)
TUN-1660	N/B Tunnel through North Portal - D&B Excav Preparation	Works	24	20-Oct-16	16-Nov-16	20-Oct-16	16-Nov-16	0			N/B Tunnel through North Portal - D&B Excav Preparation Works
TUN-1671	N/B Tunnel through North Portal - D&B Excav CH776-758	3 (18m)	18	17-Nov-16	07-Dec-16	17-Nov-16	07-Dec-16	0			■ N/B Tunnel through North Portal - D&B Excav CH776-758 (18m)
TUN-1673	N/B Tunnel through NP - D&B Excav CH758-666 (92m)	+ CP-07 (4.5m)	42	08-Dec-16	25-Jan-17	08-Dec-16	25-Jan-17	0			N/B Tunnel through NP - D&B Excav CH758-666 (92m) + CP-07 (4.5m)
TUN-1683	N/B Tunnel through NP - D&B Excav CH666-572 (94m)	+ CP-06 (4.5m)	42	26-Jan-17	23-Mar-17	26-Jan-17	23-Mar-17	0			N/B Turnel through NP - D&B Excav CH666-572 (94m) + CP-06 (4.5m)
TUN-1685	N/B Tunnel through NP - D&B Excav CH572-479 (93m) +	+ CP-05 (4.5m)	24	24-Mar-17	25-Apr-17	24-Mar-17	25-Apr-17	0			N/B Tunnel through NP - D&B Excav CH572-479 (93m) + CP+05 (4.5m)
TUN-1687	N/B Tunnel through NP - D&B Excav CH479-386 (93m)	+ CP-04 (4.5m)	18	26-Apr-17	18-May-17	26-Apr-17	18-May-17	0			N/B Tunnel through NP - D&B Excav CH479-386 (93m) + CP-04 (4.5m)
		▲ Milastona									Detail Works Programme
		Critical Activity									Lavout : LT6DWPB1 Date Revision Checked Approved
	BC Scontinental Kaden	Non-Critical Activity			Detai	l Works	Progra	amme	Rev. B1		Page 17 of 37 13-Apr-16 Revision B1
		<ul> <li>Remaining Level of Effort</li> </ul>									
CRBC-C	SEC-KADEN Joint Venture	Actual Work			Data D	ate: 24-JUN-15		Kuñ	Date: 14-Apr-10		

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it. ID	A struit Norma	Orin	Chard	Fisish	Lata Chart	Late Cisish	Total	2015			2016		2017 2018 2019
ily iD	Acuvity Name	Dur	Sian	Finish	Late Start	Laterinish	Float	JJJ	ASOND	JFMA	MJJJASONE	JFM	AMJJJASONDJFMAMJJJASONDJFMAMJ
								-1 1	2 3 4 5 6	7 8 9 10	11 12 13 14 15 16 17 1	8 19 2 21	22 23 24 25 26 27 28 29 30 31 3 33 34 35 36 37 38 39 40 41 42 43 4 45 46 47 48
TUN-1688	N/B Tunnel through NP - D&B Excav CH386-291 (95m) + CP-03 (4.5m)	18	19-May-17	09-Jun-17	19-May-17	09-Jun-17	0						N/B Tunnel through NP - D&B Excav CH386-291 (95m) + CP-03 (4.5m)
TUN-1689	N/B Tunnel through NP - D&B Excav CH291-204 (87m) + CP-02 (4.5m)	18	10-Jun-17	30-Jun-17	10-Jun-17	30-Jun-17	0						N/B Tunnel through NP - D&B Excav CH291-204 (87m) + CP-02 (4.5m)
- Tunnel Br	eakthrough							-					
TUN 1600	S/D Tunnel Brook through Mach Evroy (11554, 550, (5m)	14	06 bil 17	21 Jul 17	06 Jul 17	21 Jul 17	0	·		·····		++	S/D Tunnel Devolutionary Mach Entropy (UI5\$4,550 (Sha)
TUN-1090		14	06-Jul-17	21-Jul-17	10 1 17	21-501-17	10			·····		-+	
1UN-1095	N/B Tunnel Breakthrough Mech Excav CH450-455 (5m)	14	06-Jui-17	21-Jui-1/	18-Jul-1/	02-Aug-17	10						N/B junnel Break inrough Meen Excav CH430-455 (5m)
TUN-1700	Cross Passage CP-07 Breaktrough Mech Excav	14	26-Jan-17	18-Feb-17	03-Mar-17	18-Mar-17	24					Ci Ci	oss Passage CP-07 Breaktrough Mech Excav
TUN-1702	Cross Passage CP-06 Breaktrough Mech Excav	14	01-Apr-17	21-Apr-17	04-May-17	19-May-17	22						Cross Passage CP-06 Break trough Mech Excav
TUN-1704	Cross Passage CP-05 Breaktrough Mech Excav	14	06-May-17	22-May-17	08-Jun-17	23-Jun-17	27					1	Cross Passage CP-05 Breaktrough Mech Excav
TUN-1706	Cross Passage CP-04 Breaktrough Mech Excav	14	27-May-17	13-Jun-17	04-Jul-17	19-Jul-17	30	1	1 1			1	Cross Passage CP-04 Breaktrough Mech Excav
TUN-1708	Cross Passage CP-03 Breaktrough Mech Excay	14	19-Jun-17	05-Jul-17	28-Jul-17	12-Aug-17	33	-					Cross Passage CP-03 Breaktrough Mech Excay
TUN-1710	Cross Passage CP-02 Breaktrough Mech Excay	14	06-Jul-17	21-Jul-17	22-Aug-17	06-Sep-17	40	-					Cross Passage CP-02 Bréaktrough Mech Excay
0.0.1			00 541 17	21 841 17	22.1105.17	oo bep 17							
9.3 - Linin	g Works												
- South Bou	nd Tunnel (S/B)												
Kicker &	Invert Slab						1					1	
TUN-1721	S/B Tunnel CH813-749 (64m) - Kicker / Invert Slab	30	01-Apr-17	12-May-17	05-Apr-17	15-May-17	2	-					S/B Tunnel CH813-749 (64m) + Kicker / Invert Slab
TUN-1722	S/B Tunnel CH749-654 (95m) - Kicker	18	13-May-17	03-hm-17	16-May-17	06-Jun-17	2	-					\$/B Tunnel CH749-654 (95m) - Kicker
TUN 1722	S/D Tunnel CII/54 550 (05m) Kieken	10	05 Jun 17	24 Jun 17	07 Jun 17	27 Jun 17	2						S/D Tunkel CH654 550 (05m) Kielker
TUN-1723	S/B Tuniel CH054-559 (95iii) - Kicker	10	03-Jul-17	24-Juli-17	07-Jui-17	2/-Juli-1/	2					-}	
IUN-1/24	S/B Tunnel CH559-469 (90m) - Kicker	18	26-Jun-17	1 /-Jul-1 /	28-Jun-1/	19-Jul-17	2						S/B Tunnel CH559-469 (90m) - Kicker
TUN-1725	S/B Tunnel CH469-378 (93m) - Kicker	18	18-Jul-17	07-Aug-17	20-Jul-17	09-Aug-17	2						S/B Tunnel CH469-378 (93m) - Kicker
TUN-1726	S/B Tunnel CH378-285 (93m) - Kicker	18	08-Aug-17	28-Aug-17	10-Aug-17	30-Aug-17	2						S/B Tunnel CH378-285 (93m) - Kicker
TUN-1772	S/B Tunnel CH285-193 (92m) - Kicker	18	29-Aug-17	18-Sep-17	31-Aug-17	20-Sep-17	2						S/B Tunnel CH285-193 (92m) - Kicker
TUN-1775	S/B Tunnel CH193-138 (55m) - Kicker / Invert Slab	30	22-Feb-17	28-Mar-17	13-May-17	17-Jun-17	63	1					S/B Turtnel CH193-138 (55m) - Kicker / Invert Slab
Waterpro	ofing & Rehar			1									
TUN-1730	S/R Tunnel Assemble Watemroof in a & Rebar Platform	18	20- Apr-17	12-May-17	22-Apr-17	15-May-17	2						S/B Tunnel & semble Watemroofing & Refor Platform
TUN 1721	S/D Tunnel (11912, 740 ((Arr)), Wetermore for a P. Debry	10	12 Mar 17	02 hm 17	16 Mars 17	0.6 km 17	2						CD Tranch CH012 740 ((Arr), Waterburger & Dahr
TUN-1/31	S/B Tunnel CH813-749 (64m) - Waterproofing & Rebar	18	13-Way-17	03-Jun-17	16-May-17	06-Jun-17	2						S/B lunnet CH813-749 (64m) - waterproofing & Rebar
TUN-1732	S/B Tunnel CH/49-654 (95m) - Waterproofing & Rebar	18	05-Jun-17	24-Jun-17	07-Jun-17	27-Jun-17	2					÷	S/B Tunnel CH/49-654 (95m) - Waterproofing & Rebar
TUN-1733	S/B Tunnel CH654-559 (95m) - Waterproofing & Rebar	18	26-Jun-17	17-Jul-17	28-Jun-17	19-Jul-17	2						S/B Tunnel CH654-559 (95m) - Waterproofing & Rebar
TUN-1734	S/B Tunnel CH559-469 (90m) - Waterproofing & Rebar	18	18-Jul-17	07-Aug-17	20-Jul-17	09-Aug-17	2						S/B Tunnel CH559-469 (90m) - Waterpropfing & Rebar
TUN-1735	S/B Tunnel CH469-378 (91m) - Waterproofing & Rebar	18	08-Aug-17	28-Aug-17	10-Aug-17	30-Aug-17	2						S/B Tunnel CH469-378 (91m) - Waterproofing & Rebar
TUN-1736	S/B Tunnel CH378-285 (93m) - Waterproofing & Rebar	18	29-Aug-17	18-Sep-17	31-Aug-17	20-Sep-17	2	-					S/B Tunnel CH378-285 (93m) - Waterproofing & Rebar
TUN-1737	S/B Tunnel CH285-193 (92m) - Waterproofing & Rebar	18	19-Sep-17	10-Oct-17	21-Sep-17	12-Oct-17	2						S/B Tunnel CH285-193 (92m) - Waterproofing & Rebar
TUN-1738	S/B Tunnel CH193-138 (55m) - Waterproofing & Rebar	15	11-Oct-17	27-Oct-17	13-Oct-17	31-Oct-17	2						S/B Tunnel CH193-138 (55m) - Waterproofing & Rehar
Crown Li		10	11 000 17	27 000 17	15 000 17	51 000 17							
Crown Li	ning												
TUN-1727	Temp Work Design - Tunnel Lining Shutter	120	08-Jun-16	29-Oct-16	26-Aug-16	14-Jan-17	66				Ter	np Work D	esign - Tunnel Lining Shutter
TUN-1728	Temp Work Fabrication - Tunnel Lining Shutter	120	03-Oct-16	27-Feb-17	29-Dec-16	02-Jun-17	75					1	emp Work Fabrication - Tunnel Lining Shutter
TUN-1740	S/B Tunnel Assemble Crown Lining Shutter	24	07-Jun-17	05-Jul-17	07-Jun-17	05-Jul-17	0						S/B Tunnel Assemble Crown Lining Shutter
TUN-1741	S/B Tunnel CH813-749 (64m) - Tunnel Lining + Connection Structure	21	06-Jul-17	29-Jul-17	06-Jul-17	29-Jul-17	0						S/B Tunnel CH813-749 (64m) - Tunnel Lining + Connection Structure
TUN-1742	S/B Tunnel CH749-654 (95m) - Tunnel Lining	18	31-Jul-17	19-Aug-17	31-Jul-17	19-Aug-17	0					1	S/B Tunnel CH749-654 (95m) - Tunnel Lining
TUN-1743	S/B Tunnel CH654-559 (95m) - Tunnel Lining	12	21-Aug-17	02-Sep-17	21-Aug-17	02-Sep-17	0					1	S/B Tunnel CH654-559 (95m) - Tunnel Lining
TUN-1744	S/B Tunnel CH559-469 (90m) - Tunnel Lining	12	04-Sep-17	16-Sep-17	04-Sep-17	16-Sep-17	0						S/B Tunnel CH559-469 (90m) - Tunnel Lining
TUN 1745	S/B Tunnel CH460 378 (01m) Tunnel Lining	12	18 Sep 17	30 Sep 17	18 Sep 17	30 Sep 17	0						S/P Turnel CH460 278 (0.1m) Turnel Lining
TUN-1745		12	18-3cp-17	50-3cp-17	18-309-17	30-3cp-17							
IUN-1/46	S/B Tunnel CH3/8-285 (93m) - Tunnel Lining	12	02-Oct-1/	16-Oct-1/	02-Oct-1/	16-Oct-17	0						S/B Tunnet CH3 /8-285 (93m) - Tunnet Linning
TUN-1747	S/B Tunnel CH285-193 (92m) - Tunnel Lining	12	17-Oct-17	31-Oct-17	17-Oct-17	31-Oct-17	0						S/B Tunnel CH285-193 (92m) - Tunnel L ining
TUN-1748	S/B Tunnel CH193-138 (55m) - Tunnel Lining + Connect ion Structure	18	01-Nov-17	21-Nov-17	01-Nov-17	21-Nov-17	0					<u>.</u>	S/B Tunnel CH193-138 (55m) - Tunnel'L ining + Connection
OHVD													
TUN-1978	Temp Work Design - OHVD Shutter	120	15-Jul-16	03-Dec-16	03-Oct-16	27-Feb-17	66					Temp Wor	x Design - OHVD Shutter
TUN-1979	Temp Work Fabrication - OHVD Shutter	120	07-Nov-16	03-Apr-17	23-Jan-17	27-Jun-17	66	1				-,	Temp Work Fabrication - QHVD Shutter
TUN-1981	S/B Tunnel Assemble OHVD Platform/Shutter	24	06-Jul-17	02-Aug-17	06-Jul-17	02-Aug-17	0	-					S/B Tunnel Assemble OHVD Platform/Shutter
TUN-1982	S/B Tunnel CH813-749 (64m) - OHVD	15	03-Aug-17	19-Aug-17	03-Aug-17	19-Aug-17	0						S/B Tunnel CH813-749 (64m) - OHVD
1011-1982		15	0.5=Aug=1 /	1 2=7xug=1 /	0.5=Aug=1/	1 )=/Lug=1 /	v					1	
	♦ ♦ Milestone										Project ID :LT6-DW	PB1	Detail Works Programme
	Critical Activity										Layout : LT6DWPB	1	Date Revision Checked Approved
	CONTINENTAL Kaden			Detai	l Worke	Progra	amm	ie F	Rev R1		Page 18 of 37		13-Apr-16 Revision B1
UR UR				Detai	1 1101/13	ilogia		10 11					
CRBC-C	EC-KADEN Joint Venture	L		Data D	ate: 24-Jun-15		Run	1 Date:	14-Apr-16				
01.000	Actual Work												

AECOM <sup>®</sup> Liantang / I	Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6												CEDD		
vity ID Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	2015 J J A S O N D J F M	2016 A M J J	A S O N D J F M	2017 A M J J A S O N D J F	2018 M A M J J A S O	2019 N D J F M A M	J		
TUN-1985 S/B Tunnel CH749-654 (95m) - OHVD	12	21-Aug-17	02-Sep-17	21-Aug-17	02-Sep-17	0	1 1 2 3 4 5 6 7 6 9	10 11 12 13	14 13 10 17 10 19 2 21	S/B Tunnel CH74	9-654 (95m) - OHVD	41 42 43 4 45 46 47 4	+0		
TUN-1995 S/B Tunnel CH654-559 (95m) - OHVD	12	04-Sep-17	16-Sep-17	04-Sep-17	16-Sep-17	0				S/B Tunnel CH	54-559 (95m) - OHVD	,			
TUN-2005 S/B Tunnel CH559-469 (90m) - OHVD	12	18-Sep-17	30-Sep-17	18-Sep-17	30-Sep-17	0				S/B Tunnel CI	1559-469 (90m) - OHV	D			
TUN-2015 S/B Tunnel CH469-378 (91m) - OHVD	12	02-Oct-17	16-Oct-17	02-Oct-17	16-Oct-17	0				S/B Tunnel C	CH469-378 (91m) - OH	VD			
TUN-2025 S/B Tunnel CH378-285 (93m) - OHVD	12	17-Oct-17	31-Oct-17	17-Oct-17	31-Oct-17	0				S/B Tunnel	CH378-285 (93m) - O	HVD			
TUN-2035 S/B Tunnel CH285-193 (92m) - OHVD		01-Nov-17	14-Nov-17	01-Nov-17	14-Nov-17	0				S/B Tunn	el CH285-193 (92m) - 0	OHVD			
TUN-2045 S/B Tunnel CH193-138 (55m) - OHVD	12	15-Nov-17	28-Nov-17	15-Nov-17	28-Nov-17	0		i		S/B Tun	nel CH193-138 (55m) -	OHVD			
- North Bound Tunnel (N/B)															
Kicker & Invert															
TUN-1821 N/B Tunnel CH806-758 (57m) - Kicker / Invert Slab	24	24-Mar-17	25-Apr-17	28-Mar-17	28-Apr-17	3				N/B Tunnel CH806-758 (57m)	- Kicker / Invert Slab				
TUN-1822 N/B Tunnel CH758-666 (92m) - Kicker	15	26-Apr-17	15-May-17	05-May-17	22-May-17	6				N/B Tunnel CH758-666 (92)	m) - Kicker				
TUN-1823 N/B Tunnel CH666-572 (94m) - Kicker	15	19-May-17	06-Jun-17	26-May-17	13-Jun-17	6				N/B Tunnel CH666-572 (	94m) - Kicker				
TUN-1824 N/B Tunnel CH572-479 (93m) - Kicker	15	10-Jun-17	27-Jun-17	17-Jun-17	05-Jul-17	6				N/B Tunnel CH572-479	(93m) - Kicker				
TUN-1825 N/B Tunnel CH479-386 (93m) - Kicker	15	03-Jul-17	19-Jul-17	10-Jul-17	26-Jul-17	6				N/B Tunnel CH479-3	86 (93m) - Kicker				
TUN-1826 N/B Tunnel CH386-291 (95m) - Kicker	15	20-Jul-17	05-Aug-17	31-Jul-17	16-Aug-17	9				N/B Tunnel CH386-	291 (95m) - Kicker				
TUN-1827 N/B Tunnel CH291-195 (96m) - Kicker	15	07-Aug-17	23-Aug-17	21-Aug-17	06-Sep-17	12				N/B Tunnel CH29	1-195 (96m) - Kicker				
TUN-1828 N/B Tunnel CH195-138 (57m) - Kicker / Invert Slab	24	06-Apr-17	09-May-17	19-Jun-17	17-Jul-17	57				N/B Tunnel CH195-138 (57r	n) - Kicker / Invert Slab				
Waterproofing & Rebar															
TUN-1830 N/B Tunnel Assemble Waterproofing & Rebar Platform	18	31-Mar-17	25-Apr-17	05-Apr-17	28-Apr-17	3				N/B Tunnel Assemble Waterpro	ofing & Rebar Platform				
TUN-1831 N/B Tunnel CH806-758 (57m) - Waterproofing & Rebar	18	26-Apr-17	18-May-17	29-Apr-17	22-May-17	3				N/B Tunnel CH806-758 (57	m) - Waterproofing & Re	bar			
TUN-1832 N/B Tunnel CH758-666 (92m) - Waterproofing & Rebar	18	19-May-17	09-Jun-17	23-May-17	13-Jun-17	3				N/B Tunnel CH758-666 (	92m) - Waterproofing & I	Rebar			
TUN-1833 N/B Tunnel CH666-572 (94m) - Waterproofing & Rebar	18	10-Jun-17	30-Jun-17	14-Jun-17	05-Jul-17	3				N/B Tunnel CH666-572	(94m) - Waterproofing &	k Rebar			
TUN-1834 N/B Tunnel CH572-479 (93m) - Waterproofing & Rebar	18	03-Jul-17	22-Jul-17	06-Jul-17	26-Jul-17	3				N/B Tunnel CH572-4	79 (93m) - Waterproofin	g & Rebar			
TUN-1835 N/B Tunnel CH479-386 (93m) - Waterproofing & Rebar	18	24-Jul-17	12-Aug-17	27-Jul-17	16-Aug-17	3				N/B Tunnel CH479	-386 (93m) - Waterproof	ing & Rebar			
TUN-1836 N/B Tunnel CH386-291 (95m) - Waterproofing & Rebar	18	14-Aug-17	02-Sep-17	17-Aug-17	06-Sep-17	3				N/B Tunnel CH3	36-291 (95m) - Waterpro	ofing & Rebar			
TUN-1837 N/B Tunnel CH291-195 (96m) - Waterproofing & Rebar	18	04-Sep-17	23-Sep-17	07-Sep-17	27-Sep-17	3				N/B Tunnel CH	291-195 (96m) - Waterp	roofing & Rebar			
TUN-1838 N/B Tunnel CH195-138 (57m) - Waterproofing & Rebar		25-Sep-17	09-Oct-17	28-Sep-17	12-Oct-17	3				N/B Tunnel C	H195-138 (57m) - Wate	rproofing & Rebar			
Crown Lining						-									
TUN-1840 N/B Tunnel Assemble Crown Lining Shutter	24	03-Jun-17	30-Jun-17	03-Jun-17	30-Jun-17	0				N/B Tunnel Assemble C	rown Lining Shutter				
TUN-1841 N/B Tunnel CH806-758 (48m) - Crown Lining + Connection Structure	21	03-Jul-17	26-Jul-17	03-Jul-17	26-Jul-17	0				N/B Tunnel CH806-7	58 (48m) - Crown Linin	g + Connection Structure	3		
TUN-1842 N/B Tunnel CH758-666 (92m) - Crown Lining	18	27-Jul-17	16-Aug-17	27-Jul-17	16-Aug-17	0				N/B Tunnel CH758	-666 (92m) - Crown Lin	ing			
TUN-1843 N/B Tunnel CH666-572 (94m) - Crown Lining	12	17-Aug-17	30-Aug-17	17-Aug-17	30-Aug-17	0				N/B Tunnel CH6	66-572 (94m) - Crown L	ining			
TUN-1844 N/B Tunnel CH572-479 (93m) - Crown Lining	12	31-Aug-17	13-Sep-17	31-Aug-17	13-Sep-17	0				N/B Tunnel CH	72-479 (93m) - Crown I	ining			
TUN-1845 N/B Tunnel CH479-386 (93m) - Crown Lining	12	14-Sep-17	27-Sep-17	14-Sep-17	27-Sep-17	0				N/B Tunnel CI	1479-386 (93m) - Crown	1 Lining			
TUN-1846 N/B Tunnel CH386-291 (95m) - Crown Lining	12	28-Sep-17	12-Oct-17	28-Sep-17	12-Oct-17	0				📮 N/B Tunnel O	CH386-291 (95m) - Crov	vn Lining			
TUN-1847 N/B Tunnel CH291-195 (96m) - Crown Lining	12	13-Oct-17	26-Oct-17	13-Oct-17	26-Oct-17	0				N/B Tunnel	СH291-195 (96m) - Cre	own Lining			
TUN-1848 N/B Tunnel CH195-138 (57m) - Crown Lining + Connection Structure	18	27-Oct-17	17-Nov-17	27-Oct-17	17-Nov-17	0				📕 N/B Tum	nel CH195-138 (57m) - 0	Crown Lining + Connecti	ion		
OHVD															
TUN-1850 N/B Tunnel Assemble OHVD Platform/Shutter	24	28-Jun-17	26-Jul-17	28-Jun-17	26-Jul-17	0				N/B Tunnel Assemble	OHVD Platform/Shutter				
TUN-1851 N/B Tunnel CH806-758 (48m) - OHVD	18	27-Jul-17	16-Aug-17	27-Jul-17	16-Aug-17	0				N/B Tunnel CH806	-758 (48m) - OHVD				
TUN-1852 N/B Tunnel CH758-666 (92m) - OHVD	12	17-Aug-17	30-Aug-17	17-Aug-17	30-Aug-17	0				N/B Tunnel CH7	8-666 (92m) - OHVD				
TUN-1853 N/B Tunnel CH666-572 (94m) - OHVD	12	31-Aug-17	13-Sep-17	31-Aug-17	13-Sep-17	0				N/B Tunnel CH	666-572 (94m) - OHVD				
TUN-1854 N/B Tunnel CH572-479 (93m) - OHVD	12	14-Sep-17	27-Sep-17	14-Sep-17	27-Sep-17	0				N/B Tunnel CI	1572-479 (93m) - OHVI	2			
TUN-1855 N/B Tunnel CH479-386 (93m) - OHVD	12	28-Sep-17	12-Oct-17	28-Sep-17	12-Oct-17	0				N/B Tunnel O	CH479-386 (93m) - OHV	/D			
TUN-1856 N/B Tunnel CH386-291 (95m) - OHVD	12	13-Oct-17	26-Oct-17	13-Oct-17	26-Oct-17	0				N/B Tunnel	CH386-291 (95m) - OF	IVD			
TUN-1857 N/B Tunnel CH291-195 (96m) - OHVD	12	27-Oct-17	10-Nov-17	27-Oct-17	10-Nov-17	0				N/B Tunn	el CH291-195 (96m) - C	HVD			
TUN-1858 N/B Tunnel CH195-138 (57m) - OHVD	12	11-Nov-17	24-Nov-17	11-Nov-17	24-Nov-17	0				N/B Tur	nel CH195-138 (57m) -	OHVD			
- Cross Passage															
TUN-1910 Cross Passage CP-01 Lining	21	31-Aug-17	23-Sep-17	02-Oct-17	26-Oct-17	27				Cross Passage	CP-01 Lining				
Milestone								Projec	t ID ·I T6-DWPB1		Detail Works Progra	mme	-		
▲ 中爾致懷 ◆+====================================							Lavou	t : LT6DWPB1	Date	Revision	Checked Approve	эd			
REP CRBC CONTINENTAL Kaden		Detail Works Programme Rev. B1						9 of 37	13-Apr-16 Rev	ision B1		_			
Transfer of Carbonny Social And Carbonny Remaining Le															
CRBC-CEC-KADEN Joint Venture			Data D	Jaile: 24-Jun-15		Run	Date: 14-Apr-16								
AE	COM <sup>®</sup> Liantan	ng / Heung Yue	n Wai Bo	undary Co	ntrol Poi	nt Site Fo	ormati	Ition and Infrastructure Works - CONTRACT 6							
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ctivity ID	ActivityName	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	2015 2016 2019 ] J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J							
TUN-1915	Cross Passage CP-02 Lining	21	07-Aug-17	30-Aug-17	07-Sep-17	30-Sep-17	27	[-1] 1 2 3 4 5 6 7 8 9 10 11 12 3 14 15 16 17 18 19 2 21 22 23 24 25 26 27 28 29 30 31 3 33 34 35 36 33 38 40 41 42 43 4 45 46 47 48							
TUN-1920	Cross Passage CP-03 Lining	21	13-Jul-17	05-Aug-17	14-Aug-17	06-Sep-17	27	Cross Passage CP-03 Lining							
TUN-1925	Cross Passage CP-04 Lining	21	17-Jun-17	12-Jul-17	20-Jul-17	12-Aug-17	27	Cross Passage CP-04 Lining							
TUN-1930	Cross Passage CP-05 Lining	21	23-May-17	16-Jun-17	24-Jun-17	19-Jul-17	27	Cross Passage CP-05 Lining							
TUN-1935	Cross Passage CP-06 Lining	21	22-Apr-17	18-May-17	20-May-17	14-Jun-17	22	Cross Passage CP-06 Lining							
TUN-1940	Cross Passage CP-07 Lining	21	20-Feb-17	15-Mar-17	20-Mar-17	13-Apr-17	24	Cross Passage CP-07 Lining							
TUN-1945	Cross Passage CP-01 Partition Wall	35	21-Oct-17	01-Dec-17	17-Nov-17	28-Dec-17	22	Cross Passage CP-01 Partition Wall							
TUN-1955	Cross Passage CP-02 Partition Wall	35	01-Sep-17	12-Oct-17	20-0ct-17 27-Sep-17	08-Nov-17	22	Cross Passage CP-02 partition Wall							
TUN-1960	Cross Passage CP-04 Partition Wall	35	11-Aug-17	20-Sep-17	06-Sep-17	17-Oct-17	22	Cross Passage CP-04 Partition Wall							
TUN-1965	Cross Passage CP-05 Partition Wall	35	30-Jun-17	10-Aug-17	27-Jul-17	05-Sep-17	22	Cross Passage CP-05 Partition Wall							
TUN-1970	Cross Passage CP-06 Partition Wall	35	19-May-17	29-Jun-17	15-Jun-17	26-Jul-17	22	Cross Passage CP-06 Partition Wall							
TUN-1975	Cross Passage CP-07 Partition Wall	35	16-Mar-17	29-Apr-17	18-Apr-17	31-May-17	24	Cross Passage CP-07 Partition Wall							
9.4 - Road	Works + Miscellaneous														
- North Bou	nd Tunnel (N/B)														
TRW-1000	N/B Tunnel - Vehicle Barrier + Cable Trough	78	26-Sep-17	28-Dec-17	26-Sep-17	28-Dec-17	0	N/B Tuhnel - Vehicle Barrier + Cabld Trough							
TRW-1050	N/B Tunnel - TCSS + E&M Civil Provision for Others	78	26-Sep-17	28-Dec-17	26-Sep-17	28-Dec-17	0	N/B Tunnel - TC\$S + E&M Civil Prevision for Others							
TRW-1100	N/B Tunnel - Drainage & Sewearge	120	26-Sep-17	23-Feb-18	02-Feb-18	06-Jul-18	107	N/B Tunnel - Drainage & Sewearge							
TRW-1200	N/B Tunnel - Road Furnitures & Traffic Signs	150	07-Dec-17	15-Jun-18	25-Apr-18	23-Oct-18	107	N/B Tunnel - Road; Furnitures & Traffi							
TRW-1300	N/B Tunnel - Road Paving & Marking	150	07-Dec-17	15-Jun-18	25-Apr-18	23-Oct-18	107	N/B Tunnel - Road Paving & Marking							
- South Bou	nd Tunnel (S/B)														
TRW-1500	S/B Tunnel - Vehicle Barrier + Cable Trough	78	26-Sep-17	28-Dec-17	26-Sep-17	28-Dec-17	0	S/B Turinel - Vehicle Barrier + Cable; Irrough							
TRW-1550	S/B Tunnel - TCSS + E&M Civil Provision for Others	/8	26-Sep-17	28-Dec-17	26-Sep-17	28-Dec-1/	107	S/B Tunnel - TCSS + Each Civil Provision for Others							
TRW-1700	S/B Tunnel - Drainage & Sewearge S/B Tunnel - Road Eurnitures & Traffic Sions	120	20-Sep-17	23-Feb-18	25-Apr-18	23-Oct-18	107	S/B Turnet- Dramage & Sewearge							
TRW-1800	S/B Tunnel - Road Paving & Marking	150	07-Dec-17	15-Jun-18	2.5-Apr-1.8	23-Oct-18	107	S/B Turnel - Road Paving & Marking							
10.0 - Bride	$T_{\rm E} = B (Ch8250 \text{ to } Ch8505)$		.,												
10.1 - Pror	paration Works														
BRB-1010	Portion CR1/CR15 - Condition + Tree Survey	48	24-Jun-15	20-Aug-15	24-Jun-15	20-Aug-15	0	Partian CR V/CR15 - Condition Tree Survey							
BRB-1010	Portion CR1/CR15 - Tree Felling + Site Clearance	48	31-Jul-15	24-Sep-15	31-Jul-15	24-Sep-15	0	Portion CR1/CR15 - Tree Felline + Site Clearance							
BRB-1030	Portion CR1/CR15 - Initial Survey	42	07-Aug-15	24-Sep-15	04-Sep-15	26-Oct-15	24	Portion CR1/CR15 - Initial Survey							
BRB-1040	Portion CR1/CR15 - Haul Road Construction	60	04-Sep-15	16-Nov-15	04-Sep-15	16-Nov-15	0	Portion CR1/CR15 - Haul Road/Construction							
BRB-1050	Bridge B - XP approval	99	24-Jun-15	30-Sep-15	22-Jul-15	28-Oct-15	28	Bridge B - X approval							
BRB-1060	Portion CR1 - Bridge B Diversion of Existing Utilities	120	17-Jul-15	07-Dec-15	31-Jul-15	21-Dec-15	12	Portion CR1 - Bridge B Diversion of Existing Utilities							
BRB-1070	Portion CR16/CR17 - Site Survey & Site Clearance + Formation	24	19-Jan-16	22-Feb-16	19-Jan-16	22-Feb-16	0	Portion CR 5/CR17 - Site Survey & Site Clearance + Formation							
10.2 - Gro	und Investigation														
BRB-2000	Bridge B Pre-drilling except AA106 (22 holes)	72	25-Sep-15	21-Dec-15	25-Sep-15	21-Dec-15	0	Bridge B Pre-drilling except AA106 (22 holes)							
BRB-2200	Bridge B Pre-drilling AA106 (5 holes)	18	23-Feb-16	14-Mar-16	23-Feb-16	14-Mar-16	0	Bridge B. Pre-drilling AA106 (5 holes)							
10.3 - Bore	ed piles														
BRB-3010	TTA - WKS Rd Diversion for Piling & Pile Cap Construction	150	08-Dec-15	15-Jun-16	25-Jan-16	01-Aug-16	39	TA - WKS Rd Diversion for Piling & Pile Cap Construction							
BRB-3020	Bridge B Bored Pile Pier AP102 N&S (4nos)	90	08-Dec-15	02-Apr-16	08-Dec-15	02-Apr-16	0	Bridge: B Bored Pile Pier AP102 N&S (4nos)							
BRB-3025	Bridge B Bored Pile Pier AP103N + AP104 (6nos)	90	18-Feb-16	07-Jun-16	18-Feb-16	07-Jun-16	0	Bridge B Bored Pilé Pier AP103N + AP104 (6nds)							
BRB-3030	Bridge B Bored Pile Pier AP103S (2nos)	36	14-Jan-16	02-Mar-16	14-Jan-16	02-Mar-16	0	Bridge B Bored Pile Pier AP103S (2nos)							
BRB-3040	Bridge B Bored Pile Piers AP105N-L&R (2nos)	36	28-Jun-16	09-Aug-16	30-Jun-16	11-Aug-16	2	Bridge B Bored Pile Piers AP10b N-L&R (2nos)							
BRB 3600	Bridge B Bored Pile AA106 (5 pos)	48	1/-INOV-15	15-Jan-16	1/-INOV-15	15-Jan-16	0	Bridge B Borca, ric Adument AA 101 (4 nos) Bridge B Borca Borca Ble AA 106 (5 noc)							
10 4 Pil-	Care & Easting	12	01-Api-10	27-Juli-10	01-Apr-10	27-Juli-10	0								
10.4 - Pile	Cap & Footing	00	27.0-115	24 I 14	07 1 16	05 4 16	70	Town Work Dalay Schwiddle Advance Compared Distance Distance							
BKB-4001	Temp work Design Submit/No A dverse Comment - Brid ge B Pier Pile	uap 90	2/-Oct-15	24-jan-16	0/-Jan-16	05-Apr-16	12	emp work Design Suotini/No A dyerse Comment - Benige B rier Pitecap							
	♦ ♦ Milest	one						Project ID :LT6-DWPB1 Detail Works Programme							
RB 中國		al Activity		Datai	l Marke	Drogr	amm	no Dov B1 Layout : LT6DWPB1 Date Townson Checked Approved							
CR		ntical Activity		Deldi		srivyi	aiiiiii								
CRBC-C	EC-KADEN Joint Venture	Work		Data I	Date: 24-Jun-15		Run	un Date: 14-Apr-16							

AE	COM Liantang / Heur	ng Yue	en Wai Bou	Indary Co	ntrol Poi	nt Site Fo	ormati	ion an	d Infrastruc	cture	Norks	- COI	NTRA	СТ 6				EDI	
ivity ID	ActivityName	Orig	Start	Finish	Late Start	Late Finish	Total	2015		20			UEIM	2017			2018		2019
		Dur					Float	1 1 2 3	3 4 5 6 7 8 9	10 11 12	1 <mark>3</mark> 14 15	16 17 18	19 2 21 2	2 23 24 25 26	27 28 29 30 3	1 3 33 34 35	36 37 38 3	39 40 41 42	43 4 45 46 47 48
BRB-4002	Temp Work Design Submit/No A dve rse Comment - Brid ge B Abutment Pilecap	90	27-Oct-15	24-Jan-16	29-Jan-16	27-Apr-16	94		Ten	np Work D	esign Subm	iit/No A dv	erse Comn	ent - Bridge I	3 Abutment Pile	cap			
BRB-4005	Bridge B Pile Cap - Pier AP102 (2nos)	36	08-Jun-16	21-Jul-16	08-Jun-16	21-Jul-16	0				Bridge	e B Pile C	ap - Pier A	P102 (2nos)					
BRB-4010	Bridge B Pile Cap - Pier AP103 to A P104 (6nos)	54	20-Jun-16	22-Aug-16	20-Jun-16	22-Aug-16	0			<u>.</u>	Bt	idge B Pil	e Cap - Pie	r AP103 to A	P104 (6nos)				
BRB-4105	Bridge B Pile Cap - Pier AP105N-L&R (2nos)	36	30-Aug-16	12-Oct-16	30-Aug-16	12-Oct-16	0					Bridge	B Pile Ca	- Pier AP105	N-L&R (2nos)				
BRB-4500	Bridge BAbutment AA101N/AA101S - ELS	60	28-Jan-16	18-Apr-16	28-Jan-16	18-Apr-16	0			Brid	ge B Abutm	ent AA10	1N/AA10	IS-ELS					
BRB-4520	Bridge BAbutment AA101N/AA101S - Pile Cap/ Footing	30	19-Apr-16	24-May-16	19-Apr-16	24-May-16	0			- E	ridge BAb	outment A/	A101N/A/	101S - Pile C	ap/ Footing				
BRB-4550	Construct Pile Cap AA106	36	19-Jul-16	29-Aug-16	19-Jul-16	29-Aug-16	0				Ç	onstruct Pi	le Cap AA	106					
10.5 - Abu	tment wall, Pier, Portal																		
BRB-5001	Temp Work Design Submit/No A dve rse Comment - Brid ge B Pier Column	90	11-Dec-15	09-Mar-16	21-Feb-16	20-May-16	72			Temp Wo	rk Design §	Submit/No	Adverse	omment - Brid	l ge B Pier Colu	mn			
BRB-5002	Temp Work Design Submit/No A dve rse Comment - Brid ge B Abutment Wall	90	11-Dec-15	09-Mar-16	14-Mar-16	11-Jun-16	94			Temp Wo	rk Design S	Submit/No	Adverse	omment - Brid	l ge B Abutment	Wall			
BRB-5090	Bridge B Column Pier AP102 (2 nos)	24	22-Jul-16	18-Aug-16	22-Jul-16	18-Aug-16	0				📕 Bri	dge B Col	umn Pier A	P102 (2 nos)					
BRB-5100	Bridge B Column Pier AP103 to AP104 (6 nos)	60	26-Jul-16	05-Oct-16	26-Jul-16	05-Oct-16	0			<u>.</u>		Bridge	3 Column 1	Pier AP103 to	AP104 (6 nos)				
BRB-5105	Bridge B Column Pier AP105N-L&R (2 nos)	30	13-Oct-16	16-Nov-16	13-Oct-16	16-Nov-16	0					📕 Bri	ige B Coh	mn Pier AP10	5N+L&R (2 no	s)			
BRB-5400	Bridge BAbutment AA101N/AA101S + Bearing	36	25-May-16	07-Jul-16	25-May-16	07-Jul-16	0				Bridge	B Abutme	nt AA10 11	√AA101S+	Bearing				
BRB-5550	Bridge BAbutment AA106 + Bearing	48	13-Oct-16	07-Dec-16	13-Oct-16	07-Dec-16	0					i i i	ridge B A	outment AA10	6 + Bearing				
10.6 - Dec	x Erection																		
- Pier Segm	ent									1									
BRB-6001	Temp Work Design Submit/No A dve rse Comment - Brid ge B Pier Head Seg.	90	10-Jan-16	08-Apr-16	22-Mar-16	19-Jun-16	72	-		Temp	Work Dest	gn Submit/	No A dver	e Comment - 1	Bridge B Pier H	ead Seg.			
BRB-6002	Temp Work Fabrication - Bridge B Pier Head Seg.	54	22-Mar-16	14-May-16	26-Jun-16	18-Aug-16	96	-		Te	mp Work F	abrication	- Bridge I	B Pier Head S	eg.	·····}····			
BRB-6010	TTA - WKS Rd Diversion for Stage 1 Segment Erection	9	10-Oct-16	19-Oct-16	10-Oct-16	19-Oct-16	0	-			† <b>†</b> †	TTA	WKS Rd	Diversion for S	Stage 1 Segment	Erection			
BRB-6020	Erect Pier Head Segment AP102N/102S (2nos)	42	19-Aug-16	08-Oct-16	19-Aug-16	08-Oct-16	0	-				Erect P	ier Head	egment AP10	2N/102S (2nos)				
BRB-6030	Erect Pier Head Segment AP103 S/104S (2nos)	42	20-Oct-16	07-Dec-16	20-Oct-16	07-Dec-16	0	-	· · · · · · · · · · · · · · · · · · ·		1	E E	rect Pier I	lead Segment	AP103S/1048	(2nos)			
BRB-6035	Erect Pier Head Segment AP103N/104N (3nos+2portals) - Cast-in-situ	72	13-Sep-16	07-Dec-16	13-Sep-16	07-Dec-16	0	-			•	E E	rect Pier I	lead Segment	AP103N/104N	(3nos+2porta	ls) - Cast-i	n-situ	
BRB-6040	Erect Pier Head Segment AP105N (2nos+1portal) - Cast-in-situ	72	08-Dec-16	09-Mar-17	08-Dec-16	09-Mar-17	0	-					E	rect Pier Head	Segment AP10	5N (2nos+1p	ortal) - Cas	t-in-situ	
- Deck Segr	ient							-											
BRB-6401	Temp Work Design Submit/No A dverse Comment - Brid ge B Segment Erection	120	24-Feb-16	22-Jun-16	06-May-16	02-Sep-16	72	-			Temp Wo	rk Design	Submit/N	A dve rse Con	ument - Bridge	B Segment En	ection		
BRB-6402	Temp Work Fabrication - Bridge B Segment Erection	54	30-May-16	22-Jul-16	10-Aug-16	02-Oct-16	72	-	1		Temp	Work Fab	rication 1	Bridge B Segn	ent Erection			-+}	
BRB-6405	Method Statement - Bridge B Segment Handling and Erection	120	30-May-16	26-Sep-16	10-Aug-16	07-Dec-16	72	-				Method	Statement -	Bridge B See	ment Handling	and Erection			
BRB-6408	Temp Work Design Submit/No A dverse Comment - Bridge B Cast-In-Situ Deck	120	24-Feb-16	22-Jun-16	24-Nov-16	23-Mar-17	274	-			Temp Wo	rk Design	Submit/N	A dve rse Con	ument - Bridge I	B Cast-Ih-Situ	Deck		
BRB-6600	Bridge B01S Cast-in-Situ Deck, Segment 1	72	24-Mar-17	23-Jun-17	24-Mar-17	23-Jun-17	0	-		1				Brid	ge B01S Cast-in	n-Situ Deck, S	Segment 1		
BRB-9815	Bridge B Stage 1 Segment Inst + TTA (AP104N&S/AP103N&S) - 65 nos.	36	08-Dec-16	18-Jan-17	08-Dec-16	18-Jan-17	0	-					Bridge	B Stage 1 Seg	ment Inst + TTA	A (AP104N&	s/AP103N/	&S) - 65 nos	
BRB-9825	Bridge B Stage 1A Segment Inst + TTA (AP103N&S) - 22 nos.	15	19-Jan-17	13-Feb-17	19-Jan-17	13-Feb-17	0	-		+			Brid	ge B Stage 1A	Segment Inst+	TTA (AP103	N&S) - 22	nos.	
BRB-9835	Bridge B Stage 2 Segment Inst + TTA (AP102N&S) - 20 nos.	15	14-Feb-17	02-Mar-17	14-Feb-17	02-Mar-17	0							idge B Stage 2	Segment Inst +	TTA (AP102	N&S) - 20	nos.	
BRB-9845	Bridge B Stage 2A Segment Inst + TTA (AP102N&S/SA) - 15 nos	18	03-Mar-17	23-Mar-17	03-Mar-17	23-Mar-17	0	-						Bridge B Stag	e 2A Segment Ir	nst + TTA (AP	102N&S/S	A) - 15 nos.	
BRB-9990	Bridge B Stage 2B Segment Inst + TTA (AP105/NA) - 59 nos.	30	24-Mar-17	04-May-17	24-Mar-17	04-May-17	0	-						Bridge B	Stage 2B Segme	ent Inst + TTA	(AP105/N	A) - 59 nos.	
- Prestressi	la la la la la la la la la la la la la l							-											
BRB-7000	Bridge B01S Prestressing & Grouting	24	24-Jul-17	19-Aug-17	24-Jul-17	19-Aug-17	0	-							Bridge B01S	Prestressing &	Grouting		
BRB-7100	Bridge B01N Prestressing & Grouting	30	05-May-17	09-Jun-17	05-May-17	09-Jun-17	0	•	······	+	++	}		Bridg	B01N Prestre	sing & Grouti	ng		
- Paranet										+									
BRB-7091	Temp Work Design Submit/No A dwarse Comment - Bridge B Parapet	120	24-Apr-16	21-Aug-16	24-Mar-17	21-Jul-17	334	-			Te	mn Work	Design Sub	mit/No A dver	e Comment - B	rid ae B'Parar	et		
BRB-7091	Tawn Work Exhrication Dridge D Depart	54	24-141-10 20 Jul 16	20 Sap 16	24-Mar-17	20 Aug 17	224					Tamp Wa	k Fabrida	ion Bridge F	Datanat				
BRB-7092	Bridge B01S Darapet 560m	52	23-Jul-10	20-3cp-10	23-Jul-17	20=Aug=17	0			÷		Temp wo		ion - Brauge I	Pridge	P01S Parapat	560m		
BRB-8100	Bridge B01N Parapet 500m	60	10-Jun-17	19-Aug-17	10-Jun-17	19-Aug-17	0	-							Bridge B01N	Paranet 500n	0.0011		
BRB-8100		00	10-501-17	19=Aug=17	10-5411-17	19=Aug=17	0								Bildge Borriv	1 arapet 500n			
- Koad wor	Deider D. Meier Damier (MD2 hAID4 hAID5)	00	21 1 19	20 Mars 18	02 E-1 19	21 Mar 19	2			+						·· <u>····</u> }	Delder I	Nieles De	a out
BKB-8800	Druge D - NOISe Barrier (NB3-D/NB4-D/NB5)	90	31-Jan-18	29-May-18	02-reb-18	31-iviay-18	2	-	·	÷	÷ <b> </b>		·····-				Bridge B	- INDISE Bat	LICE (INB3-D/NB4-
BKB-9000	Druge D IN/D - Road Furnitures / Utilities / Iraine Signs	90	31-Jan-18	29-May-18	02-PeD-18	10 Aug 10	2	-	· · · · · · · · · · · · · · · · · · ·		+++						Bridge B	IN/B - KOad	Porting & Dec 1
BKB-9200	Diluge Div/D - raving & Koad Marking	00	21 June 19	20 Mar 10	01-Jun-18	10-Aug-18	2	-		÷						·····	B	Inge BIN/B	- raving & Koad N
BKB-9300	Bridge B 5/B - Road Furnitures / Utilities / Iraffic Signs	90	31-Jan-18	29-May-18	02-Feb-18	51-May-18	2	E			4						Bridge B	S/B - Koad	r urnitures / Utilitie
										P	aiaat ID . I	T4 DWD	D1			Detail	Works Pr	ogramme	
										Pr	vout · I T6	DWPR1	01		Date	Re	vision	Che	cked Approved
				Detai	l Works	Progra	amm	e Rev	v B1	Pa	ge 21 of 37	7			13-Apr-16	Revision B1			
- UK	Transie Calman, Kaland	ffort				, i i ogit		Detected	• • • • •										

Data Date: 24-Jun-15

Run Date: 14-Apr-16

CRBC-CEC-KADEN Joint Venture

Actual Work

AE	COM.		Liantang / Heun	g Yue	n Wai Bo	undary Co	ntrol Poi	nt Site Fo	ormati	on and	l Infra	stru	cture	Work	s - CO	NTRA	СТ 6			EDI		
ctivity ID	ActivityName			Orig	Start	Finish	Late Start	Late Finish	Total	2015			2	016			2017		2018		2019	
				Dur					Float	J J A S 1 1 2 3	0 N D 4 5 6	J F N	A M J	J A S	0 N D	J F M /	A M J J A 2 23 24 25 26	SONDJ 27 28 29 30 31	F M A M J J A 3 33 34 35 36 37 38 3	SOND 9404142	J F M A M	1 J 7 48
BRB-9500	Bridge B S/B - Paving & Ros	ad Marking		60	30-May-18	08-Aug-18	01-Jun-18	10-Aug-18	2										B	ridge B S/P	- Paving & Ro	ad M
10.7 - Brie	lge B Miscellaneous V	Works												1								
- Utility Tr	anch I V007													·							ri	•••••
PCP 0255	Tamp Work Design Submit/N	Jo A dua roa Commant	Litility Tranch I V002	90	24 Mar 17	15 bl 17	02 Oct 17	18 Jan 18	156					• • • • • • • • • • • • • • • • • • • •	•		Tar	nn Work Dation	Submit/No A duarca Cor	mmont Liti	ity Tranch I V(	02
BC1-9233	Under Bridge B. Utility Tre	anch I V002 Jacking P	it	48	24-Mai-17	16 Oct 17	28 Dec 17	01 Mar 18	108				+		+		ici	Under Br	idaa D. Utility Tranch	I V002 Iool	ing Dit	
BRB-9810	Under Bridge B - Utility Tre	anch I V002 Paceiving	· Dit	40	17 Oct 17	12 Dec 17	02 Mar 18	02 May 18	108					·	· <del>.</del> · · · · · · · · ·			Under Bri	lar Bridge B. Utility T	rebab I V00	9 Pacaiving Dit	·
DRD-9820	Under Bridge B - Utility Tre	anah I V002 Kecerving	jint Cativa	40	21 Oct 17	12-Dec-17	02-Mar 18	20 Mar 19	100					· {	· <del> </del> · · · · · · · ·			Unda	Dridge D - Utility Tree	ab I V002	Logicing Diont C	
DRD-9830	Under Bridge B - Utility Tre	anah I V002 Jacking P	ian Set-up	4	21-Oct-17	16-NOV-17	02-10101-18	2.9-Ivial-1.6	104					·				Onder	Under Dridge D. Utili	tu'Trough I	2002 Dind Iool	in a
DRD-9840	Under Bridge B - Utility Tre	anah I V002 Pipe Jack	ing	40	20-NOV-17	20 Jun 18	03-Api-18	22 Oct 19	104										Under Bridge B - Util	Duideo D	Utility Teensh I	woo
BKB-9830	Under Bridge B - Utility He	enen LV002 Mannoie	+ Relistatement	120	1 /-Jan-1 8	20-Juli-18	01-Jui-18	23-001-18	104					· <del>  -</del>	· <del> </del> · · · · · · · ·				Under	biluge B -		
- NTHS St	idy Area DI			10																	·	
BRB-9910	Study Area D1 - Site clearar	nce		18	03-Jul-17	22-Jul-17	10-Jul-17	29-Jul-17	6								Sti	idy Area DI - Si	te clearance			
BRB-9917	Study Area D1 - Excavate to	5 +39.7 mPD + Row L	01 Tie Back Nails (13 nos.)	24	24-Jul-17	19-Aug-17	31-Jul-17	26-Aug-17	6									Study Area D1	Excavate to +39.7 mP	D' + Row D	The Back Nat	ls (1
BRB-9920	Study Area D1 - Excavate to	o +37.7 mPD + Row I	02 Tie Back Nails (12 nos.)	24	21-Aug-17	16-Sep-17	28-Aug-17	23-Sep-17	6									Study Area D	01 - Excavate to +37.7	mPD + Row	D2 Tie Back I	Nails
BRB-9923	Study Area D1 - Excavate to	o +35.7 mPD + Row I	03 Tie Back Nails (11 nos.)	24	18-Sep-17	16-Oct-17	25-Sep-17	23-Oct-17	6									Study Are	a D1 - Excavate to +35	.7 mPD + F	ow D3 Tie Bac	:k N
BRB-9926	Study Area D1 - Excavate to	o +33.7 mPD + Row I	04 Tie Back Nails (10 nos.)	24	17-Oct-17	14-Nov-17	24-Oct-17	21-Nov-17	6									Study /	Area D1 - Excavate to	+33.7 mPD	+ Row D4 Tie	Back
BRB-9929	Study Area D1 - RC Concret	te Check Dam ( D01)		60	15-Nov-17	25-Jan-18	22-Nov-17	01-Feb-18	6										Study Area D1 - RC C	oncrete Che	ck Dam ( D01	)
BRB-9930	Study Area D1 - Sloping Cor	ncrete Slab		24	26-Jan-18	01-Mar-18	02-Feb-18	08-Mar-18	6										Study Area D1 - S	toping Conc	ete Slab	
BRB-9932	Study Area D1 - 2m Wide S	Step Channel Outfall		36	02-Mar-18	17-Apr-18	09-Mar-18	24-Apr-18	6										Study Area D	1 - 2m Wid	e Step Channel	Out
BRB-9935	Study Area D1 - Concrete M	faintenance Stairs		36	18-Apr-18	31-May-18	25-Apr-18	07-Jun-18	6										Study Ar	ea D1 - Cor	crete Maintena	nce
BRB-9938	Study Area D1 - Erosion Cor	ntrol Mat		24	01-Jun-18	29-Jun-18	08-Jun-18	06-Jul-18	6					1	.i	L			E Study	Area D1 -	Erosion Control	Mat
- NTHS St	idy Area D2																					
BRB-9940	Study Area D2 - Site clearar	nce		18	24-Jul-17	12-Aug-17	07-Aug-17	26-Aug-17	12				1		1			Study Area D2 -	Site clearance			
BRB-9949	Study Area D2 - Excavate to	0 +47.2 mPD + Row I	05 Tie Back Nails (13 nos.)	24	14-Aug-17	09-Sep-17	28-Aug-17	23-Sep-17	12									Study Area D	2 - Excavate to +47.2 r	nPD + Row	D5 Tie Back N	lails
BRB-9952	Study Area D2 - Excavate to	0 +45.2 mPD + Row I	06 Tie Back Nails (12 nos.)	24	11-Sep-17	09-Oct-17	25-Sep-17	23-Oct-17	12									📫 Study Are;	D2 - Excavate to +45	.2 mPD + R	ow D6 Tie Bac	k Na
BRB-9955	Study Area D2 - Excavate to	0 +43.2 mPD + Row I	07 Tie Back Nails (11 nos.)	24	10-Oct-17	07-Nov-17	24-Oct-17	21-Nov-17	12				-					📕 Study A	rea D2 - Excavate to +	43.2 mPD -	Row D7 Tie F	3ack
BRB-9958	Study Area D2 - Excavate to	0 +41.2 mPD + Tie Ba	ack Nails (10 nos.)	24	15-Nov-17	12-Dec-17	22-Nov-17	19-Dec-17	6									📕 Stu	ly Area D2 - Excavate	to +41.2 mF	D + Tie Back	Nail
BRB-9961	Study Area D2 - RC Concret	te Check Dam ( D02)		60	13-Dec-17	01-Mar-18	20-Dec-17	08-Mar-18	6				1	1					Study Area D2 - R	C Concrete	Check Dam ( I	J02)
BRB-9963	Study Area D2 - Sloping Cor	ncrete Slab		24	02-Mar-18	29-Mar-18	09-Mar-18	10-Apr-18	6										Study Area D2	- Sloping Co	ncrete Slab	
BRB-9964	Study Area D2 - 2m Wide S	Step Channel Outfall		36	03-Apr-18	16-May-18	11-Apr-18	24-May-18	6				1						Study Area	1 Þ2 - 2m V	/ide Step Chan	nel Ø
BRB-9967	Study Area D2 - Concrete M	faintenance Stairs		36	17-May-18	29-Jun-18	25-May-18	06-Jul-18	6										Study	Area D2 -	Concrete Maint	enan
BRB-9975	Study Area D2 - Erosion Cor	ntrol Mat		30	30-Jun-18	03-Aug-18	07-Jul-18	10-Aug-18	6				1						SI SI	udy Area D	2 - Erosion Cor	ıtrol
BRB-9980	Study Area D - Flexible Barr	rier for Rock/ Bould F	all	60	04-Aug-18	15-Oct-18	11-Aug-18	23-Oct-18	6				1							Study	Area D - Flexi	ble B
11.0 - At G	rade Road Between l	Bridge B & C (	Ch 8505-8700)										1									
11.1 - Pro	liminary Works												+	·	· • • • • • • • • • • • • • • • • • • •						İ	·i
PPC 1100	CIL 9505 9700 Bostion CD1	Condition   Trees		20	24 Jun 15	20 bil 15	10 Jul 15	12 Aug 15	12	CII	505 970	0 Dowt or	CR1 C	abilition	Tuon Cour							····-
RBC-1100	CIL 8505-8700 Portion CR1	Trace falling   Site	Classionaa	50	24-Jul-15	30-Jul-13	21 Jul 15	13-Aug-15	12	Ch e	CU 950	5 9700	Hortion C		falling   S	çy ita Claamaho					·	·}
RBC-1200	CIL 8505-8700 Portion CR1	Town A agons Bood	Wheel Weshing	20	17-Jul-15	20-Sep-15	21 Jul 15	02 San 15	12		1 0 5 0 5 0	700 D.ut	CD1	Tump A or	Terning + 3	Wheel We	ching					·
RBC-1300	CH 8505-8700 Portion CR1	- Temp Access Road	+ wheel wasning	50	1 /-Jul-15	20-Aug-15	21 Aug 15	03-Sep-15	12		CII 950	/00 Port	Doution C	1 emp Acc	Cess Road	+ wheel wa	sning				·	····-
RBC-1400	CH 8505-8700 Portion CRI	- mitiai Survey		50	31-Jul-15	20-Sep-15	21-Aug-15	20-Oct-15	18		CH 850	5-8/00	Portion C.	Ki - mua	Survey						·	
11.2 - Cut	Slopes													. j		ļļ.					ļ	
RBC-2000	WKS/C1 Slope Haul Road			18	07-Aug-15	27-Aug-15	21-Aug-15	10-Sep-15	12	<b>N</b>	KS/C1 S	lope Hau	il Road									
RBC-2100	WKS/C1 Slope Excavation to	o +54.00 + Berm & D	rainage	18	28-Aug-15	17-Sep-15	11-Sep-15	03-Oct-15	12		WKS/C1	Slope E	xcavation	to+54.00	+ Berm &	Drainage						
RBC-2200	WKS/C1 Slope Excavation to	o +46.50 + Berm & D	rainage	30	18-Sep-15	26-Oct-15	05-Oct-15	09-Nov-15	12		WK5	S/C1 S of	pe Excava	tion to +40	5 50 + Bei	m & Draina	ge				L	
RBC-2300	WKS/C1 Slope Excavation to	o +39.00 + Berm & D	rainage	36	19-Oct-15	30-Nov-15	03-Nov-15	14-Dec-15	12		<b>•</b>	VKS/C1	Slope Exc	cavation to	+39.00 +	Berm & Dr	ainage					
RBC-2400	WKS/C1 Slope Excavation to	o +32.00 + Berm & D	rainage	48	17-Nov-15	13-Jan-16	01-Dec-15	27-Jan-16	12			WKS	S/C1 Slope	e Excavati	on to +32.	0 + Bermi a	& Drainage					
RBC-2500	WKS/C2 Slope Excavation to	o +36.00 + Berm & D	rainage	18	10-Nov-15	30-Nov-15	24-Nov-15	14-Dec-15	12			VKS/C2	\$lope Exc	cavation to	+36.00 +	Berm & Þr	ainage					[
RBC-2600	WKS/C2 Slope Excavation to	o +32.00 + Berm & D	rainage	36	01-Dec-15	13-Jan-16	15-Dec-15	27-Jan-16	12			WKS	S/C2 Slope	Excavati	on to +32.	10 + Berm a	& Drainage					]
11.3 - Fill	Slopes																					
RBC-3000	WKS/F1 Fill SWlope			36	22-Dec-16	09-Feb-17	05-Jan-17	23-Feb-17	12					1	1	WKS	S/F1 Fill SWlop	ie l				
		I										L	-					<u>`</u>	Detail Works Pro	ogramme		=
	- én -		milestone										Pi	oject ID :	LI6-DW	rB1		Date	Revision	Chr	ecked Approv	ved
RB 中國		Kaden 🕌	Critical Activity			Dotai	Worke	Drogr	amm		R1		Li D.	ayout : L'I	10DWPB. 37			13-Apr-16 F	evision B1			
CR		tatien 利		int		Detai		riogia		C 1/CA	ים י		Pa	150 22 OI	51							-
CRBC-C	EC-KADEN Joint	t Venture	Actual Work	ort		Data I	Date: 24-Jun-15		Run	Date: 14-Ap	r-16											

AE	COM Liantang / Heung	g Yue	n Wai Bou	undary Co	ntrol Poir	nt Site Fo	ormati	on and Infrastructu	ure W	orks - CONTRACT 6				CE	DD	
ctivity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total 2 Float J	015 JASONDJFMA	2016 A M J J	2017 A S O N D J F M A M J J	ASOND	JFM	20 <sup>-</sup>	JASI	ONDJFM	019   A M J
RBC-3100	WK S/E2 Fill SWlope	12	12-Jan-17	25-Jan-17	10-Feb-17	23-Eeb-17	18	1 1 2 3 4 5 6 7 8 9 10	0 11 12 13	3 14 15 16 17 18 19 2 21 22 23 24 25 2 WK \$/F2 Fill \$Wlo	6 27 28 29 30	0 31 3 33 3	34 35 36	37 38 39 4	0 41 42 43 4 45	46 47 48
RBC 3200	WK S/E2 Fill SWIopa	42	11 Aug 17	23-Jan-17	28 Aug 17	16 Oct 17	14	·····			WKS/	E2 E3H SWA	lona			
RBC-3200	WK S/E/A Eill SWIope	42	12 Dec 16	26-5cp-17	20-Aug-17	22 Eab 17	14	·····		WKS/EA EII SW	one VIK3/1		ope			+
11.4 D-4	-inin-W-ll-	42	12-Dec-10	00-100-17	27-Dec-10	25-100-17	15			WR01+11115W						
11.4 - Ket	aining walls	4.0	18.0.17													·}
RBC-4000	WKS/RW2 Retaining Wall Excavation	18	17-Sep-16	08-Oct-16	06-Oct-16	26-Oct-16	15	·····		WKS/RW2 Retaining Wall Exc	avation		·			
RBC-4100	WKS/RW2 Retaining Wall Base Slab	18	10-Oct-16	29-Oct-16	27-Oct-16	16-Nov-16	15			WKS/RW2 Retaining Wall B	ase Slab					
RBC-4200	WKS/RW2 Retaining Wall Stem Wall	36	31-Oct-16	10-Dec-16	17-Nov-16	28-Dec-16	15			WKS/RW2 Retaining W	dl Stêm Wall		,		· · · · · · · · · · · · · · · · · · ·	·}
RBC-4300	WKS/RW3 Retaining Wall Excavation	18	17-Sep-16	08-Oct-16	06-Oct-16	26-Oct-16	15	· · · · · · · · · · · · · · · · · · ·		WKS/RW3 Retaining Wall Exc	avatıon					
RBC-4400	WKS/KW3 Retaining Wall Base Slab	18	10-Oct-16	29-Oct-16	27-Oct-16	16-Nov-16	15			WK8/RW3 Retaining Wall B	ase Slab					
RBC-4500	WKS/RW3 Retaining Wall Stem Wall	36	31-Oct-16	10-Dec-16	17-Nov-16	28-Dec-16	15	·····		WKS/RW3 Retaining W	dl Stêm Wall		,			
RBC-4600	WKS/RWI Retaining Wall Excavation	18	13-Oct-16	02-Nov-16	03-Nov-16	23-Nov-16	18	·····		WKS/RW1 Retaining Wall E	xcavation					
RBC-4700	WKS/KWI Retaining Wall Base Slab	24	03-Nov-16	30-Nov-16	24-Nov-16	21-Dec-16	18	·····		WKS/RW1 Retaining Wa	I Base Slab					·}
RBC-4800	WKS/KW1 Retaining wall Stem wall	36	01-Dec-16	11-Jan-1/	22-Dec-16	09-Feb-17	18	·····		WKS/RW1 Retainin	; wall Stem w	/atli				
11.5 - Roa	id Works															
RBC-5101	CH 8505-8700 - Road Formation (Stage 1)	30	14-Jan-16	24-Feb-16	28-Jan-16	09-Mar-16	12	CH CH	18505-870	00 - Road Formation (Stage 1)						l
RBC-5103	CH 8505-8700 - Watermain (Stage 1)	60	25-Feb-16	09-May-16	10-Mar-16	24-May-16	12		CH 8.	505-8700 - Watermain (Stage 1)						
RBC-5105	CH 8505-8700 - Utilities (Stage 1)	60	25-Feb-16	09-May-16	10-Mar-16	24-May-16	12		CH 8:	505-8700 - Utilities (Stage 1)		.]				
RBC-5107	CH 8505-8700 - Drainage & Sewerage (Stage 1)	60	25-Feb-16	09-May-16	10-Mar-16	24-May-16	12		CH 8:	505-8700 - Drainage & Sewerage (Stage	1)					
RBC-5110	CH 8505-8700 - Segment Storage Yard Set-up	36	10-May-16	22-Jun-16	25-May-16	07-Jul-16	12			CH 8505-8700 - Segment \$torage Yard S	et-up					
RBC-5120	Commence Delivery for T-span Segment Erection at Bridge A	0	27-Jun-16		08-Jul-16		9		•	Commence Delivery for T-span Segment I	rection at Brid	dge A				
RBC-5130	Complete T-span Segment Erection at Bridge C	0		21-Sep-17		23-Sep-17	2				<ul> <li>Complet</li> </ul>	te T-span Se	egment Er	ection at B	ridge C	
RBC-5150	Maintain Segment Storage Yard between Bridge B and C	370	27-Jun-16	21-Sep-17	08-Jul-16	23-Sep-17	2				- Maintai	in Segment S	Storage Y	ard betwee	n Bridge B and C	
RBC-5160	CH 8505-8700 - Remove Segment Storage Yard	18	08-Sep-17	28-Sep-17	11-Sep-17	30-Sep-17	2				E CH 85	05-8700 -	Remove S	segment Sto	rage Yard	
RBC-5190	CH 8505-8700 - Noise Barrier Foundation	42	10-Feb-17	30-Mar-17	24-Feb-17	18-Apr-17	12			CH 8505-8	/00 - Noise B	arrier Found	dation			
RBC-5200	CH 8505-8700 - Road Formation (Stage 2)	60	02-Oct-17	12-Dec-17	17-Oct-17	27-Dec-17	12					CH 8505-	-8700 - R	oad Forma	tion (Stage 2)	
RBC-5250	CH 8505-8700 - Sign Gantry Support	72	29-Sep-17	23-Dec-17	02-Oct-17	27-Dec-17	2					CH 8505	5-8700 -	Sign Gantry	/ Support	
RBC-5300	CH 8505-8700 - Watermain (Stage 2)	90	13-Dec-17	10-Apr-18	28-Dec-17	24-Apr-18	12					<u>i i i i i i i i i i i i i i i i i i i </u>	CH 85	05-8700 -	Watermain (Stage	: 2)
RBC-5400	CH 8505-8700 - Utilities (Stage 2)	90	13-Dec-17	10-Apr-18	28-Dec-17	24-Apr-18	12					÷	CH 85	05-8700 -	Utilities (Stage 2)	ì
RBC-5500	CH 8505-8700 - Drainage & Sewerage (Stage 2)	90	13-Dec-17	10-Apr-18	28-Dec-17	24-Apr-18	12					ļ.	CH 85	05-8700 -	Drainage & Sewe	rage (Stag
RBC-5550	CH 8505-8700 - Road Furnitures & Misc. Works	90	11-Apr-18	27-Jul-18	25-Apr-18	10-Aug-18	12							CH 85	05-8700 - Road	Furnitures
RBC-5600	CH 8505-8700 - Road Paving & Marking	60	28-Jul-18	08-Oct-18	11-Aug-18	23-Oct-18	12							<b></b>	CH 8505-8700	- Road Pa
12.0 - Brid	ge C (Ch8700 to Ch9005)												,			
12.1 - Pre	paration Works															
BRC-1010	Portion CR1/CR2 - Condition + Tree Survey	36	24-Jun-15	06-Aug-15	28-Jul-15	07-Sep-15	2.7	Portion CR1/CR2 - Condi	lition + Tre	e Survey		·				+}
BRC-1020	Portion CR1/CR2 - Tree Felling + Site Clearance	30	17-Jul-15	20-Aug-15	18-Aug-15	21-Sep-15	2.7	Portion CR1/CR2 - Tree	e Felling +	Site Clearance						
BRC-1030	Portion CR1/CR2 - Initial Survey	2.4	31-Jul-15	27-Aug-15	01-Sep-15	29-Sep-15	2.7	Portion CR1/CR2 - Initi	tial Survey			· • • • • • • • • • • • • • • • • • • •				
BRC-1040	Portion CR1/CR2 - Haul Road Construction	30	31-Jul-15	03-Sep-15	01-Sep-15	07-Oct-15	2.7	Portion CR1/CR2 - Ha	aul Road C	Construction		·	,			+
BRC-1250	Portion CR1/CR2 - Archeaological Survey (Bridge C)	36	08-Oct-15	19-Nov-15	08-Oct-15	19-Nov-15	0	Portion CR1/C	CR2 - Arch	neaological Survey (Bridge C)						
BRC-1260	Bridge C - Diversion of Existing Utilities	150	04-Sep-15	09-Mar-16	01-Dec-15	07-Jun-16	72	Br	ridge C - E	Diversion of Existing Utilities		· † †				1}
12.2 Cm	and Investigation				,											
12.2 - Gr		100	00.0.15	20 E I 16	00.0 + 15	20 5 1 16										}
BRC-2000	Bridge C - Pre-drilling (30 holes)	108	08-Oct-15	20-Feb-16	08-Oct-15	20-Feb-16	0	Brid	age C - Pre	e-drilling (30 holes)		·				
12.3 - Bor	ed piles															
BRC-3000	Bridge C - Bored Piling for Abut AA201 - 5 nos	54	21-May-16	25-Jul-16	08-Jun-16	11-Aug-16	15			Bridge C - Bored Piling for Abut AA20	/1 - 5 nos			İ.		
BRC-3010	Bridge C - Bored Piling for Abut AA207 - 5 nos	54	14-Mar-16	20-May-16	21-Mar-16	27-May-16	6		Brid	ge C - Bored Piling for Abut AA207 - 5	IOS					
BRC-3020	Bridge C - Bored Piling for Piers - 20 nos	158	22-Feb-16	31-Aug-16	22-Feb-16	31-Aug-16	0			Bridge C - Bored Piling for Piers -	20 nbs					
12.4 - Pile	e caps															
BRC-3991	Temp Work Design Submit/No A dverse Comment - Brid ge C Pier Pilecap	90	07-Jan-16	05-Apr-16	02-Apr-16	30-Jun-16	86		Temp Wo	rk Design Submit/No A dverse Comment -	Bridge C Pier	r Pilecap				1
BRC-3992	Temp Work Design Submit/No A dverse Comment - Brid ge C Abutment Pilecap	90	07-Jan-16	05-Apr-16	04-Jun-16	01-Sep-16	149		Temp Wo	rk Design Submit/NoAdverse Comment -	Bridge CAbi	utment Pile¢	ap			
	Allostono							••••••••••••••••••••••••••••••••••••••	Den		<u> </u>	D	etail Wo	rks Proar	amme	-
	▼ ▼ Milestone								Projec	ULTO-DWPB1	Date		Revisi	on	Checked A	Approved
				Datai	l Works	Progr	amm	Rev R1	Page	23 of 37	13-Apr-16	δ Revisio	n B1		+ +	<u> </u>
UK UK	PU Tusse of category scales	rt		Detai	1 110113	livyi	annin		1 uge							
CRBC-C	CEC-KADEN Joint Venture			Data D	)ate: 24-Jun-15		Run	Date: 14-Apr-16								

AE	COM <sup>®</sup> Liantang / Heun	ig Yue	n Wai Bo	undary Co	ntrol Poi	nt Site Fo	ormati	on and Infra	astru	cture \	Norks	- CO	NTRACT 6				CEDI		
tivity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Z Float	015 JASOND	JFN	20 / A M J	JAS	OND	JFMAMJ	17 JASONE	JFMAM	2018 JJJA	SOND	2 	019 1 A M .
BRC-4000	Bridge C - Pilecan for Abut AA201	30	12-Aug-16	15-Sep-16	30-Aug-16	05-Oct-16	15	1 2 3 4 5 6	789	10 11 12	13 14 15	16 17 18 Bridge C	19 2 21 22 23 24	25 26 27 28 29 3 A A 201	31 3 33 34 35	36 37 38	39 40 41 42	43 4 45	46 47 4
BRC-4010	Bridge C - Pilecap for Abut AA207	30	08-Jun-16	14-Jul-16	16-Jun-16	21-Jul-16	6				Bridge	C - Pilee	ap for Abut AA20					+	
BRC-4020	Bridge C - Pilecap (2P) - 10 nos	140	13-Jun-16	25-Nov-16	13-Jun-16	25-Nov-16	0					В	ridge C - Pilecap (	2P) - 10 nos	+				
12.5 - Pier	and Abutment									1									
BRC-4991	Temp Work Design Submit/No A dverse Comment - Bridge C Pier Column	90	06-Feb-16	05-Mav-16	18-Jul-16	15-Oct-16	163			Ter	ap Work D	esign Sub	mit/No Adverse Co	mment - Bridge C	Pier Column				
BRC-4992	Temp Work Design Submit/No A dve rse Comment - Brid ge C Abutment Wall	90	06-Feb-16	05-May-16	04-Jul-16	01-Oct-16	149			Ter	ap Work D	esign Sub	mit/No Adverse Co	mment - Bridge C.	Abutment Wall				
BRC-5000	Bridge C - Abutment AA201 + Bearing	30	17-Sep-16	22-Oct-16	06-Oct-16	09-Nov-16	15					Bridg	e C - Abutment AA	201 + Bearing					
BRC-5050	Bridge C - Pier Column - 10 nos	130	28-Sep-16	07-Mar-17	28-Sep-16	07-Mar-17	0			+			Bridge C	Pier Column - 10	nos				1
BRC-5550	Bridge C - Abutment AA207 + Bearing	30	15-Jul-16	18-Aug-16	22-Jul-16	25-Aug-16	6			1	Br	idge C - A	butment AA207 +	Bearing	1				1
12.6 - Dec	k Erection						1												1
- Pier segn	ient									+								+	<u> </u>
BRC-5991	Temp Work Design Submit/No A dverse Comment - Bridge C Pier Head Seg	90	06-Apr-16	04-Jul-16	02-Sep-16	30-Nov-16	149				Temp V	/ork Desi	m Submit/No A dve	rse Comment - Brid	loe C Pier Head	See			
BRC-5992	Temp Work Education - Bridge C Pier Head Seg.	54	17-Jun-16	09-Aug-16	19-Nov-16	11-Jan-17	155				Tett	n Work F	abrication - Bridge	C Pier Head Seg.	ge e ner neur i			+	
BRC-6000	Bridge C - Pier Head Segment - 10 nos	130	12-Jan-17	28-Jun-17	12-Jan-17	28-Jun-17	0		• • • • • • • • •	÷		1		Bridge C - Pier	Head Segment -	10 nos			
- Deck Seg	ment									+									
BRC-6491	Temp Work Design Submit/No. A dyerse Comment - Bridge C Segment Erection	120	05-Jul-16	01-Nov-16	01-Dec-16	30-Mar-17	149		· • • • • • • • • • • • • • • • • • • •			Ten	n Work Design Sub	mit/No A dverse Co	mment - Bridge (	C Segmen	t Erlection		
BRC-6492	Temp Work Edwight Samuer Contracting Comment - Dring Concernent Electron	54	09-Oct-16	01-Dec-16	06-May-17	28-Jun-17	209		• • • • • • • • •	+	•		emp Work Fabrica	ion - Bridge C See	ment Frection	- Segmen	- He cu ui		
BRC-6495	Method Statement - Bridge C Segment Handling and Erection	120	05-Jul-16	01-Nov-16	25-Mar-17	22-Jul-17	263		· •	+		Met	hod Statement - Br	dge C Segment Ha	ndling and Erecti	ion			
BRC-6500	Bridge C Segement Install - 234 nos @ 4 nos/day	72	29-Jun-17	21-Sep-17	29-Jun-17	21-Sep-17	0		· •	+				Bridge	C Segement Insta	dl - 234 n	os @ 4 nos/d:	av	
12.7 - Pro	strassing		-,							+								1	1
PBC 7000	Prideo COLN Prostransino & Crowtino	24	22 Sam 17	20 Oct 17	22 San 17	20 Oct 17	0							Daid	COIN Brootro	anima & C	enting		
BRC-7000	Bridge C018 Practracsing & Grouting	24	22-Sep-17	20-Oct-17	22-Sep-17	20-Oct-17	0	·····		+				BIIG	ge COIN Frestre	ssing & G	routing		
12.9 Dom	Bridge Cors Freshessing & Grouning	24	22-3cp-17	20-001-17	22-30p-17	20-001-17				+					ge constructions	ising a or		+	
12.8 - Par		120	00 N 16	01.04 17	10.10 17	14.0 17	107	ļ											4
BRC-7991	Temp Work Design Submit/No A dverse Comment - Brid ge C Parapet	120	02-Nov-16	01-Mar-17	18-May-17	14-Sep-17	197						temp wor	k Design Submit/N	A dverse Commo	ent - Brid	ge C Parapet		
BRC-7992	Temp Work Fabrication - Bridge C Parapet	60	06-Feb-17	06-Apr-17	22-Aug-17	20-Oct-17	197			÷			1emp	Work Fabrication -	Bridge C Parapet		10		
BRC-8000	Bridge COIN Parapet 610m	56	21-Oct-17	27-Dec-17	21-Oct-17	27-Dec-17	0			+					Bridge COIN	Parapet 6	10m		į
BRC-8100	Bridge COTS Parapet 610m	50	21-Oct-17	27-Dec-17	21-Oct-17	2/-Dec-1/	0			+					Bridge COTS I	Parapet 6	.0m		
12.9 - Fur	niture, Paving and Road Marking							·								<u></u>			4
BRC-9000	Bridge C N/B - Road Furnitures / Utilities / Traffic Signs	90	23-Apr-18	08-Aug-18	25-Apr-18	10-Aug-18	2	ļ									Bridge C N/F	3 - Road	Furniture
BRC-9200	Bridge C N/B - Paving & Road Marking	60	09-Aug-18	20-Oct-18	11-Aug-18	23-Oct-18	2										Bridg	e C N/B	Paving
BRC-9300	Bridge C S/B - Road Furnitures / Utilities / Traffic Signs	90	23-Apr-18	08-Aug-18	25-Apr-18	10-Aug-18	2										Bridge C S/B	- Road I	urniture
BRC-9500	Bridge C S/B - Paving & Road Marking	60	09-Aug-18	20-Oct-18	11-Aug-18	23-Oct-18	2										Bridg	je C S/B	Paving
13.0 - At G	rade Road Between Bridge C & D (Ch 9005-9260)																		
13.1 - Pre	liminary Works																		
RCD-1110	Portion CR2/CR20/CR21/CR2A - Condition + Tree Survey	30	23-Jul-15	26-Aug-15	23-Jul-15	26-Aug-15	0	Portion CF	¢/CR20/	CR21/CR2	A - Condit	ion + Tre	Survey						
RCD-1120	Portion CR2/CR20/CR21/CR2A - Tree felling + Site Clear ance	62	13-Aug-15	27-Oct-15	13-Aug-15	27-Oct-15	0	Por	tion CR2/	CR20/CR2	1/CR2A -	Tree felli	ng + Si te Clear ance						
RCD-1130	Portion CR2/CR20/CR21/CR2A - Temp Access Road + Wheel Washing	30	13-Aug-15	16-Sep-15	13-Aug-15	16-Sep-15	0	Portion	CR2/CR2	0/CR21/CI	CA - Tem	p Access	Road + Wheel Was	ing					
RCD-1140	Portion CR2/CR20/CR21/CR2A - Initial Survey	50	27-Aug-15	27-Oct-15	27-Aug-15	27-Oct-15	0	Por	tion CR2/	CR20/CR2	1/CR2A -	Initial Sur	vey						
13.2 - Cut	Slopes																		]
RCD-2000	WKS/C3 Slope Haul Road	18	10-Sep-15	02-Oct-15	10-Sep-15	02-Oct-15	0	📕 WKS/	C3 Slope	Haul Road									<u> </u>
RCD-2010	WKS/C3 Slope Excavation to +41.20mPD + Berm & Drainage	18	03-Oct-15	24-Oct-15	03-Oct-15	24-Oct-15	0	📕 WK	S/C3 Slop	pe Excavat	on to +41.	20mPD +	Berm & Drainage		<u> </u>				.j
RCD-2020	WKS/C3 Slope Excavation to +34.80mPD + Berm & Drainage	36	26-Oct-15	05-Dec-15	26-Oct-15	05-Dec-15	0		WKS/C3	\$lope Exc	avation to	+34.80ml	D + Berm & Drain	age					
RCD-2030	WKS/C4 Slope Excavation to +36.00mPD + Drainage	54	03-Oct-15	05-Dec-15	03-Oct-15	05-Dec-15	0		WKS/C4	\$lope Exc	avation to	+36.00ml	PD + Drainage						
RCD-2090	WKS/C5 Slope Excavation to +51.00mPD + Berm & Drainage	24	19-Nov-15	16-Dec-15	19-Nov-15	16-Dec-15	0		WKS/C	5 Slope Ex	cavation to	+51.00n	PD + Bern & Dra	inage					. <u>.</u>
RCD-2100	WKS/C5 Slope Excavation to +43.50mPD + Berm & Drainage	24	17-Dec-15	15-Jan-16	17-Dec-15	15-Jan-16	0		WK:	S/C5 Slope	Excavatio	n to +43.5	0mPD + Berm & I	rainage					
RCD-2200	WKS/C5 Slope Excavation to +36.00mPD + Soil Nail + Berm & Drainage	24	16-Jan-16	19-Feb-16	16-Jan-16	19-Feb-16	0	ļ	· • ·	WKS/C5 S	ope Excav	ation to +	36.00mPD + Soil 1	ail + Bern & Dra	nage				
RCD-2300	WKS/C5 Slope Excavation to +32.00mPD + Soil Nail + Berm & Drainage	24	20-Feb-16	18-Mar-16	20-Feb-16	18-Mar-16	0		<u> </u>	WKS/C5	Slope Ext	cavation to	+32.00mPD + So	l Nail + Berm & D	rainage				<u> </u>
										1					Detail	Works P	rogramme		
	◆ Milestone									Pro	oject ID :L	T6-DWF	RI	Date	Re	evision	Chr	ecked /	Approve
				Dotai	Warks	Progr	amm	Rov P1		La Do	yout : L16 ge 24 of 2	טייעיעיעיי 7		13-Apr-16	Revision B1				
V CR		fort		Derai		srivyl	annin	FILEN. DI		ra	50 24 01 3	'							
CRBC-C	EC-KADEN Joint Venture			Data D	Date: 24-Jun-15		Run	Date: 14-Apr-16											

AE	COM Liantang / Heung	l Yue	n Wai Bou	Indary Co	ntrol Poir	nt Site Fo	ormati	on and Infra	stru	uctu	ure V	Vorks - CONTRACT 6	C	EDD	
Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total 2 Float J	2015 J J A S O N D	JF	MA	201 M J	6 2017 J A S O N D J F M A M J J A S O N D J F		ONDJ	2019 F M A M J
12.2 F:U	Simon						-1	1 1 2 3 4 5 6	7 8	9 10	11 12	3 14 15 16 17 18 19 2 21 22 23 24 25 26 27 28 29 30 31 3 3	34 35 36 37 38 39	40 41 42 43	4 45 46 47 48
13.3 - FIII	Stopes	42	02 4 1 (	22 Mar 16	25 Ann 16	14 Jun 16	10								
RCD-3000	WKS/F8 Fill Slope - Stage 1 WKS/F8 Fill Slope (Steps 2) + Deal-fill WKS/DW6	42	02-Apr-16	23-May-16	25-Apr-16	14-Jun-10	18					WVSER Ell Slope - Stage 1	Z S/DW/6		}
RCD-3030	WKS/F8 Fill Slope (Stage 2) + backfill WKS KW0	1.0	03-100-10	13-Jan-17	03-Nov-10	1.5-Jail-17	10	÷				wKS/r8 rin Siope (Stage 2) + Backlin w	Q RWO		
RCD-3100	WKS/F / Fill Slope	18	02-May-16	23-May-16	24-May-10	14-Jun-10	24				••••		10.00		
RCD-3200	WKS/F0 FIII Slope	30	24 Oct 16	26 Nov 16	31 Oct 16	03 Dec 16		•				WK S/E5 Ell Slope			
12.4 Det	vising Walls	50	24-001-10	20-1407-10	51-001-10	05-Dee-10									
13.4 - Ket	WERDWIG From Device 001 (004	20	07 Dec 15	12 Inc 16	07 Dec 15	12 In 16	0	·····		ve hou	VC E	D			
RCD-4000	WKS/KW0 Excav - Bay 0001-0004	26	07-Dec-15	12-Jall-10	07-Dec-15	12-Jail-10	0		w	N/L	C/DW/C	V - Bay 6001-6004	++		
RCD-4010	W/CS/RW0 Base Stab - Bay 0001-0004	42	00-Jail-10	23-Feb-10	00-Jail-10	23-FC0-10	0	·		WK	W/V C/D	Dase Siau - Day 0001-0004	++		
RCD-4020	WKS/KW0 Wall - Day 6001-6004	42	02 Apr 16	07 May 16	03-reb-10	01-Apt-10	0				WK S/K	2/PW6 Excav, Pay 6004 6008			
RCD-4040	WKS/RW6 Base Slab - Bay 6004-6008	36	02-Apr-16	21-hm-16	02-Apr-10	21-Jun-16	0				WR	WK S/RW6 Base Slab - Bay/6004-6008			
RCD 4050	WKS/RW6 Base Stab - Edg 8004-0008	18	15 Jun 16	10 Aug 16	15 Jun 16	10 Aug 16	0					WKS/RW6 Wall Pay/6004 6008			
RCD-4050	WKS/RW6 Wall - Bay 6008-6011	36	11-Aug-16	22-Sep-16	11-Aug-16	22-Sep-16	0					WKS/RW6 Fycav, Bay 6008-6011			
RCD-4000	WKS/RW6 Base Slab - Bay 6008-6011	48	15-Sep-16	11-Nov-16	15-Sep-16	11-Nov-16	0					WKS/RW6 Base Slab - Bay 6008-6011	++		
RCD-4080	WKS/RW6 Wall - Bay 6008-6011	40	15-Oct-16	09-Dec-16	15-3cp-10	09-Dec-16	0					WKS/RW6 Wall - Bay 6008-6011			
RCD-4300	WKS/RW5 Retaining Wall Exception	18	15-be-16	04-Aug-16	22-bil-16	11-Aug-16	6					WKS/RW5 Retaining Wall Excavation	++		
RCD-4400	WKS/RW5 Retaining Wall Base Slab	30	05-Aug-16	08-Sep-16	12-Jug-16	15-Sep-16	6					WKS/RW5 Retaining Wall Base Slab			
RCD-4500	WKS/RW5 Retaining Wall Stem Wall	36	09-Sep-16	22-Oct-16	17-Sep-16	29-Oct-16	6					WKS/RW5 Relaining Wall Stem Wall	++		
RCD-4600	WKS/RW4 Retaining Wall Excavation	18	15-Jul-16	04-Aug-16	22-Jul-16	11-Aug-16	6					WKS/RW4 Retaining Wall Excavation	++		
RCD-4700	WKS/RW4 Retaining Wall Base Slab	30	05-Aug-16	08-Sep-16	12-Aug-16	15-Sep-16	6					WKS/RW4 Retaining Wall Base Slab			
RCD-4800	WKS/RW4 Retaining Wall Stem Wall	36	09-Sep-16	22-Oct-16	17-Sep-16	29-Oct-16	6					WKS/RW4 Retaining Wall Stem Wall	++		
12.5 Dog	d Works		.,p		1p 1.									····	
PCD 5012	CU 0005 0260 Read Formation (Stage 1)	60	00 Mar 16	22 May 16	02 Apr 16	14 Jun 16	19					(0005 0260 Bodd Formation (Store 1)			
RCD-5012	CH 9005-9200 - Road Fornation (Stage 1)	60	12 Apr 16	23-May-10	02-Apr-10	14-Jul-10	10	·				CU 0005 0260 Watermain (Stage 1)	++		
RCD-5014	CH 9005-9200 - Waterham (Stage 1)	60	12-Apt-16	22-Juli-10	03-May-10	14-Jul-10	18					CH 9005-9200 - Watermann (Stage 1)			
RCD-5018	CH 9005-9200 - Orninge & Seuergee (Stage 1)	60	12-Apr-16	22-Jun-16	03-May-16	14-Jul-16	18					CH 9005-9200 - Orningge & Sewerstre (Stage 1)			
RCD-5018	CH 9005-2200 - Drainage & Sewerage (Stage 1)	30	22 Jun 16	22-Jul-10	15 Jul 16	18 Aug 16	18	·				Cli 9005-9200 - Dranage & Sewerage (Stage 1)			
RCD-5040	Commence Segment Delivery to Bridge D Segment Storage Vard	0	29-Jul-16	28-501-10	19-Aug-16	18-Aug-10	18					Commence Selment Delivery to Bridge D Segment Storage V	arid		
RCD-5090	CH 9005-9260 - Maintain Segment Storage Yard	359	29-Jul-16	11-Oct-17	19-Aug-16	23-Oct-17	10				{	CH 9005-926	0 - Maintain Segment	Storage Vard	
RCD-5095	CH 9005-9260 - Remove Segment Storage Yard	18	20-Sep-17	11-Oct-17	02-Oct-17	23-Oct-17	10					CH 9005-920	0:- Remove Segment	Storage Yard	
RCD-5100	CH 9005-9260 - Road Formation (Stage 2)	42	20-Sep-17	09-Nov-17	02-Oct-17	21-Nov-17	10					CH 9005-	260 - Road Formatic	n (Stage 2)	
RCD-5200	CH 9005-9260 - Watermain (Stage 2)	120	10-Nov-17	12-Apr-18	22-Nov-17	24-Apr-18	10						CH 9005-9260	- Watermain (	Stage 2)
RCD-5300	CH 9005-9260 - Utilities (Stage 2)	120	10-Nov-17	12-Apr-18	22-Nov-17	24-Apr-18	10						CH 9005-9260	- Utilities (St	19e 2)
RCD-5400	CH 9005-9260 - Drainage & Sewerage (Stage 2)	120	10-Nov-17	12-Apr-18	22-Nov-17	24-Apr-18	10						CH 9005-9260	- Drainage &	Sewerage (Stag
RCD-5450	CH 9005-9260 - Road Furnitures & Misc. Works	90	13-Apr-18	30-Jul-18	25-Apr-18	10-Aug-18	10						CH	9005-9260 -	Road Furnitures
RCD-5500	CH 9005-9260 - Road Paving & Marking	60	31-Jul-18	10-Oct-18	11-Aug-18	23-Oct-18	10							CH 9005-	9260 - Road Pa
13.6 - Mis	cellaneous Work			1	0								1		
RCD-6100	Study Area E - Maintenance Stairs	120	02-Ian-17	06-Jun-17	28-Dec-17	31-May-18	291					Study Area E - Maintenanc	Stairs		}
RCD-6110	Study Area E - Flexible Barrier for Rock/ Boulder Fall	120	07-Jun-17	26-Oct-17	01-Jun-18	23-Oct-18	291					Study Area	+ Flexible Barrier fo	r Rock/ Bould	er Fall
14.0 - Brid	Te D (Ch0260 to Ch11360)														
14.1 D	as D. Dusliminaw Works														
14.1 - Brid	ige D - Preliminary works														
- Site Estab	Ishment	1.15				44.0				<u> </u>				·····	
BRD-1010	Bridge D Portion CR2 - Condition + Tree Survey	48	23-Jul-15	16-Sep-15	23-Jul-15	16-Sep-15	0	Bridge D	Portio	on CR2	2 - Conc	ition + Tree Survey			
BRD-1020	Bridge D Portion CR2 - Tree Felling + Site Clearance	48	30-Jul-15	23-Sep-15	30-Jul-15	23-Sep-15	0	Bridge D	) Port	on CR	2 - Tree	Felling + Site Clearance	+		
BRD-1030	Bridge D Portion CR2 - Initial Survey	32	25-Aug-15	02-Oct-15	25-Aug-15	02-Oct-15	0	Bridge	D Port	tion Cl	к2 - Init	ai Survey	·		
BRD-1100	Bridge D - Portion CSP1 LMH Rd. Condition + Tree Survey	12	01-Sep-15	14-Sep-15	11-Sep-15	24-Sep-15	9	Bridge D	- Porti	10n C5	DPI LM	H Rd. Condition + free Survey			
BRD-1105	Bridge D - Portion CSP1 LMH Rd. Site Clearance	12	01-Sep-15	14-Sep-15	11-Sep-15	24-Sep-15	9	<ul> <li>Bridge D</li> </ul>	- Porti	ion¦C5	DPT LM	H Kd. Sile Clearance	<u> </u>		
	◆ Milestone										Pro	ject ID :LT6-DWPB1	Detail Works Prog	ramme	
中國:	各檔 Statestal TZ 1 版 Critical Activity					-					Lay	out : LT6DWPB1 Date	Revision	Checke	d Approved
CR	BC Stadema Con Italen in Non-Critical Activity			Detai	I Works	Progra	amme	e Kev. B1			Pag	e 25 of 37   13-Apr-16   Revis	ION B1		
CPRC	EC KADEN loint Vonture	t		Data D	ate: 24-Jun-15	5	Run	Date: 14-Apr-16							
URBU-U	Actual Work							•							

AECOM	Liantang / Heun	ıg Yue	n Wai Bou	Indary Co	ntrol Poi	nt Site Fo	ormati	ion and Infrastructure Works - CONTRACT 6
ctivity ID Activity Name		Orig	Start	Finish	Late Start	Late Finish	Total Eloat	2015 2018 2019 JJASONDJFMAMJJJASONDJFMAMJJJASONDJFMAMJJJASONDJFMAMJJJASONDJFMAMJJ
							-	1 1 2 3 4 5 6 7 8 9 10 11 12 8 14 15 16 17 18 9 2 21 22 23 24 25 26 27 28 29 30 31 3 33 34 35 36 37 38 39 40 41 42 43 4 45 46 47 48
BRD-1108 Bridge D - Portion CSP1 LMH	Rd. Initial Survey	12	01-Sep-15	14-Sep-15	11-Sep-15	24-Sep-15	9	Bridge D- Portion(CSP1 LM)L Rd. Initial Survey
BRD-1180 Bridge D Portion CR2 - Haul F	Road	58	10-Sep-15	19-Nov-15	10-Sep-15	19-Nov-15	0	Bridge D Pertion CR2 Haul Road
BRD-1300 Bridge D - Archaeological Surv PPD 7730 Bridge D - Submit/Approve TT	A for Diversion of Lin Ma Hang Pood	30	15 Sep 15	02 Jap 16	20 Dec 15	19-NOV-15	87	Bridge 1 - Archaeological Survey / Final Report      Def avD. Submit American TTA for Disparition of Lin Me Hone Panel
Town on the Bridge D - Submit/Approve 11	A for Diversion of Lin wa Hang Road	90	13-Sep-13	02-Jan-10	30-Dec-13	2.5-Apt-10	0/	Dinger D - Subin Apploy 11A to Diversion 0 Lin with Hang Kyau
- Temporary Bridges	tion	24	22 Oct 15	10 Nov 15	22 Oct 15	10 Nov 15	0	
BRD-1190 Temporary Bridge T2 Construct	tion	24	23-Oct-15	19-Nov-15	23-0ct-15	19-NOV-15	0	imporary brage 12 construction
PRD 1220 Temporary Bridge T3 Construct	tion	24	20-Nov-15	1/-Dec-15	20-INOV-15	17-Dec-15		remperaty bruge in Construction
BRD-1220 Temporary Bridge V Construct	ion .	36	03-Oct-15	14-Nov-15	13-Apt-10	26-Dec-15	35	Temporar Bride Y Construction
14.2 David Dilar		50	05-001-15	14-1407-15	14-110-15	20-000-15		
14.2 - Bored Flies								
- Pre-drilling								
BRD-2010 Bridge D01 - Pre-drilling - 24	holes	25	24-Sep-15	26-Oct-15	25-Sep-15	27-Oct-15	1	Bridge D01 - Pre-driling - 24 holes
BRD-2020 Bridge D02 - Pre-drilling - 29	holes	30	24-Sep-15	31-Oct-15	25-Sep-15	02-Nov-15	1	Bridge D00 - Pre-driling - 29 hojes
BRD-2030 Bridge D03 - Pre-drilling - 28	holes	30	02-Nov-15	05-Dec-15	18-Mar-16	26-Apr-16	102	Bridge DU3 - Pre-dri Img - 28 notes
BRD-2040 Bridge D04 - Pre-drilling - 28	holes	30	02-Nov-15	05-Dec-15	29-Jun-16	03-Aug-16	192	Brage DV4 - Pre-dra Img - 28 notes
BRD-2050 Bridge D05 - Pre-drilling - 10	holes	30	07-Dec-15	12-Jan-16	29-Aug-16	04-Oct-16	141	Bruge DUS - Frequenting - 10 holes
BRD-2060 Bridge D06 - Pre-drilling - 19 BBD 2070 Bridge D07 Bra drilling - 22	holes	30	07-Dec-15	12-Jan-16	12 Jan 16	09-Jul-10	50	Bruge Duo - Pro-drining - 19 Jones
BRD-2070 Bridge D07 - Fre-drilling - 22 BBD 2080 Bridge D08 Bra drilling - 22	holes)	30	02-N0V-13	14 Nev 15	12-Jai-10	16 Nov 15	1	Didge DV(- ric-qrinng - 22 nots)
BRD-2080 Bridge D08 - Pre-drilling - 33	noies)	42	24-Sep-15	14-NOV-15	25-Sep-15	10-NOV-15	1	Bridge D 0 8 - FTC-GTIAING = 33 ROCS)
- Bored Piling		120	27.31.16	20.4.16	07.01 1.5	20.4 16		
BRD-2110 Bridge D01 Bored Piling - 14	nos	120	27-Nov-15	28-Apr-16	27-Nov-15	28-Apr-16	0	Bridge D01 Bridge D01 Bridge 14 nos
BRD-2120 Bridge D01 Abutment AA301	Temporary Pling Platform	45	19-Mar-16	16-May-16	19-Mar-16	10-May-16	0	Bridge DU i Abutinent A ASU i 4emporary Plang Platom
BRD-2150 Bridge D01 Bored Piling Abut	nent AA301 - 4 hbs	48	17-May-16	13-Jul-16	17-May-16	13-Jul-10	0	Brage Dui Boka Ping Abumen AASUL - A tos
BRD-2160 Bridge D02 Bored Piling - 29	nos	140	27-Nov-15	23-May-16	27-INOV-15	23-May-16	0	bridge DU2 Bored rying - 29 foo
BRD-2250 Bridge D03 Bored Piling - 25	nos	82	11-May-16	17-Aug-16	11-May-16	1 /-Aug-16	0	Brage Dus borer ring - 25 nos
BRD-2300 Bridge D04 Bored Piling - 23	nos	82	18-Aug-16	23-NOV-10	18-Aug-16	23-NOV-10	0	bridge DV4 Bored Fully 2 5 too
BRD-2750 Bridge D05 - Bored Piling - 18 BRD 2800 Bridge D06 Bored Biling - 17	s nos	72	19-Oct-16	10-Jan-17	19-0ct-16	10-Jan-17	0	Bridge DUS - Border Primer 18 mos
BRD-2850 Bridge D07 Bored Piling 20	105	112	23-Jui-10	22 bil 16	23-Jul-10	22 Jul 16	0	Dirige Duo - Dirige Duo - Dirige 1/ ins
BRD-2850 Bridge D07 - Bored Filing Fis	rs 24 pos	112	21 Oct 15	25-Jui-16	21 Oct 15	25-Jui-10	0	Dridge Dury David Pring - 30 mp
PRD 2980 Bridge D08 Bored Piling Ab	tment AA344_10 ms	02	28 Dec 15	25 Apr 16	28 Dec 15	25 Apr 16	0	Didg Doe - Port ining 1 (15 - 27 (16)
BRD-2980 Bridge Dos - Bored Timig Add	ankii AA344 - 10 ibs	92	28-Dec-15	25-Api-10	28-Dec-15	2.5-Api-10	· · · ·	Didgi Dio - Diddi Ting Adanyii Artsin- To Da
14.3 - Plie Caps					10.37 10	40 70 1 4 6		
BRD-2991 Temp Work Design Submit/No.	A dverse Comment - Brid ge D Pier Pileca p	90	17-Oct-15	14-Jan-16	13-Nov-15	10-Feb-16	27	Temp/Work Design Submt/No A dverse Comment - Britige D Piet Pilecap
BRD-2992 Temp Work Design Submit/No.	A dverse Comment - Brid ge D Abutment Pilecap	90	01-Dec-15	28-Feb-16	08-May-16	05-Aug-16	159	lemp Work Design Submit/No/Adverse Comment - Bridge D Abutment Piliccap
BRD-3010 Bridge D01 Pier Pilecap/Footin	ig - 11 nos	60	22-Apr-16	04-Jul-16	22-Apr-16	04-Jul-16	0	Bridge DUI Pier/PiecapiPooting - 14 nos
BRD-3020 Bridge D01 Pliecap/Fooling At	ilinear 20 min	48	28-Jui-16	22-Sep-16	28-JUI-10	22-Sep-10	0	Bridge by 1 Piccep roomg Advisition (AASU + ELS
BRD-3030 Bridge D02 Pier + Abutment P DRD 2200 Bridge D02 Pier + Abutment P	ilecap - 20 nos	72	22 bil 16	03-Aug-16	22 Jul 16	03-Aug-16	0	Bridge DU2 Pier + Abulinem r Jickep - 20 los
BRD-3200 Bridge D03 Fiel + Abulifient F	necap - 20 nos	60	23-Jul-10	30 Dec 16	23-Jul-10	20 Dec 16	0	Bruge Do Friet + Adunteen Friedp - 20 ms
BRD-3350 Bridge D05 Pier Pilecop 12 :	105	54	22-Oct-10	08 Mar 17	22=001=10 28 Dec 16	08 Mar 17	0	Dirige Door Let in carp or nos
BRD-3350 Bridge D05 Fiel Filecap - 12 F	105	60	05 Oct 16	13 Dec 16	25-Det-10	12 Dec 16	0	Druge Door net incoder 12 ins
BRD-3400 Bridge D00 Fiel Filecap - 12 F	Pilecan - 19 nos	72	28-Jun-16	21-Sep-16	28-Jun-16	21-Sep-16	0	pringer Dyo'r ac'r pringer 14 ince
BRD-3750 Bridge D08 - Pier + Abutment	Pilecan - 18 nos	90	08-Mar-16	27-Jun-16	08-Mar-16	27-Jun-16	0	Bridge D08 - Pier + Abutment Piercen - 18 nos
BRD-3789 Bridge D08 - Abutment A 434	4/Demessed Road FLS	42	13-Jul-16	30-Aug-16	13-Jul-16	30-Aug-16	0	Bridge Pool A humbert A 6344/Dorresed Road FLS
BRD-3790 Bridge D08 - Pilecan Abutmen	t A A 344	30	31-Aug-16	06-Oct-16	31-Aug-16	06-Oct-16	0	Bridge D08 - Pilecan Abutment AA344
14 4 - Piers and A butments		50	51 <u>6</u> -10	00 00-10	51 Hug-10	00 00-10	· · · ·	
DD 2001 Tame Work David Schwitz	A dra sea Commant - Brid as D Bias Colucto	00	29 Nov 15	25 Eab 16	25 Dec 15	22 Mag 16	27	Burn Well Design Otheric Matters Comment Deil on D Big Column
DED 2002 Tome Work Design Submit/No.	A diverse Comment - Bridge D Alexteret W-1	90	28-INOV-15	20-Feb-16	25-Dec-15	2.5-Mar-16	150	Temp Work Design Submit/NoA droges Comment - Bridge D Pier Commin
Iemp Work Design Submit/No.	Auverse Comment - Bridge D'Abutment Wall	90	01-Dec-15	28-reb-16	08-1v1ay-16	05-Aug-16	139	temp work Design Submitrio/Adverse comment - Bridge 19 Abutment Wall
	Milectors							Detail Works Programme
-	Critical Activity							Lavout : LT6DWPB1 Date Revision Checked Approved
				Detai	Works	Progr	amm	Page 26 of 37 13-Apr-16 Revision B1
	Remaining Level of Ff	fort		Dotal		, i togi	-	
CRBC-CEC-KADEN Joint	/enture Actual Work			Data D	Jate: 24-Jun-15		Run	/ Uate: 14-Apr-10
			1					



#### Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

AE	COM.	Liantang / Heun	g Yue	n Wai Boı	undary Co	ntrol Poir	nt Site Fo	ormatic	tion and Infrastructure Works - CONTRACT 6
Activity ID	ActivityName		Orig	Start	Finish	Late Start	Late Finish	Total 20	
			Dur					Float -1	<b>J J J J J J J J J J</b>
BRD-4010	Bridge D01 - Pier/Column -	15 nos	54	21-May-16	25-Jul-16	21-May-16	25-Jul-16	0	Bridge D01 - Pier/Column - 15 nos
BRD-4020	Bridge D01 - Abutment AA3	301	48	23-Sep-16	18-Nov-16	23-Sep-16	18-Nov-16	0	Bridge D01 - Abutment AA30 I
BRD-4030	Bridge D02 - Pier/Column -	20 nos	72	07-Jun-16	31-Aug-16	07-Jun-16	31-Aug-16	0	Bridge D02 - Pier/Column - 20 nos
BRD-4040	Bridge D02 - Abutment AA4	08N/408S	54	04-Aug-16	07-Oct-16	06-Aug-16	10-Oct-16	2	Bridge D02 - Apliment Ap408 N 498 S
BRD-4200	Bridge D03 - Fler 18 llos	111N//112S	54	20-Aug-10	14-Nov-10	20-Aug-10	26 Dec 16	6	Dirige DOS - Friet To June
BRD-4300	Bridge D03 - Abuthent AA	1110/4155	60	19-Nov-16	27-Jan-17	19-Nov-16	20-Dec-10	0	Bridge 100 - Nopins Are Inter 15
BRD-4350	Bridge D05 - Pier 16 nos		60	25-Jan-17	13-Apr-17	25-Jan-17	13-Apr-17	0	Bridge D05 - Pier 16 nos
BRD-4450	Bridge D06 - Pier 14 nos		60	02-Nov-16	10-Jan-17	02-Nov-16	10-Jan-17	0	Bridge D06 - Pier 14 nos
BRD-4650	Bridge D07 - Pier/Column 2	1 nos	72	27-Jul-16	20-Oct-16	27-Jul-16	20-Oct-16	0	Bridge D07 - Pier/Columin 21 nos
BRD-4700	Bridge D07 - Abutment AA4	423S/426N	60	24-Sep-16	03-Dec-16	24-Sep-16	03-Dec-16	0	Bridge D07 - Abutment AA423S426N
BRD-4750	Bridge D08 - Pier/Column 1	8 nos	72	16-Apr-16	12-Jul-16	16-Apr-16	12-Jul-16	0	Bridge D08 - Pier/Column 18 nos
BRD-4800	Bridge D08 - Abutment AA4	132N/AA432S	44	28-Jun-16	18-Aug-16	28-Jun-16	18-Aug-16	0	Bridge D08;- Abutmeht AA43 2/V AA43 2/S
BRD-4850	Bridge D08 - Abutment AA3	44	42	07-Oct-16	24-Nov-16	07-Oct-16	24-Nov-16	0	Bridge D08 - Abutment AA34
14.5 - Brid	lge D - Deck								
- Pier Segm	ent and Portal								
BRD-4991	Temp Work Design Submit/N	lo A dverse Comment - Bridge D Pier Head Seg	90	12-Jan-16	10-Apr-16	08-Feb-16	07-May-16	27	Temp Work Design Submit/No Adverse Comment - Bridge D Pier Head Seg
BRD-4992	Temp Work Fabrication - Br	idge D Pier Head Segment	54	24-Mar-16	16-May-16	20-Apr-16	12-Jun-16	27	Tear Work Fabrication - Bridge D Pier Head Segnent
BRD-5010	Bridge D01 Cast-in-situ Pier	Head Segment - 5 nos	48	13-Jun-16	08-Aug-16	13-Jun-16	08-Aug-16	0	Bridge D01 Cast-in-situ Pier Hehd Segment - 5 nos
BRD-5020	Bridge D01 Precast Pier He	ad Segment - 11 nos	54	12-Jul-16	12-Sep-16	12-Jul-16	12-Sep-16	0	Bridge D01 Precast Pier Head Segment - 11 nos
BRD-5030	Bridge D02 Precast Pier He	ad Segment - 24 nos	72	18-Aug-16	11-Nov-16	18-Aug-16	11-Nov-16	0	Bridge D02 Precast Pier Head Segment - 24 nos
BRD-5040	Bridge D03 Precast Pier He	ad Segment - 22 nos	72	01-Nov-16	23-Jan-17	01-Nov-16	23-Jan-17	0	Bridge D03 Precast Pier Head Segment - 22 nos
BRD-5050	Bridge D04 Cast-in-situ Pier	Head Segment AP317N/318N/AP319N	50	31-Dec-16	07-Mar-17	31-Dec-16	07-Mar-17	0	Bridge D04 Cast-in-situ Pier Head Segment AP317N/318N/AP319N
BRD-5060	Bridge D04 Precast Pier He	ad Segment 12 nos	60	21-Jan-17	10-Apr-17	21-Jan-17	10-Apr-17	0	Bridge D04 Prepast Pier Head Segment 12 nps
BRD-5160	Bridge D05 Precast Pier He	ad Segment 14 nos	60	07-Apr-17	22-Jun-17	07-Apr-17	22-Jun-17	0	Bridge D05 Precast Pier Head Segment 14 nos
BRD-5180	Bridge D06 Erect Pier Head	1 Segment 14 nos	60	28-Dec-16	15-Mar-17	28-Dec-16	15-Mar-17	0	Bridge DD6 Erect Prer Head Segment 14 nos
BRD-5200	Bridge D07 Precast Pier He Dridge D08 Precast Pier He	ad Segment - 21 nos	78	14 Jun 16	22-Dec-16	16 Jun 16	15 Sep 16	2	Bridge DU/ Precisi Pre- Hard Segment - 21 ngs
BRD-3220 BRD-7880	Bridge D08 Cast_in_situ Pier	Head Segment AP433S	54	06-Jun-16	09-Aug-16	06-Jun-16	09-Aug-16	2	Diringe Doo recessi reci rical segurica - 10 ins
- Segment H	Fraction	near Segnen m 4555	54	00-541-10	07-Hug-10	00-541-10	09-Hug-10		
BRD-5301	Temp Work Design Submit/N	In A diverse Comment - Bridge D Segment Frection	120	12-Jan-16	10-May-16	12-Mar-16	09-Jul-16	60	Teine Work Design Submit/No.4 diverse Comment - Bridge D Segment Resettion
BRD-5302	Temp Work Fabrication - Bri	idge D Segment Erection	54	17-Apr-16	09-Jun-16	16-Jun-16	08-Aug-16	60	Term Weik Fabrication - Bridge D Segment Frediton
BRD-5303	Method Statement - Bridge I	D Segment Handling and Erection	120	12-Jan-16	10-May-16	11-Apr-16	08-Aug-16	90	Method Statement - Bridge D Segment Handling and Erection
BRD-5304	Bridge D01 - Segment Erect	tion - AA301-AP304 - 222 nos.	72	09-Aug-16	02-Nov-16	09-Aug-16	02-Nov-16	0	Bridge D01 - Segment Erection - AA301-AP304 - 222 nos.
BRD-5305	Bridge D02 - Segment Erect	tion - AP305-AP310 - 326 nos.	78	11-Oct-16	09-Jan-17	11-Oct-16	09-Jan-17	0	Bridge D02 - Segment Erection - AP305-AP310 - 326 nos.
BRD-5306	Bridge D03 - Segment Erect	tion - AP311-AP316 - 328 nos.	78	20-Dec-16	28-Mar-17	20-Dec-16	28-Mar-17	0	Bridge D03 - Segment Ercetion - AP311-AP316 - 328 hos.
BRD-5307	Bridge D04 - Segment Erect	tion - AP317-AP320 - 249 nos.	72	08-Mar-17	07-Jun-17	08-Mar-17	07-Jun-17	0	Bridge D04 - Segment Erection - AP3 17-AP320 - 249 nos.
BRD-5308	Bridge D05 - Segment Erect	tion - AP321-AP326 - 220 nos.	64	18-May-17	02-Aug-17	18-May-17	02-Aug-17	0	Bridge D05 - Segment Erection - AP321-AP326 - 220 nos.
BRD-5383	Bridge D01 - Segment Erect	tion - AA301 End-Span - 19 nos	30	14-Jan-17	25-Feb-17	14-Jan-17	25-Feb-17	0	Bridge D01 - Segment Erection - AA301 End-Span - 19 nos
BRD-5384	Bridge D01 - Segment Erect	tion SR (A301N to P404N + A408N)	18	20-Jun-17	11-Jul-17	20-Jun-17	11-Jul-17	0	Bridge D01 - Segment Exection SR (A301N to P404N+ A408N)
BRD-5385	Bridge D01 - Segment Erect	tion SR (A301S/P302S/A408S)	12	12-Jul-17	25-Jul-17	12-Jul-17	25-Jul-17	0	■ Bridge D01 - \$egment Erection SR (A301\$/P302\$/A408\$)
BRD-5386	Bridge D03 - Segment Erect	tion SR N/B (P413N/P414N/P415N)	12	26-Jul-17	08-Aug-17	26-Jul-17	08-Aug-17	0	■ Bridge D03 - Segment:Erection \$R N/B (P413N/P414N/P415N)
BRD-5387	Bridge D04 - Segment Erect	tion SR N/B (P317N-L to P319N-L)	12	09-Aug-17	22-Aug-17	09-Aug-17	22-Aug-17	0	Bridge D04 - Segment Erection SR N/B (P317N-L) to P319N-L)
BKD-5388	Bridge D03 - Segment Erect	tion SK S/B (A413S to P415S)	12	23-Aug-17	05-Sep-17	23-Aug-17	05-Sep-17	0	Bridge D03 - Segment Erection SR S/B (A413S to P415S)
BKD-5389	Bridge D04 - Segment Erect	tion SK 5/B (r4105 to P4185)	12	16 Mar 17	19-Sep-17	16 Mor 17	19-Sep-17	0	Bridge LJU4 - Segment Erection SK S/B (P416S) to P418S)
BRD-5440	Bridge D07 - Segment Erect	tion - A P333-A P338 - 314 nos	90	05-Dec-16	19-Jun-1/ 27-Mar-17	05-Dec-16	19-Jull-17	0	Bridge D00 - Segnent Erection - AP32/-AP329 214 4xe
BRD-5460	Bridge D08 - Segment Erect	tion - AP339-AA344 - 273 no	108	19-Aug-16	24-Dec-16	19-Aug-16	24-Dec-16	0	Bridge D08 - Segment Fraction - AP330-AA344 - 273 nos
- Stressing	Brarge Doo - Segment Efect		100	19-11ug=10	24-000-10	19-110	24-100-10		ынде рос - седини Енеции - лт 397 лл 394 - 273 для.
- stressing									
	di.	◆ ◆ Milestone							Project ID :LT6-DWPB1 Detail works Programme Date Revision Checked Approved
RB 中國		Critical Activity			Dotai	Worko	Drogra	amma	Layout : LT6DWPB1 Crevision Crevisio Crevisio Crevision Crevision Crevision Crevision Crevision
CR		Non-Critical Activity	t		Deidi	WUIKS	rivyla		
CRBC-C	EC-KADEN Joint	E Venture Actual Work	uit		Data D	ate: 24-Jun-15		Run D	in Date: 14-Apr-16

vity ID	ActivityName	Oria	Start	Finish	Late Start	Late Finish	Total	2015		201 <mark>6</mark>	2017	20	J18	2019
í.		Dur					Float -	J A S O N D J F 1 1 2 3 4 5 6 7 8	F M A M 8 9 10 11 1	J J A S O N D 12 13 14 15 16 17 18	J F M A M J J A S O N D J F 19 2 21 22 23 24 25 26 27 28 29 30 31 3	M A M J 33 34 35 36	J A S O N D J 37 38 39 40 41 42 43	F M A M J 3 4 45 46 47 48
BRD-5480	Bridge D01 Main Bridge Final Stressing - 2 nos	24	27-Feb-17	25-Mar-17	27-Feb-17	25-Mar-17	0				Bridge D01 Main Bridge Final Str	essing - 2 no	ış	
BRD-5490	Bridge D01 SR N/B Final Stressing	12	12-Jul-17	25-Jul-17	12-Jul-17	25-Jul-17	0				Bridge D01 SR N/B	Final Stressir	ıg	
BRD-5495	Bridge D01 SR S/B Final Stressing	12	26-Jul-17	08-Aug-17	26-Jul-17	08-Aug-17	0				Bridge D01 \$R S/B	Final Stressi	ung	
BRD-5500	Bridge D02 Main Bridge Final Stressing - 2 nos	24	27-Mar-17	27-Apr-17	27-Mar-17	27-Apr-17	0				📕 Bridge D02 Main Bridge Fina	Stressing - 2	nos	
BRD-5520	Bridge D03 Main Bridge Final Stressing - 2 nos	24	28-Apr-17	27-May-17	26-Jul-17	22-Aug-17	72				Bridge D03 Main Bridge F	nal Stressing	- 2 nos	
BRD-5525	Bridge D03 SR N/B Final Stressing	12	09-Aug-17	22-Aug-17	23-Aug-17	05-Sep-17	12				Btidge D03 SR N	B Final Stree	ssing	
BRD-5530	Bridge D03 SR S/B Final Stressing	12	06-Sep-17	19-Sep-17	20-Sep-17	03-Oct-17	12				Bridge D03 SF	. S/B Final St	ressing	
BRD-5540	Bridge D04 Main Bridge Final Stressing - 2 nos	24	08-Jun-17	06-Jul-17	06-Sep-17	03-Oct-17	76				Bridge D04 Main Brid	ge Final Stre	ssing - 2 nos	
BRD-5545	Bridge D04 SR N/B Final Stressing	12	23-Aug-17	05-Sep-17	20-Sep-17	03-Oct-17	24				Bridge D04 SR	N/B Final Str	essing	
BRD-5550	Bridge D04 SR S/B Final Stressing	12	20-Sep-17	03-Oct-17	20-Sep-17	03-Oct-17	0				Bridge D04 S	R \$/B Final	Stressing	
BRD-5560	Bridge D05 Main Bridge Final Stressing - 2 nos	24	03-Aug-17	30-Aug-17	23-Sep-17	21-Oct-17	44				Bridge D05 Main	I Bridge Fina	1 Stressing - 2 nos	
BRD-5580	Bridge D06 Main Bridge Final Stressing - 2 nos	24	20-Jun-17	18-Jul-17	20-Jul-17	16-Aug-17	25				Bridge D06 Main Bri	1ge Final Str	essing - 2 nos	
BRD-5600	Bridge D07 Main Bridge Final Stressing - 2 nos	24	28-Mar-17	28-Apr-17	22-Apr-17	22-May-17	18				Bridge D07 Main Bridge Fina	Stressing - 2	nos	
BRD-5700	Bridge D08 Main Bridge Final Stressing - 2 nos	24	26-Dec-16	21-Jan-17	26-Dec-16	21-Jan-17	0				Bridge D08 Main Bridge Final Stressing	- 2 nos	<u> </u>	
- Longitudi	nal Stich													
BRD-5720	Bridge D01 Longitudinal Stitch	36	26-Jul-17	05-Sep-17	26-Jul-17	05-Sep-17	0				Bridge D01 Lon	gitudinal Stit	èh i	
BRD-5730	Bridge D04 Longitudinal Stitch	30	04-Oct-17	09-Nov-17	04-Oct-17	09-Nov-17	0				📕 Bridge D	)4 Longitudir	al Stitch	
BRD-5750	Bridge D07 Longitudinal Stitch	42	29-Apr-17	20-Jun-17	23-May-17	12-Jul-17	18				Bridge D07 Longitudinal	Stitch	<u>.</u>	
BRD-5760	Bridge D08 Longitudinal Stitch	36	23-Jan-17	13-Mar-17	23-Jan-17	13-Mar-17	0				Bridge D08 Longitudinal Stitch			
- Parapet														
BRD-5771	Temp Work Design Submit/No A dverse Comment - Brid ge D Parapet	120	27-Mar-16	24-Jul-16	20-Aug-16	17-Dec-16	146			Temp Work De	sign Submit/No A dverse Comment - Brid ge D	Parapet		
BRD-5772	Temp Work Fabrication - Bridge D Parapet	60	01-Jul-16	29-Aug-16	24-Nov-16	22-Jan-17	146			Temp Work	Fabrication - Bridge D Parapet			
BRD-5780	Bridge D01 Parapet - 276m (Main Bridge)	24	27-Mar-17	27-Apr-17	27-Mar-17	27-Apr-17	0				Bridge D01 Parapet - 276m (1	Aain Bridge)		
BRD-5785	Bridge D01 Parapet - 432m (Slip Road)	24	26-Jul-17	22-Aug-17	26-Jul-17	22-Aug-17	0				Bridge D01 Parap	et - 432m (S	lip Road)	
BRD-5800	Bridge D02 Parapet - 1716m	72	28-Apr-17	25-Jul-17	28-Apr-17	25-Jul-17	0				Bridge D02 Parapet	1716m		
BRD-5820	Bridge D03 Parapet - 1500m	66	23-Aug-17	09-Nov-17	23-Aug-17	09-Nov-17	0				Bridge D	)3 Parapet -	1500m	
BRD-5840	Bridge D04 Parapet - 816m	40	10-Nov-17	27-Dec-17	10-Nov-17	27-Dec-17	0				Brid	ge D04 Para	pet - 816m	
BRD-5860	Bridge D05 Parapet - 912m	55	23-Oct-17	27-Dec-17	23-Oct-17	27-Dec-17	0				Brid	ge D05 Para	pet - 912m	
BRD-5880	Bridge D06 Parapet - 912m	56	17-Aug-17	21-Oct-17	17-Aug-17	21-Oct-17	0				Bridge D06	Parapet - 91	2m	
BRD-5900	Bridge D07 Parapet - 948m	72	23-May-17	16-Aug-17	23-May-17	16-Aug-17	0				Bridge D07 Parap	:t - 948m		
BRD-5990	Bridge D08 Parapet - 1140m	90	23-Jan-17	22-May-17	23-Jan-17	22-May-17	0				Bridge D08 Parapet 1140	n		
14.6 - Roa	d Furnitures, Signs and Paving													
BRD-6010	Bridge D01 N/B & S/B - Road Furnitures / Utilities / Traffic Signs	75	28-Dec-17	06-Apr-18	28-Dec-17	06-Apr-18	0					📕 Bridge	D01 N/B & S/B - Roe	ad Furnitures / U
BRD-6020	Bridge D01 N/B & S/B - Paving & Road Marking	30	01-Jun-18	06-Jul-18	01-Jun-18	06-Jul-18	0					-	Bridge D01 N/B &	S/B - Paving &
BRD-6030	Bridge D02 N/B & S/B - Road Furnitures / Utilities / Traffic Signs	75	27-Feb-18	31-May-18	27-Feb-18	31-May-18	0					F	Bridge D02 N/B & S/P	3 - Road Furnitur
BRD-6040	Bridge D02 N/B & S/B - Paving & Road Marking	30	07-Jul-18	10-Aug-18	07-Jul-18	10-Aug-18	0						Bridge D02 N/!	B & S/B - Paving
BRD-6050	Bridge D03 N/B & S/B - Road Furnitures / Utilities / Traffic Signs	75	25-Apr-18	24-Jul-18	25-Apr-18	24-Jul-18	0						Bridge D03 N/B	& S/B - Road Fu
BRD-6060	Bridge D03 N/B & S/B - Paving & Road Marking	30	11-Aug-18	14-Sep-18	11-Aug-18	14-Sep-18	0						Bridge D03	N/B & S/B - Pa
BRD-6070	Bridge D04 N/B & S/B - Road Furnitures / Utilities / Traffic Signs	75	20-Jun-18	14-Sep-18	20-Jun-18	14-Sep-18	0					F	Bridge D04	N/B & S/B - R
BRD-6080	Bridge D04 N/B & S/B - Paving & Road Marking	30	15-Sep-18	23-Oct-18	15-Sep-18	23-Oct-18	0						Bridge	D04 N/B & S/B
BRD-6090	Bridge D05 N/B & S/B - Road Furnitures / Utilities / Traffic Signs	75	20-Jun-18	14-Sep-18	20-Jun-18	14-Sep-18	0						Bridge D05	N/B & S/B - R
BRD-6100	Bridge D05 N/B & S/B - Paving & Road Marking	30	15-Sep-18	23-Oct-18	15-Sep-18	23-Oct-18	0						Bridge	D05 N/B & S/B
BRD-6110	Bridge D06 N/B & S/B - Road Furnitures / Utilities / Traffic Signs	75	25-Apr-18	24-Jul-18	25-Apr-18	24-Jul-18	0						Bridge D06 N/B	& S/B - Road Fu
BRD-6120	Bridge D06 N/B & S/B - Paving & Road Marking	30	11-Aug-18	14-Sep-18	11-Aug-18	14-Sep-18	0						Bridge D06	) N/B & S/B - Pa
BRD-6130	Bridge D07 N/B & S/B - Road Furnitures / Utilities / Traffic Signs	75	27-Feb-18	31-May-18	27-Feb-18	31-May-18	0					F	sridge D07 N/B & S/B	s - Road Furnitur
BRD-6140	Bridge D07 N/B & S/B - Paving & Road Marking	30	07-Jul-18	10-Aug-18	07-Jul-18	10-Aug-18	0						Bridge D07 N/I	B & S/B - Paving
BRD-6150	Bridge D08 N/B & S/B - Road Furnitures / Utilities / Traffic Signs	75	28-Dec-17	06-Apr-18	28-Dec-17	06-Apr-18	0					Bridge	D08 N/B & S/B - Ros	ad Furnitures / U
BRD-6160	Bridge D08 N/B & S/B - Paving & Road Marking	30	01-Jun-18	06-Jul-18	01-Jun-18	06-Jul-18	0					-	Bridge D08 N/B &	S/B - Paving &
14.7 - Slip	Roads & Link Roads													
1								<u>n i i</u>				Detail Wo	orks Programme	
									1	FIOJECT ID :L16-DWF	Date	Revis	ion Check	ked Approved
		,		Detai	l Works		amm	e Rev R1	F F	Page 28 of 37	13-Apr-16 Rev	ision B1		
- UK	Transit of Extension, Sections	Effort		Dotal		, i i ogi	-		1					
CRBC-C	EC-KADEN Joint Venture			Data D	vate: 24-Jun-15		Run	Date: 14-Apr-16						

Act

AE	COM <sup>*</sup> Liantang /	Heung Yue	n Wai Bo	undary Co	ntrol Poi	nt Site Fo	ormati	on and Infrastruct	ure Works - CONTRACT 6		CE	DD
ctivity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	2015 J J A S O N D J F M /				2019 N D J F M A M
- Slin Road	P1							1 1 2 3 4 5 6 7 8 9 1	0 11 12 13 14 15 16 17 18 19 2 21 22 23 24 25 4	6 27 28 29 30 31 31	33 34 35 36 37 38 39 40	41 42 43 4 45 46 47 4
BRD-7000	SRP1 RW-D102 Excavation	12	10-Nov-17	23-Nov-17	02-Mar-18	15-Mar-18	88		······	SRP1 RV	V-D102 Excavation	
BRD-7020	SRP1 RW-D102 Base Slab 6 bays	48	24-Nov-17	20-Jan-18	16-Mar-18	16-May-18	88			SR SR	Pl RW-D1 02 Base Slab 6	bays
BRD-7040	SRP1 RW-D1 02 Side Wall 6 bays	48	22-Dec-17	24-Feb-18	18-Apr-18	14-Jun-18	88				SRP1 RW-D102 Side W	all 6 bays
BRD-7060	SRP1 RW-D102 Side Backfill/Road Formation	24	26-Feb-18	24-Mar-18	15-Jun-18	13-Jul-18	88				SRP1 RW-D102 Side	Backfill/Road Formati
BRD-7080	SRP1 Fill Slope WKS/F17 and WKS/F18	36	26-Feb-18	12-Apr-18	15-Jun-18	27-Jul-18	88				SRP1 Fill Slope Wk	S/F17 and WKS/F18
BRD-7100	SRP1 RW-D102 Parapet 12 bays	24	26-Mar-18	26-Apr-18	14-Jul-18	10-Aug-18	88				SRP1 RW-D1 02 H	Parapet 12 bays
BRD-7120	SRP1 Road Furnitures & Utilities	60	27-Apr-18	09-Jul-18	11-Aug-18	23-Oct-18	88				SRP1 Roa	d Furnitures & Utilities
BRD-7130	SRP1 Road Paving & Marking	60	27-Apr-18	09-Jul-18	11-Aug-18	23-Oct-18	88				SRP1 Roa	d Paving & Marking
- Slip Road	P2											
BRD-7140	SRP2 RW-D101 Excavation	12	24-Nov-17	07-Dec-17	09-Feb-18	01-Mar-18	64	·		SRP2 F	W-D101 Excavation	
BRD-7160	SRP2 RW-D101 Base Slab8 bays	48	08-Dec-17	03-Feb-18	02-Mar-18	02-May-18	64				RP2 RW-D101 Base \$lab	8 bays
BRD-7180	SRP2 RW-D101 Side Wall 8 bays	48	22-Jan-18	24-Mar-18	18-Apr-18	14-Jun-18	64				SRP2 RW-D101 Side	Wall 8 bays
BRD-7200	SRP2 RW-D101 Side Backfill/Road Formation	24	26-Mar-18	26-Apr-18	15-Jun-18	13-Jul-18	64	·····			SRP2 RW-D101 S	ide Backfil/Road Forn
BRD-7220	SRP2 RW-D101 Parapet 16 bays	24	27-Apr-18	26-May-18	14-Jul-18	10-Aug-18	64				SRP2 RW-D10	1 Parapet 16 bays
BRD-7240	SRP2 Road Furnitures & Utilities	60	28-May-18	06-Aug-18	11-Aug-18	23-Oct-18	64				SRP2 F	load Furnitures & Utilit
BRD-7250	SRP2 Road Paving & Marking	60	28-May-18	06-Aug-18	11-Aug-18	23-Oct-18	64				SRP2 F	oad Paving & Marking
- Slin Road	P3			U	0							
BRD-7260	SRP3 RW-D1 03 Excavation	12	08-Dec-17	21-Dec-17	18-Apr-18	02-May-18	100			SRP3	RW-D103 Excavation	
BRD-7280	SRP3 RW-D103 Base Slab	18	22-Dec-17	13-Jan-18	03-May-18	24-May-18	100				P3 RW-D1 03 Base Slab	
BRD-7300	SRP3 RW-D103 Side Wall	30	15-Jan-18	24-Feb-18	25-May-18	2.9-Jun-18	100				SRP3 RW-D103 Side W	
BRD-7320	SRP3 RW-D103 Side Backfil/Road Formation	18	26-Feb-18	17-Mar-18	30-Jun-18	20-Jul-18	100	······			SRP3 RW-D103 Side	Backfill/Road Formatic
BRD-7320	SRP3 RW-D103 Paranet	18	19-Mar-18	12-Apr-18	21-Jul-18	10-Aug-18	100				SRP3 RW-D103 Pa	ranet
BRD-7340	SRP3 Road Paving & Marking	60	13-Apr-18	25-Jun-18	11-Aug-18	23-Oct-18	100	·····			SRP3 Road	Pavine & Marking
Slip Bood	D4	00	15-7401-10	25-541-10	11-71ug-10	25-001-10	100	· · · · · · · · · · · · · · · · · · ·				
- Shp Roau	SDD4 DW D104 Execution	12	22 Dec 17	06 Jan 18	00 Mar 18	22 Mag 19	50	·····		CDD	4 DW D104 Emountion	
BRD-7300	SDD4 DW D104 Dece Sleb 5 here	12	22-Dec-17	00-Jali-18	09-Ivial-18	22-IVIAI-10	50	·····			CDD4 DW D104 D Cl	-h 6 Marca
BRD-7380	SRP4 RW-DI 04 Base Stab 5 bays	30	08-Jan-18	24-Feb-18	25-Mar-18	14 has 19		·····			SKP4 RW-DI 04 Base SI	a Do Days
BRD-7400	SRP4 RW-DI 04 Side Wall 5 bays	42	05-Feb-18	04-Apr-18	25-Apr-18	14-Jun-18	28	·····			SKP4 RW-DI 04 Sid	e wait 5 days
BRD-7420	SRP4 RW-DI 04 Side Backi il/Road Formation	24	06-Apr-18	04-May-18	15-Jun-18	10 Aug 10	28	·····			SKF4 KW-DI04	Side Backrill Road For
BRD-7440	SRF4 Rw-D104 rataget 10 bays	24	03-Way-18	12 Aug 18	14-Jul-10	10-Aug-18	50	· · · · · · · · · · · · · · · · · · ·			SKF4 KW-DI	Dead Examination of the Litility
BRD-7400	SRF4 Road Paring & Marking	60	04-Juii-18	13-Aug-18	11-Aug-10	23-Oct-18	50	·····			SNF4	Road Paring & Marking
BRD-/4/0	SRP4 Road Paving & Marking	00	04-Jun-18	13-Aug-18	11-Aug-18	23-Oct-18	58	······			SRP4	Road Paving & Marking
- Slip Road								ļļļļļ.				
BRD-7480	SRL1 RW-D106 Pre-bored H-pile (6 nos)	18	05-Dec-16	24-Dec-16	10-Dec-16	30-Dec-16	5	· · · · · · · · · · · · · · · · · · ·	SRL1 RW-D106 Pre-	ored H-pile (6 nos)		
BRD-7490	Abandone Existing Watermain at old Lin Ma Hang Road	18	05-Dec-16	24-Dec-16	10-Dec-16	30-Dec-16	5	·····	Abandone Existing Wa	termain at old Lin Ma	Hång Road	
BRD-7500	SRL1 RW-D106 Excavation	18	26-Dec-16	14-Jan-17	31-Dec-16	20-Jan-17	5		SRL1; RW-D106 Ex	c avation		
BRD-7520	SRL1 RW-D106 Base Slab 9 bays	42	16-Jan-17	13-Mar-17	21-Jan-17	18-Mar-17	5		SRL1 RW-D1	06 Base Slab 9 bays		
BRD-7540	SRL1 RW-D106 Side Wal19 bays	48	14-Feb-17	11-Apr-17	20-Feb-17	20-Apr-17	5	· · · · · · · · · · · · · · · · · · ·	SRL1 RW-	D106 Side Wall 9 bay	's	
BRD-7560	SRL1 RW-D106 Side Backfill/Road Formation	18	12-Apr-17	08-May-17	21-Apr-17	13-May-17	5		SRL1 R	W-D106 Side Backfil	I/Road Formation	
BRD-7580	SRL1 RW-D106 Parapet	18	12-Apr-17	08-May-17	21-Apr-17	13-May-17	5	ļļļļ	SRL1 R	W-D106 Parapet		
- Slip Road	L2											
BRD-7620	SRL2 RW-D105 Excavation	24	05-Dec-16	31-Dec-16	10-Dec-16	06-Jan-17	5	<u> </u>	SRL2 RW-D105 Exc	avatiqn		
BRD-7640	SRL2 RW-D105 Base Slab 7 bays	30	26-Dec-16	06-Feb-17	31-Dec-16	11-Feb-17	5		SRL2 RW-D105	Base Slab 7 bays		
BRD-7660	SRL2 RW-D105 Side Wall 7 bays	42	16-Jan-17	13-Mar-17	21-Jan-17	18-Mar-17	5		SRL2 RW-D1	05 Side Wall 7 bays		
BRD-7680	SRL2 RW-D105 Side Backfill/Road Formation	24	14-Mar-17	11-Apr-17	20-Mar-17	20-Apr-17	5		SRL2 RW-	D105 Side Backfill/R	oad Formation	
BRD-7700	SRL2 RW-D105 Parapet 14 bays	24	14-Mar-17	11-Apr-17	20-Mar-17	20-Apr-17	5		SRL2 RW-	D105 Parapet 14 bays	3	
BRD-7720	SRL2 Road Furnitures & Utilities	18	12-Apr-17	08-May-17	21-Apr-17	13-May-17	5		SRL2 R	oad Furnitures & Utili	tie\$	
BRD-7860	SRL2 Road Paving & Marking	18	12-Apr-17	08-May-17	21-Apr-17	13-May-17	5		SRL2 R	oad Paving & Marking	5	
	Milestone								Project ID :LT6-DWPB1		Detail Works Program	nme
<b>小</b> 中國部	各核 States Critical Acti	ivity				_			Layout : LT6DWPB1	Date	Revision	Checked Approve
CRI	C CONTINENTAL Kaden T Non-Critical	Activity		Detai	l Works	s Proara	amm	e Rev. B1	Page 29 of 37	13-Apr-16 Revi	sion B1	
CRBC-C		Level of Effort		Data D	ate: 24-Jun-15	0	Run	Date: 14-Apr-16				

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#### Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

AECOM <sup>*</sup> Liantang / Heun	g Yue	n Wai Bou	undary Co	ntrol Poi	nt Site Fo	ormati	on and Ir	nfrast	ructu	re Wo	orks -	CONTR	ACT 6		C	EDI	
ivity ID Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total 2 Float		N D J	F M A	2016 M J J	A S O	N D J F	2017 M A M J J A S O N D J	F M A M	2018 JJAS	3 O N D	2019 J F M A M J 42 4 45 46 47 49
- Link Road B1						1 1-	1 2 3 4		0 0 0	11 12 10	14 13 10	17 10 19 2 2	1 22 23 24 23 20 21 20 29 30 31	131331341331	30 37 30 38	140 41 42	43 4 43 40 41 40
BRD-7790 LRB1 RW-D106 Excavation	18	26-Dec-16	14-Jan-17	31-Dec-16	20-Jan-17	5						LR	31: RW-D106 Excavation	·····			
BRD-7800 LRB1 RW-D106 Base Slab 9 hays	42	16-Jan-17	13-Mar-17	21-Jan-17	18-Mar-17	5	·····					····	LRB1 RW-D106 Base Slab 9 ba	115		-+	
BRD-7810 LRB1 RW-D106 Side Wall 9 bays	48	14-Feb-17	11-Apr-17	20-Feb-17	20-Apr-17	5	·····			•••••			LRB1.RW-D106 Side Wall 9	) havs !			
BRD-7820 LRB1 RW-D106 Side Backfill/Road Formation	18	12-Apr-17	08-May-17	21-Apr-17	13-May-17	5	·····			•••••			LRB1 RW-D106 Side Ba	ckfill/Road Fc	ormation	+	
BRD-7830 LRB1 RW-D106 Parapet	18	12-Apr-17	08-May-17	21-Apr-17	13-May-17	5							LRB1 RW-D106 Par apet				
BRD-7845 LRB1 Cut Slope BCP/C4 & BCP/C3	48	07-Mar-17	08-May-17	13-Mar-17	13-May-17	5	·						LRB1 Cut Slope BCP/C4	& BCP/C3			
- Link Road B2																	
BCP-7910 LRB2 - Road Formation	24	26-Dec-16	21-Jan-17	07-Jan-17	11-Feb-17	11	·····						B2 - Road Formation				
BCP-7915 LRB2 - Drainage	42	23-Jan-17	20-Mar-17	13-Feb-17	01-Apr-17	11							LRB2 - Drainage				
BCP-7920 LRB2 - Road Paving & Marking	30	21-Mar-17	28-Apr-17	03-Apr-17	13-May-17	11	·····						LRB2 - Road Paving & Ma	rking			
BCP-7930 LRB2 - Road Furnitures & Miscellaneous Works	30	21-Mar-17	28-Apr-17	03-Apr-17	13-May-17	11	·····						LRB2 - Road Furnitures &	Miscellaneous	Works		
14.9 Dridge D Missellaneous Works							·									-+	
14.6 - Driuge D Miscellaneous works																	
- Utility Trench LV003																	
BCP-8991 Temp Work Design Submit/No A dverse Comment - Utility Trench LV003	90	11-Oct-16	23-Jan-17	17-Nov-16	09-Mar-17	32						Te	mp Work Design Submit/No A dver	se Comment -	Util ity Trer	ich LV003	
BCP-8995 Utility Trench LV003 Under Bridge D02 - Jacking Pit	48	10-Jan-17	14-Mar-17	17-Feb-17	18-Apr-17	26	ļļ						Utility Trench LV003 Under Br	idge D02 - Jac	cking Pit		
BCP-9005 Utility Trench LV003 Under Bridge D02 - Receiving Pit	48	15-Mar-17	16-May-17	19-Apr-17	16-Jun-17	26							Utility Trench LV003 Un	der Bridge D(	)2 - Receiv	'ing Pit	
BCP-9015 Utility Trench LV003 Under Bridge D02 - Jacking Plant Set-Up	36	15-Mar-17	29-Apr-17	19-Apr-17	02-Jun-17	26							Utility Trench LV003 Und	er Bridge D02	- Jacking	Plant Set-U	p
BCP-9025 Utility Trench LV003 Under Bridge D02 - Pipe Jacking	48	02-May-17	28-Jun-17	03-Jun-17	29-Jul-17	26							Utility Trench LV00	3 Under Bridg	ge D02 - Pi	pe Jacking	
BCP-9035 Utility Trench LV003 Under Bridge D02 - Manhole	90	29-Jun-17	13-Oct-17	07-Aug-17	21-Nov-17	32							Utility Tr	ench LV003 U	Jnder Brid	ge D02 - M	lanhole
- Utility Trench LV004																	
BCP-9041 Temp Work Design Submit/No A dverse Comment - Utility Trench LV004	90	24-Jan-17	23-May-17	17-Mar-17	08-Jul-17	38							Temp Work Design Subn	nit/No Adverse	Comment	- Utility Tr	ench LV004
BCP-9045 Utility Trench LV004 Under Bridge D03 - Jacking Pit	48	17-May-17	13-Jul-17	17-Jun-17	12-Aug-17	26							Utility Trench LV0	04 Under Brid	1ge D03 - 2	Jacking Pit	
BCP-9055 Utility Trench LV004 Under Bridge D03 - Receiving Pit	48	14-Jul-17	07-Sep-17	14-Aug-17	09-Oct-17	26							Utility Trencl	n LV004 Und	er Bridge Γ	003 - Recei	ving Pit
BCP-9065 Utility Trench LV004 Under Bridge D03 - Jacking Plant Set-Up	36	14-Jul-17	24-Aug-17	14-Aug-17	23-Sep-17	26							Utility Trench	LV004 Under	Bridge D0	13 - Jacking	g Plant Set-Up
BCP-9075 Utility Trench LV004 Under Bridge D03 - Pipe Jacking	48	25-Aug-17	20-Oct-17	25-Sep-17	21-Nov-17	26							utility T	rench LV004	Under Brid	1ge D03 - F	ipe Jacking
BCP-9085 Utility Trench LV004 Under Bridge D03 - Manhole	90	21-Oct-17	06-Feb-18	22-Nov-17	15-Mar-18	26								Utility Tres	nch LV004	Under Bri	dge D03 - Manhole
- Utility Trench LV005																	
BCP-9091 Temp Work Design Submit/No Adverse Comment - Utility Trench LV005	90	24-May-17	07-Sep-17	17-Jul-17	31-Oct-17	44							Temp Work I	Jesign Submit/	No Advers	e Comment	- Utility Trench LV
BCP-9095 Utility Trench LV005 Under Bridge D06 - Jacking Pit	48	08-Sep-17	04-Nov-17	10-Oct-17	05-Dec-17	26							Utiläty	Trench LV00:	5 Under Br	idge D06 -	Jacking Pit
BCP-9105 Utility Trench LV005 Under Bridge D06 - Receiving Pit	48	06-Nov-17	02-Jan-18	06-Dec-17	01-Feb-18	26	·							Utility Trench	LV005 Un	der Bridge	D06 - Receiving Pr
BCP-9115 Utility Trench LV005 Under Bridge D06 - Jacking Plant Set-Up	24	06-Nov-17	02-Dec-17	06-Dec-17	04-Jan-18	26							🔲 Util	ity Trench LV(	005 Under	Bridge D0	6 - Jacking Plant Se
BCP-9125 Utility Trench LV005 Under Bridge D06 - Pipe Jacking	48	04-Dec-17	30-Jan-18	05-Jan-18	08-Mar-18	26	·····							Utility Tren	ch LV005	Under Brid	ge D06 - Pipe Jack
BCP-9135 Utility Trench LV005 Under Bridge D06 - Manhole	90	07-Feb-18	05-Jun-18	16-Mar-18	06-Jul-18	26									Utility Tr	ench LV00	5 Under Bridge DØ
- Utility Trench HV002							·····										
BCP-8979 Temp Work Design Submit/No A dverse Comment - Utility Trench HV002	90	24-Jan-17	23-May-17	24-Oct-17	08-Feb-18	218							Temp Work Design Subr	nit/No A dverse	e Comment	- Utility Tr	ench HV002
BCP-8981 Utility Trench HV002 beside Bridge K - Jacking Pit	48	06-Nov-17	02-Jan-18	19-Jan-18	22-Mar-18	62	·····							Utility Trench	HV002 be	side Bridge	K - Jacking Pit
BCP-8982 Utility Trench HV002 beside Bridge K - Receiving Pit	48	03-Jan-18	06-Mar-18	23-Mar-18	24-May-18	62	·····							Utility 1	French HV(	002 beside	Bridge K - Receivit
BCP-8983 Utility Trench HV002 beside Bridge K - Jacking Plant Set-Un	36	14-Feb-18	07-Apr-18	23-Mar-18	09-May-18	26	}			•••••				U6F	ity Trench I	TV002 bes	de Bridge K - Jack
BCP-8984 Utility Trench HV002 beside Bridge K - Pine Jacking	48	09-Apr-18	05-Jun-18	10-May-18	06-Jul-18	26	·····								Utility Tr	ench HV0(	2 heside Bridge K
BCP-8985 Utility Trench HV002 beside Bridge K - Manhole	90	06-Jun-18	19-Sep-18	07-Jul-18	23-Oct-18	26									ounty n	Litility T	ench HV002 beside
15.0. Ding Voung Intershounge (DVI)	70	00-501-10	19-569-10	07-541-10	25-001-10	20	·····									- Cunty II	chen II v boz besida
15.0 - Ping Yeung Interchange (PYI)							<u>.</u>										
15.1 - PYI Local Road - South																	
PVL1010 PVL Condition & Tree Survey	48	23-Jul-15	16-Sep-15	18-Aug-15	14-Oct-15	22	PV	Condition	A Tree	Survey							
PVI-1015 PVI Tree Felling & Site Clearance	30	03-Sep-15	09-Oct-15	30-Sep-15	05-Nov-15	22		YI Tree F	ellind &	Site Clear	ance		-+		-+	-+	
DVI 1020 DVI Initial Surray	10	10 Oct 15	21 Oct 15	06 Nov 15	26 Nov-15	22		DVLIniti		Sile Clear							
DVI 1020 DVI Archeoloion Survey + Final Depart	26	10-Oct-15	10 Nev 15	15 Oct 15	26 Nov-15				al survey	1 Currier	Einel De						
P 11-1030 P 11 Archeolgical Survey + Pinal Report	30	08-061-15	19-NOV-15	15-Oct-15	20-INOV-15	0		PIIA	cheoigica	ii Survey	+ Finai Re	port			<u> </u>	<u> </u>	
◆ Milestone									T	Project	t ID :LT6	DWPB1		Detail V	Vorks Pro	gramme	
中國路格 States Critical Activity					-					Layou	t : LT6DV	VPB1	Date	Rev	ision	Che	ecked Approved
CRBC CRBC Non-Critical Activity			Detai	i Works	s Progra	ammo	e Kev. l	31		Page 3	0 of 37		13-Apr-16	evision B1			
CRBC-CEC-KADEN Joint Venture	ort		Data D	ate: 24-Jun-15	5	Run	Date: 14-Apr-16	i									

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tivity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total 2 Float J	D15 JASONDJFMA	2016 2017 M J J A S O N D J F M A M J J A	2018 SONDJFMAMJJA	2019 SONDJFMAMJ
- Bridge G							-1	1 2 3 4 5 6 7 8 9 10	11 12 13 14 15 16 17 18 19 2 21 22 23 24 25 26	27 28 29 30 31 3 33 34 35 36 37 3	39 40 41 42 43 4 45 46 47 48
PYI-1031	Temp Work Design - Submit/No A dyerse Comment - Bridge G Abutment	90	10-Oct-15	26-Jan-16	11-Jan-16	05-May-16	76	Temp Wo	rk Design - Submit/No Adverse Comment - Bridge	G Abutment	•••••
PYI-1032	Temp Work Design - Submit/No A dverse Comment - Bridge G Deck	90	21-Dec-15	16-Apr-16	31-Mar-16	18-Jul-16	76		Temp Work Design - Submit/No Adverse Comment	- Bridge G Deck	
PYI-1035	PYI Temp. Bridge for Bridge G Piling	42	20-Nov-15	09-Jan-16	27-Nov-15	16-Jan-16	6	PY Temp.	Bridge for Bridge G Piling		
PYI-1040	PYI Bridge G - Predrilling (8 nos)	18	11-Jan-16	30-Jan-16	18-Jan-16	06-Feb-16	6	FYI Brid	lge G - Predrilling (8 nos)		
PYI-1050	PYI Bridge G - Piling (8 nos)	78	22-Feb-16	27-May-16	29-Feb-16	03-Jun-16	6		PYI Bridge G - Piling (8 nos)		
PYI-1100	PYI Bridge G - Construct Abutments	60	29-Apr-16	11-Jul-16	06-May-16	18-Jul-16	6		PYI Bridge G - Construct Abutments		
PYI-1150	PYI Bridge G - Construct Deck	70	12-Jul-16	03-Oct-16	19-Jul-16	10-Oct-16	6		PYI Bridge G - Construct Deck		
PYI-1200	PYI Bridge G - Construct Parapet + Misc Works	42	04-Oct-16	21-Nov-16	24-Nov-16	11-Jan-17	44		PYI Bridge G - Construct P	arapet + Misc Works	
- Retaining	Walls										
PYI-1250	PYI WK S/RW10 - Excavation	18	02-Aug-16	22-Aug-16	06-Sep-16	27-Sep-16	30		PYI WK S/RW10 - Excavation		
PYI-1260	PYI WK S/RW10 - Base Slab	36	23-Aug-16	05-Oct-16	28-Sep-16	09-Nov-16	30		PYI WK S/RW10 - Base Slab		
PYI-1270	PYI WK S/RW10 - Wall	36	06-Oct-16	16-Nov-16	10-Nov-16	21-Dec-16	30		PYI WK S/RW10 - Wall		
PYI-1280	PYI WK S/RW10 - Backfilling	18	17-Nov-16	07-Dec-16	22-Dec-16	11-Jan-17	30		PYI WK S/RW10 - Back f	illing	
PYI-1300	PYI WK S/RW08 - Excavation	18	06-Sep-16	27-Sep-16	13-Sep-16	05-Oct-16	6		PYI WK S/RW08 - Excavation		
PYI-1310	PYI WK S/RW08 - Base Slab 6 bays	36	28-Sep-16	09-Nov-16	06-Oct-16	16-Nov-16	6		PYI WK S/RW08 - Base Slat	o 6 bays	
PYI-1320	PYI WK S/RW08 - Wall 6 bays	36	27-Oct-16	07-Dec-16	03-Nov-16	14-Dec-16	6		PYI WK S/RW08 - Wall 6	bays	
PYI-1330	PYI WK S/RW08 - Backfilling 6 bays	24	08-Dec-16	04-Jan-17	15-Dec-16	11-Jan-17	6		PYI WK S/RW08 - Bac	kfilling 6 bays	
PYI-1350	PYI WK S/RW09 - Excavation	12	23-Aug-16	05-Sep-16	03-Oct-16	15-Oct-16	33		PYI WK S/RW09 - Excavation		
PYI-1360	PYI WKS/RW09 - Base Slab	15	06-Sep-16	23-Sep-16	17-Oct-16	02-Nov-16	33		PYI WKS/RW09 - Base Slab		
PYI-1370	PYI WK S/RW09 - Wall	24	24-Sep-16	22-Oct-16	03-Nov-16	30-Nov-16	33		PYI WK S/RW09 - Wall		
PYI-1380	PYI WK S/RW09 - Backfilling	18	24-Oct-16	12-Nov-16	01-Dec-16	21-Dec-16	33		PYI WK S/RW09 - Backfilli	ng	
PYI-1400	PYI WK S/RW11 - Excavation	12	23-Aug-16	05-Sep-16	17-Sep-16	30-Sep-16	21		PYI WK S/RW11 - Excavation		
PYI-1410	PYI WK S/RW11 - Base Slab	15	06-Sep-16	23-Sep-16	03-Oct-16	19-Oct-16	21		PYI WK S/RW11 + Base Slab		
PYI-1420	PYI WK S/RW11 - Wall	24	24-Sep-16	22-Oct-16	20-Oct-16	16-Nov-16	21		PYI WK S/RW11 - Wall		
PYI-1430	PYI WK S/RW11 - Back filling	18	24-Oct-16	12-Nov-16	17-Nov-16	07-Dec-16	21		PYI WK S/RW11 - Back filli	ng	
- Road Wor	ks										
PYI-1450	PYI Local Road South - Road Formation + WK S/F14	60	27-Oct-16	04-Jan-17	03-Nov-16	11-Jan-17	6		PYI Local Road South	- Road Formation + WKS/F14	
PYI-1500	PYI Local Road South - Watermain	48	05-Jan-17	09-Mar-17	12-Jan-17	16-Mar-17	6		PYI Local Road	South - Watermain	
PYI-1510	PYI Local Road South - Utilities	48	05-Jan-17	09-Mar-17	12-Jan-17	16-Mar-17	6		PYI Local Road	South - Utilities	
PYI-1520	PYI Local Road South - Drainage & Sewerage	48	05-Jan-17	09-Mar-17	12-Jan-17	16-Mar-17	6		PYI Local Road	l South - Drainage & Sewerage	
PYI-1530	PYI Local Road South - Road Paving & Marking	48	10-Mar-17	11-May-17	17-Mar-17	18-May-17	6		PYI Loca	ll Road South - Road Paving & Markin	g
PYI-1540	PYI Local Road South - Road Furnitures & Misc. Works	48	10-Mar-17	11-May-17	17-Mar-17	18-May-17	6		PYI Loca	l Road South - Road Furnitures & Mis	c. Works
15.2 - PYI	Local Road - North										
- Preparati	on Works										
PYI-2010	PYI Condition & Tree Survey	12	19-Jan-16	01-Feb-16	01-Feb-16	20-Feb-16	11	FYI Con	dition & Tree Survey		
PYI-2020	PYI Tree Felling & Site Clearance	18	02-Feb-16	29-Feb-16	22-Feb-16	12-Mar-16	11	PYI '	Free Felling & Site Clearance		
PYI-2030	PYI Initial Survey	12	23-Feb-16	07-Mar-16	07-Mar-16	19-Mar-16	11	PYI	Initial Survey		
PYI-2040	Archeolgical Survey + Final Report	36	19-Jan-16	07-Mar-16	01-Feb-16	19-Mar-16	11	Arcl	eolgical Survey + Final Report		
- Bridge L											
PYI-2041	Temp Work Design - Submit/No A dverse Comment - Bridge LA but ment	90	02-Feb-16	28-May-16	07-Mar-16	25-Jun-16	23	·····	Temp Work Design - Submit/No Adverse Com	ment - Bridge LA but ment	
PYI-2042	Temp Work Design - Submit/No A dverse Comment - Bridge L Deck	90	23-Apr-16	09-Aug-16	21-May-16	05-Sep-16	23		Temp Work Design - Submit/No A dver	se Comment -Bridge L'Deck	
PYI-2050	PYI Bridge L - Predrilling	18	08-Mar-16	31-Mar-16	21-Mar-16	14-Apr-16	11	P'	YI Bridge L - Predrilling		
PYI-2100	PYI Bridge L - Piling (19 nos. 600mm dia.)	90	01-Apr-16	19-Jul-16	15-Apr-16	01-Aug-16	11		PYI Bridge L - Piling (19 nos. 600mm d	ia.)	
PYI-2150	PYI Bridge L - Construct Abutments	60	14-Jun-16	23-Aug-16	27-Jun-16	05-Sep-16	11		PYI Bridge L - Construct Abutments		
PYI-2200	PYI Bridge L - Construct Deck	60	24-Aug-16	03-Nov-16	06-Sep-16	16-Nov-16	11	·	PYI Bridge L - Construct De	 ck	
PYI-2250	PYI Bridge L - Construct Parapet + Misc. Works	60	04-Nov-16	12-Jan-17	08-Dec-16	23-Feb-17	29		PYI Bridge L - Constr	ruct Parapet + Misc. Works	
- Retaining	Walls										
ind											
	Milactoro								Project ID 1 T6 DWPP1	Detail Works	Programme
									Lavout : LT6DWPB1	Date Revision	Checked Approved
	Continental Kaden			Detai	l Works	Progra	amme	Rev. B1	Page 31 of 37	13-Apr-16 Revision B1	
- UKI	Travel of Cathering Level of F	Effort		Botul							
CRBC-C	EC-KADEN Joint Venture			Data D	ate: 24-Jun-15		Run I	Jate: 14-Apr-16			

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Activity ID	ActivityName	Orig Dur	Start	Finish	Late Start	Late Finish	Float	2015 J J A S O N D J F M J 1 1 2 3 4 5 6 7 8 9 1	2016 2017 2018 2017 M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J 0.11.1015114.01516.1719.19.19.21212.2025.59.277.08.2030131.9.331.4335.63738.390.00141.42143.444.64.64.74.84
PYI-2350	PYI WK S/RW12 - Excavation	12	04-Nov-16	17-Nov-16	08-Dec-16	21-Dec-16	29		■ PYIWKS/RW12 - Excavation
PYI-2360	PYI WK S/RW12 - Base slab	12	18-Nov-16	01-Dec-16	19-Jan-17	09-Feb-17	53		PYI WK S/RW12 - Base slab
PYI-2370	PYI WK S/RW12 - Wall	18	02-Dec-16	22-Dec-16	10-Feb-17	02-Mar-17	53		PYI WKS/RW12 + Wall
PYI-2380	PYI WK S/RW12 Backfilling	12	23-Dec-16	05-Jan-17	03-Mar-17	16-Mar-17	53		PYI WKS/RW12 Backfilling
PYI-2400	PYI WK S/RW13 - Excavation	12	18-Nov-16	01-Dec-16	22-Dec-16	04-Jan-17	29		PYI WKS/RW13 - Excavation
PYI-2410	PYI WK S/RW13 - Base slab	12	02-Dec-16	15-Dec-16	19-Jan-17	09-Feb-17	41		PYI WK\$/RW13 - Base slab;
PYI-2430	PYI WK SRW13 - Wall	18	16-Dec-16	05-Jan-17	10-Feb-17	02-Mar-17	41		PYI WK SRW13 - Wall
PYI-2440	PYI WK S/RW13 - Backfilling	12	06-Jan-17	19-Jan-17	03-Mar-17	16-Mar-17	41		PYI WK S/RW13 - Backfilling
PYI-2450	PYI WK S/RW14 - Excavation	12	18-Nov-16	01-Dec-16	22-Dec-16	04-Jan-17	29		PYI WKS/RW14 - Excavation
PYI-2460	PYI WK S/RW14 - Base slab	12	02-Dec-16	15-Dec-16	05-Jan-17	18-Jan-17	29		PYI WK \$/RW14 - Base slab
PYI-2470	PYI WK S/RW14 - Wall	18	16-Dec-16	05-Jan-17	19-Jan-17	16-Feb-17	29		PYI WK S/RW14 - Wall
PYI-2480	PYI WK S/RW14 - Backfilling	12	06-Jan-17	19-Jan-17	17-Feb-17	02-Mar-17	29		PYI WK S/RW14 - Back filling
- Road Wor	ks								
PYI-2500	PYI Local Road North - Fill Slope WKS/F11	18	27-Jan-17	24-Feb-17	17-Mar-17	07-Apr-17	35		PYI Local Road North - Fill Slope WKS/F11
PYI-2510	PYI Local Road North - Fill Slope WKS/F11A (Stage 1)	30	18-Feb-17	24-Mar-17	03-Mar-17	07-Apr-17	11		PYI Local Road North - Fill Slope WKS/F11A (Stage 1)
PYI-2520	PYI Local Road North - Fill Slope WKS/F10 (Stage 1)	36	16-Dec-16	26-Jan-17	29-Dec-16	16-Feb-17	11		PYI Local Road North - Fill Slope WKS/F10 (Stage 1)
PYI-2540	PYI Local Road North - Cut Slope WKS/C7	36	04-Nov-16	15-Dec-16	17-Nov-16	28-Dec-16	11		PYI Local Road North - Cut Slope WKS/C7
PYI-2550	PYI Local Road North - Road Formation (Stage 1)	30	25-Mar-17	05-May-17	08-Apr-17	18-May-17	11		PYI Local Road North - Road Formation (Stage 1)
PYI-2560	PYI Local Road North - Watermain	60	06-May-17	17-Jul-17	19-May-17	29-Jul-17	11		PYI Local Road North - Watermain
PYI-2570	PYI Local Road North - Utilities	60	06-May-17	17-Jul-17	19-May-17	29-Jul-17	11		PYI Local Road North - Utilities
PYI-2580	PYI Local Road North - Drainage & Sewerage	60	06-May-17	17-Jul-17	19-May-17	29-Jul-17	11		PYI Local Road North - Drainage & Sewerage
PYI-2590	PYI Local Road North - Road Paving & Marking (Stage 1)	60	18-Jul-17	25-Sep-17	31-Jul-17	09-Oct-17	11		PYI Local Road North - Road Paving & Marking (Stage 1)
PYI-2600	PYI Local Road North - Road Furnitures & Misc. Works (Stage 1)	60	18-Jul-17	25-Sep-17	31-Jul-17	09-Oct-17	11		PYI Local Road North - Road Furnitures & Misc. Works (Stage 1)
PYI-2610	PYI Local Road North - Road Formation (Stage 2)	30	13-Dec-17	18-Jan-18	05-Jan-18	08-Feb-18	18		PYI Local Road North - Road Forrhation (Stage 2)
PYI-2620	PYI Local Road North - Fill Slope WKS/F11A (Stage 2)	30	13-Dec-17	18-Jan-18	05-Jan-18	08-Feb-18	18		PYI Local Road North - Fill Slope WKS/F1 A (Stage
PYI-2630	PYI Local Road North - Fill Slope WKS/F10 (Stage 2)	30	13-Dec-17	18-Jan-18	05-Jan-18	08-Feb-18	18		PYI Local Road North - Fill Slope WKS/F10 (Stage 2
PYI-2640	PYI Local Road North - Road Paving & Marking (Stage 2)	60	19-Jan-18	10-Apr-18	09-Feb-18	02-May-18	18		PYI Local Road North - Road Paving & Mark
PYI-2650	PYI Local Road North - Road Furnitures & Misc. Works (Stage 2)	60	19-Jan-18	10-Apr-18	09-Feb-18	02-May-18	18		PYI Local Road North - Road Furnitures & M
15.3 - PYI	Roadworks								
- Bridge H									
PYI-2691	Temp Work Design - Submit/No A dverse Comment - Bridge H Abutment	90	01-Apr-16	19-Jul-16	04-Jun-16	20-Sep-16	53		Temp Work Design - Submit/No A dverse Comment - Bridge H Abutment
PYI-2692	Temp Work Design - Submit/No A dverse Comment - Bridge H Deck	90	14-Jun-16	28-Sep-16	16-Aug-16	30-Nov-16	53		Temp Work Design - Submit/No A dverse Comment - Bridge H Deck
PYI-2700	PYI Bridge H - Predrilling (6 nos)	18	01-Apr-16	22-Apr-16	29-Apr-16	20-May-16	23		PYI Bridge H - Predrilling (6 nos)
PYI-2710	PYI Bridge H - Piling (6 nos)	72	07-May-16	02-Aug-16	04-Jun-16	29-Aug-16	23		PYI Bridge H - Piling (6 nos)
PYI-2720	PYI Bridge H - Construct Abutments	60	03-Aug-16	13-Oct-16	30-Aug-16	09-Nov-16	23		PYI Bridge H - Construct Abutments
PYI-2730	PYI Bridge H - Construct Deck	90	14-Oct-16	26-Jan-17	10-Nov-16	02-Mar-17	23		PYI Bridge H - Construct Deck
PYI-2740	PYI Bridge H - Construct Parapet + Misc. Works	60	27-Jan-17	19-Apr-17	03-Mar-17	18-May-17	23		PYI Bridge H - Construct Parapet + Misc. Works
- Ping Yeur	g Interchange East								
PYI-2800	PYI East - Fill Slope WKS/F9	42	20-Apr-17	10-Jun-17	19-May-17	08-Jul-17	23		PYI East + Fill Slope WKS/F9
PYI-2810	PYI East - Cut Slope WKS/C6	42	20-Apr-17	10-Jun-17	19-May-17	08-Jul-17	23		PYI East - Cut Slope WKS/C6
PYI-2815	PYI East - Fill Slope WKS/F16	42	12-May-17	30-Jun-17	19-May-17	08-Jul-17	6		PYI East - Fill Slppe WKS/F16
PYI-2820	PYI East - Road Formation	54	19-May-17	22-Jul-17	26-May-17	29-Jul-17	6		PYI East - Road Formation
PYI-2830	PYI East - Watermain	60	24-Jul-17	30-Sep-17	31-Jul-17	09-Oct-17	6		PYI East - Watermain
PYI-2840	PYI East - Utilities	60	24-Jul-17	30-Sep-17	31-Jul-17	09-Oct-17	6		PYI East - Utilities
PYI-2850	PYI East - Drainage & Sewerage	60	24-Jul-17	30-Sep-17	31-Jul-17	09-Oct-17	6		PYI East - Drainage & Sewerage
PYI-2860	PYI East - Road Paving & Marking	48	02-Oct-17	28-Nov-17	10-Oct-17	05-Dec-17	6	· · · · · · · · · · · · · · · · · · ·	PYI East - Road Paving & Marking
PYI-2870	PYI East - Road Furnitures & Misc. Works	60	02-Oct-17	12-Dec-17	10-Oct-17	19-Dec-17	6		PYI East - Road Furnitures & Misc. Works
- Ping yeun	g Interchange West								
PYI-3000	PYI West - Fill Slope WKS/F1 3	42	13-Dec-17	01-Feb-18	20-Dec-17	08-Feb-18	6		PYI West - Fill Slope WKS/F1 3
	♦ ♦ Milestone						_		Project ID :LT6-DWPB1 Detail Works Programme
中國	各稿 States Critical Activity					_			Layout : LT6DWPB1 Date Revision Checked Approved
CR	BC Kaden R Non-Critical Activity			Detai	I Works	s Progra	amm	e Rev. B1	Page 32 of 37 13-Apr-16 Revision B1
CPPC		ffort		Data D	Date: 24-Jun-15	·	Run	Date: 14-Apr-16	
UNDU-U	Actual Work				-				

AE	COM <sup>®</sup> Liantang /	Heung Yue	n Wai Bo	undary Co	ntrol Poi	nt Site Fo	ormati	on and Infras	tructure V	Vorks	- CONI	RACI	Г 6				CE	DD	
Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	2015 J J A S O N D J	20 F M A M J			FMAI	2017 M J J A S	OND	JFM	2018 A M J J	JASC		2019 M A M J
DV/J 2010	NUM . ETHOL WEODIA		12.0.15	01 E 1 10	20 D 17	00 E 1 10	ŀ	1 1 2 3 4 5 6 7	8 9 10 11 12	13 14 15 1	6 17 18 19	2 21 22 2	3 24 25 26 27	7 28 29 30 3	31 3 33 3	4 35 36 3	7 38 39 40	) 41 42 43 4 4	45 46 47 48
PYI-3010	PYI West - Fill Slope W KS/F15	42	13-Dec-17	01-Feb-18	20-Dec-17	08-Feb-18	6								PYLV	West - Fill	Slope WK	S/F15	
PYI-3020	PYI West - Fill Slope W KS/FI 2A	42	13-Dec-17	01-Feb-18	20-Dec-17	08-Feb-18	6								PYLV	West - Fill	Slope WK	S/F12A	
PYI-3050	P 11 West - Pill Slope W KS/F12B	42	13-Dec-17	01-Feb-18	20-Dec-17	15 Mar 19	6							+		VI West	Slope W.K.	S/F12B	
PVI 2720	P 11 West - Koad Formation	24	02-Feb-18	24 May 18	16 Mar 19	2.1 May 18	6							++		DVI	West W	lation	
PVI 2720	P 11 West - Watermann	60	09-Wai-18	24-May-18	16 Mar 19	21 May 18	6							++	·····		West II	tilition	
PVI 3740	PVI West Drainage & Semerage	60	09-Mar 18	24-May-18	16 Mar 18	21 May 18	6	······························						++			West D	rainaga & Saux	
PYI-3750	PYI West - Bran Paving & Marking	48	25-May-18	20-Jul-18	01-Jun-18	27-Iul-18	6							++			PYI We	st - Road Pavir	ng & Markin
PYI-3770	PYI West - Road Furnitures & Misc. Works	60	25-May-18	03-Aug-18	01-Jun-18	10-Aug-18	6							++	·····		PYIV	Vest - Read Fur	nitures & M
PYI-3800	Ping Yeung Interchange Traffic Signs + Remaining Misc. Works	60	04-Aug-18	15-Oct-18	11-Aug-18	23-Oct-18	6							++				Ping Venng Ir	aterchange T
PYI-3850	Ping Yeung Interchange Final Road Paving & Marking	60	04-Aug-18	15-Oct-18	11-Aug-18	23-Oct-18	6							++	••••••			Ping Yeung Ir	aterchange F
16.0 - Bord	er Control Point (BCP)				11118		-	· · · · · · · · · · · · · · · · · · ·						++					
16.1 Dre	er control rom (ber)							+++++++++++++++++++++++++++++++++++++++						÷+			·		
10.1 - Pro	Josed Lin Ma Hang Koad			10.0.14	00.0 46									+					
BCP-1050	CSP1/Lin Ma Hang Rd - Retaining Wall BCP/RW4	90	24-Jun-15	10-Oct-15	09-Sep-16	24-Dec-16	360	CSP1/Lin	Ma Hang Kd - I	Cet Share	all BCP/RW	4 1 DCD/C7		++			·····		
BCP-1080	CSP1/Lin Ma Hang Kd - Cut Slope BCP/C6 and BCP/C/	30	25-Sep-15	02-INOV-15	31-Dec-10	11-Feb-1/	21(7	C3P1/I	In Ma Hang Ku	- Cut Stope	CD 42 - E 4	1 BCP/C/		÷	·····		· · · · · · · · · · · · · · · · · · ·	·····	
BCP-1100	CSD1/LMULDCSDCvt_SloveCastachnical Works	0	19-Mar-16	02 hm 16	23-Feb-22	02 May 22	1807	· · · · · · · · · · · · · · · · · · ·	<ul> <li>Possessio</li> </ul>	noi Portier	D.I. DCD/D	wa cep	Cut Flore 1 (	Chastachmich	Works				
BC1-9205	D L (VA D)	00	19=Widt=10	02-501-10	25-100-22	05=Way=22	1807	· · · · · · · · · · · · · · · · · · ·			Ku = DQ1/F		· cut stope · v		WOIKS				
16.2 - VIII2	ige Access Road (VAR)													+					
BCP-6010	Village Access Road - Condition + Tree Survey	36	12-Nov-15	23-Dec-15	23-Nov-15	05-Jan-16	9	V	illage Access Ro	ad - Condit	on + Tree S	urvey					· · · · · · · · · · · · · · · · · · ·	·····	
BCP-6020	Village Access Road - Site Clearance + Tree Felling	36	24-Dec-15	05-Feb-16	06-Jan-16	23-Feb-16	9		Village Acces	s Road - \$1	te Clearance	+ Tree Fe	elling						
BCP-6030	Village Access Road - Initial Survey	36	06-Feb-16	29-Mar-16	24-Feb-16	09-Apr-16	9		Village	Access Roa	d - Initial St	rvey					····	·····	
BCP-6050	Village Access Road E/B - Site Formation + BCP/C1 + BCP/C2	72	30-Mar-16	24-Jun-16	11-Apr-16	06-Jul-16	9			Village A	cess Road I	B - Site I	Formation + B	CP/CI + BC	:P/C2			·····	
BCP-6100	Village Access Road - Gabion Channel	/8	05-May-16	06-Aug-16	1/-May-16	17-Aug-16	9			Villa	ge Access R	ad - Gabi	on Channel						
BCP-0150	Village Access Road E/B - Road Drainage	30	04-Jul-16	06-Aug-16	14-Jul-10	1/-Aug-10	9			Villa	Village Ag	ad E/B - I	E/D Dood D						
BCP-0100	Village Access Road E/B - Road Dramage	48	08 Aug 16	04-Oct-16	18 Aug 16	14-Oct-10	9				Village Ac	ess Road	E/B - Rodu D	Taniage Aoin					
BCP-6170	Village Access Road E/B - Road Paving & Marking	24	05-Oct-16	01-Nov-16	15-Oct-16	11-Nov-16	9	+			Village	Access Ro	ad E/B - Road	Paving & A	Aarking				
BCP-6200	Village Access Road W/B - Road Formation	24	02-Nov-16	29-Nov-16	12-Nov-16	09-Dec-16		·····························			Villa	The Access	Road W/B - R	oad Formati	on				
BCP-8410	Village Access Road W/B - Road Drainage	36	30-Nov-16	10-Jan-17	10-Dec-16	20-Ian-17	9					/illage Ac	cess Road W/F	B- Road Dt	ainage				
BCP-8415	Village Access Road W/B - Rising Main	48	11-Jan-17	15-Mar-17	21-Jan-17	25-Mar-17	9					Ville	age Access Ro	ad W/B - Ri	sing Main		• • • • • • • • • • • • • • • • • • • •		
BCP-8420	Village Access Road W/B - Watermain & Utilities	48	11-Jan-17	15-Mar-17	21-Jan-17	25-Mar-17	9					Villa	age Access Ro	ad W/B - W	atermain 8	& Utilities			
BCP-8430	Village Access Road W/B - Road Paving & Marking	36	16-Mar-17	02-May-17	27-Mar-17	13-May-17	9	·					Village Acce	ss Road W/F	3 - Road P	aving & M	farking	·	
BCP-8440	Village Access Road - Road Fumitures + Miscellaneous Works	36	16-Mar-17	02-May-17	27-Mar-17	13-May-17	9						Village Acce	ss Road - R	oad Fumit	ures + Mis	cella ne ou:	s Warks	
16 3 - Roa	dworks Under Bridge D																• • • • • • • • • • • • • • • • • • • •		
- Roadwork	s Under Bridge D						+-							++					
PCP 5150	PCP/PW5 Evenuation 7 hours	18	21 Aug 16	21 San 16	02 San 16	22 San 16	2				DCD/DW/5	Exception	- 7 baye	++	·····				
BCP-5160	BCP/RW5 - Excavation / bays	24	22-Sep-16	21-3cp-10	24-Sep-16	23-3cp-10	2	+			BCP/RW	- Bake el	ab 7 bave	++					
BCP-5170	BCP/RW5 - Wall 7 bays	36	21-Oct-16	01-Dec-16	24-Oct-16	03-Dec-16	2				BCP	RW5 - Wa	ull 7 bays	++			·		
BCP-5180	BCP/RW5 - Backfilling	30	02-Dec-16	05-Jan-17	05-Dec-16	07-Jan-17	2				șei.	CP/RW5	Backfilling	+					
BCP-5200	Fill Slope BCP/F1	30	02-Dec-16	05-Jan-17	05-Dec-16	07-Jan-17	2	+			····	ill Sløpe B	SCP/E1	++			·		
BCP-5210	Under Brideg D - Road Formation	48	26-Dec-16	27-Feb-17	26-Dec-16	27-Feb-17	0			- <mark></mark>		Under	r Brideg D - F	Road Format	ion		·		
BCP-5215	Under Bridge D - Drainage & Sewerage	72	16-Jan-17	21-Apr-17	16-Jan-17	21-Apr-17	0						Under Bridge	D - Drainas	ze & Sewe	rage			
BCP-5220	Under Bridge D - Watermain	72	16-Jan-17	21-Apr-17	16-Jan-17	21-Apr-17	0			-			Under Bridge	D - Watern	nain		•••••		
BCP-5230	Under Bridge D - Utilities	72	16-Jan-17	21-Apr-17	16-Jan-17	21-Apr-17	0			-			Under Bridge	D - Utilitie	s				
BCP-5250	Under Bridge D - Rising Main	72	16-Jan-17	21-Apr-17	16-Jan-17	21-Apr-17	0			-			Under Bridge	D - Rising	Main				
BCP-5260	Under Bridge D - Road Paving & Marking	42	20-Mar-17	13-May-17	20-Mar-17	13-May-17	0						Under Brid	ge D - Road	Paving &	Marking			
BCP-5270	Under Bridge D - Road Furnitures & Misc. Works	42	20-Mar-17	13-May-17	20-Mar-17	13-May-17	0			-			Under Brid	ge D - Road	Furniture	s & Misc.	Works		
16.4 - Brid	lge K							·····											
								I i		-	1		· · · ·	i i	i				
	♦ ♦ Milestone								Pro	ject ID :L]	6-DWPB1			Data	De	etail Work	s Progra	imme	A
中國語	各権 States Continental IV a day 版 Critical Activ	vity		Date!		D	<b>.</b>	Dav. D4	Lay	out : LT6	OWPB1		4	Date	Revision	Revisio	<u>//</u>	Cnecked	Approved
CR	BC Strategy and the second sec	Activity		Detai	I WORKS	s Progra	amm	e Kev. B1	Pag	ge 33 of 37			F	5-MPI-10	Interision	101			
CBBC-C	EC-KADEN Joint Venture	evel of Effort		Data D	ate: 24-Jun-15		Run	Date: 14-Apr-16											
	Actual Work																		



AE	COM Liantang / Heu	ung Yue	n Wai Bou	Indary Co	ntrol Poi	nt Site Fo	ormatio	on and Infrastructure Works - CONTRACT 6
ctivity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total 2 Float J	2015 2016 2017 2018 2019 J J A S O N D J F M A M J A S O N D J F M A M J A S O N D J F M A M J A S O N D J F M A M J A S O N D J F M A M J A S O N D J F M A M J A S O N D J F M A M J J A S O N D J F M A M A M J A S O
BCP-3991	Temp Work Design - Submit/No A dverse Comment - Bridge K Abutment	90	30-Oct-15	20-Feb-16	22-Jan-16	18-May-16	70	1 1 2 3 4 5 6 7 8 9 10 11 12 3 4 15 6 7 18 9 10 11 12 3 14 15 15 17 18 19 2 21 22 23 24 25 26 27 28 29 50 31 3 3 33 4 35 36 37 38 39 40 41 42 43 4 45 46 47 48
BCP-3992	Temp Work Design - Submit/No A dverse Comment - Bridge K Deck	90	22-Dec-15	18-Apr-16	22-Mar-16	12-Jul-16	70	Temp Work Design - Submit/No Adverse Comment - Bridge K Deck
BCP-4000	BCP Brid ge K - Initial Survey + Condition Survey	24	01-Sep-15	29-Sep-15	25-Nov-15	22-Dec-15	70	BCP Brklge K - Initial Survey + Condition Survey
BCP-4010	BCP Brid ge K - Site Clearance	24	30-Sep-15	29-Oct-15	23-Dec-15	21-Jan-16	70	DCP Bridge K - Site Clearance
BCP-4050	BCP Brid ge K - Predrilling (6 nos)	36	30-Oct-15	10-Dec-15	16-Feb-16	31-Mar-16	85	BCP Bridge K - Preurilling (6 nos)
BCP-4100	BCP Brid ge K - Abut A461 Piling (3 nos)	36	16-Apr-16	28-May-16	16-Apr-16	28-May-16	0	BCP Bridge K - Abu A461 Piling (3 nos)
BCP-4120	BCP Brid ge K - Abut A462 Piling (3 nos)	36	30-May-16	12-Jul-16	30-May-16	12-Jul-16	0	BCP Hridge K -Abut A462 Piling (3 nos)
BCP-4150	BCP Brid ge K - Construct Abutments	72	13-Jul-16	06-Oct-16	21-Jul-16	14-Oct-16	7	BCP Bridge K -/Construct/Abutments
BCP-4200	BCP Bridge K - Construct Deck	90	07-Oct-16	19-Jan-17	15-Oct-16	27-Jan-17	7	BCP Bridge K - Construct Deck
BCP-4250	BCP Brid ge K - Construct Parapet	36	20-Jan-17	10-Mar-17	06-Feb-17	18-Mar-17	7	BCP Bridge K - Cohstruct Parapet
BCP-4300	BCP/Bridge K - Retaining Wall BCP/RW5A - 2 bays	90	07-Oct-16	19-Jan-17	15-Oct-16	27-Jan-17	7	BCP/Bridge K - Retaining Wall BCP/RW5A - 2 bays
BCP-4350	BCP/Bridge K - Retaining Wall BCP/RW6 - 2 bays	90	07-Oct-16	19-Jan-17	15-Oct-16	27-Jan-17	7	BCP/Bridge K - Retaining Wall BCP/RW6 - 2 bays
BCP-4400	BCP/Bridge K - Backfilling + Road Formation	36	20-Jan-17	10-Mar-17	06-Feb-17	18-Mar-17	7	BCP/Bridge K - Bakkfilling + Road Formation
16.5 - BCI	P Underpass							
- Vehicular	Underpass Structure							
BCP-1991	Temp Work Design - VUP + Depressed Road ELS	90	22-Dec-15	18-Apr-16	22-Mar-16	12-Jul-16	70	Temp Work Design - VUP + Depressed Road ELS
BCP-2000	BCP - Vehicular Underpass Excavation - 11 bays	48	13-Jul-16	06-Sep-16	13-Jul-16	06-Sep-16	0	BCP - Vehicular Underpass Excavation 111 bays
BCP-2050	BCP - Vehicular Underpass Base Slab - 11 bays	60	07-Sep-16	17-Nov-16	15-Sep-16	25-Nov-16	7	BCP - Vehidular Undérpass Bask Slab - 11 bays
BCP-2100	BCP - Vehicular Underpass Wall and Roof - 11 bays	90	04-Nov-16	24-Feb-17	12-Nov-16	04-Mar-17	7	BCP - Vehigular Underpass Wall and Roof - 11 bays
BCP-2500	BCP - VUP + Depressed Road B - Backfilling	30	25-Feb-17	31-Mar-17	06-Mar-17	10-Apr-17	7	BCP - VUP + Depressed Road B - Backfilling
- Depressed	I Road Structure							
BCP-2150	Portion C5P2 - Condition + Tree Survey	6	19-Mar-16	29-Mar-16	28-Jul-16	03-Aug-16	105	Portion CSP2 - Condition +Tree Survey
BCP-2160	Portion CSP2 - Site Clearance + Tree Felling	9	30-Mar-16	09-Apr-16	04-Aug-16	13-Aug-16	105	Portion CSP2 - Site Clearance + Iree Felling
BCP-2170	Portion CSP2 - Initial Survey	9	11-Apr-16	20-Apr-16	15-Aug-16	24-Aug-16	105	Porton CSP2 - initial Survey
BCP-2200	BCP - Depressed Road B - Excavation - 10 bays	48	1/-Aug-16	13-Oct-16	25-Aug-16	21-Oct-16	/	BCP - Depressed Road B: - Excavation - 10 pays
BCP-2250	BCP - Depressed Road B - Base Stab - 10 bays	48	14-Oct-16	17 Eab 17	22-Oct-16	10-Dec-10	7	B.F Depresson Road B Bases Salo - 100 Rays
BCF-2300	Ber - Depressed Road B - wall - 10 bays	00	02-Dec-10	17-Feb-17	10-Dec-10	23-Feb-17		DCF - DCp ESCI ROAD D - Wal - 10 Oay
- Underpas	PCB Lindermage Bood Drain as	20	25 Eab 17	21 Mag 17	06 Mar 17	10 Apr 17	7	
BCP-2400	Retaining Wall BCP/RW7	48	18-Feb-17	19-Apr-17	27-Feb-17	27-Apr-17	7	Det opering will strain ge
BCP-2450	BCP Underpass - Road Paving & Marking	24	01-Apr-17	05-May-17	11-Apr-17	13-May-17	7	Rearing     Read Paving & Marking
BCP-2480	BCP Underpass - Road Furnitures & Misc. Works	24	01-Apr-17	05-May-17	11-Apr-17	13-May-17	7	Bet Platernass - Read-Europhure & Miss Works
16.6 Dod	estrian Subway						· · · · · ·	
PCP 2001	Tamp Work Design Dedestrian Subway ELS	90	10 Apr 16	04 Aug 16	12 Nov 16	04 Mar 17	173	Torin Work Design Didaction Schwarz ECS
BCP-2991 BCP-3000	Portion CSP4 - Site Survey and Site Clearance + Establishment	30	04-Nov-16	04-Aug-16	05-Nov-16	09-Dec-16	1/5	I cinp work pression - reducting during rp 15/3      Depring CPD4 - Site Survey and Site Clearance + Stablishteet
BCP-3050	BCP - Pedestrian Subway Mini-niles	42	09-Dec-16	26-Jan-17	10-Dec-16	27-Jan-17	1	BCP- Potestrian Subvey Minimites
BCP-3100	BCP - Pedestrian Subway Excavation + ELS	60	11-Feb-17	26-Apr-17	13-Feb-17	27-Apr-17	1	Eccentration of the program program of the second of
BCP-3150	BCP - Pedestrian Subway Base Slab	60	27-Apr-17	10-Jul-17	28-Apr-17	11-Jul-17	1	BCP - Pedestriah Subway Base Slah
BCP-3200	BCP - Pedestrian Subway Wall and Roof + Staircases	90	11-Jul-17	24-Oct-17	12-Jul-17	25-Oct-17	1	BCP-Pedestrian Subway Wall and Roof + Staircases
BCP-3250	BCP - Pedestrian Subway Backfill	30	25-Oct-17	29-Nov-17	26-Oct-17	30-Nov-17	1	BCP - Pedestrian Subway Back fill
BCP-3300	BCP - Pedestrian Subway Steel Works	36	30-Nov-17	12-Jan-18	01-Dec-17	13-Jan-18	1	BCP - P edestrian Subway Steel Works
BCP-3350	BCP - Pedestrian Subway ABWF	120	13-Jan-18	15-Jun-18	15-Jan-18	16-Jun-18	1	BCP - Pddestrian Subway ABWF
BCP-3400	BCP - Pedestrian Subway E&M Works	120	13-Jan-18	15-Jun-18	15-Jan-18	16-Jun-18	1	BCP - Pędestrian Subway E&M Works
16.7 - BCI	Perimeter Road							
- Portion C	5P3							
BCP-8510	Portion C5P3 - Condition + Tree Survey	36	07-Mar-16	21-Apr-16	10-Mar-16	25-Apr-16	3	Portion CSP3 - Condition + Tree Survey
BCP-8520	Portion C5P3 - Site Clearance + Tree Felling	72	22-Apr-16	18-Jul-16	26-Apr-16	21-Jul-16	3	Portion C5P3 - Site Clearance + Tree Felling
BCP-8530	Portion C5P3 - Initial Survey	48	19-Jul-16	12-Sep-16	22-Jul-16	15-Sep-16	3	Portion CSP3 - Initial Survey
	:							
	Milestone							Project ID :LT6-DWPB1 Detail Works Programme
日日 中國	路橋 《大海工程公司 Kodon 选 Critical Activity			Data:		Drogra		Layout : LT6DWPB1     Layout : LT6DWPB1     13-Apr-16     Revision     Revision     Crecked Approved     13-Apr-16     Revision
CR CR	BC Schwarter and Comp	ly		Detal	I WORKS	riogra	amme	CREV. DI Page 34 of 3/
CRBC-C	EC-KADEN Joint Venture	LIUIT		Data D	ate: 24-Jun-15		Run I	Date: 14-Apr-16

	ang / Heung Yue	n wai Bo	undary Co	ntrol Poi	nt Site Fo	ormatio	on and infrastr	ucture W	orks - CONTRACT 6			CE	DD
Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total 2 Float J		201 M A M J	6 20 J A S O N D J F M A M J	D17 J A S O N D J F M	20"	18 JASO	201 N D J F M
BCP-8540 Portion C5P3 - Road Formation	90	13-Sep-16	28-Dec-16	17-Sep-16	31-Dec-16	3	1 2 3 4 5 6 7 6	9 10 11 12	Portion C5P3 - R	bad Formation	34 35 30	37 36 39 40	1 42 43 4 45 4
CP-8550 Portion C5P3 - Watermain	120	29-Dec-16	02-Jun-17	02-Jan-17	06-Jun-17	3				Portion C5P3 - Watermain			
CP-8560 Portion C5P3 - Utilities	120	29-Dec-16	02-Jun-17	02-Jan-17	06-Jun-17	3				Portion C5P3 - Utilities			
CP-8570 Portion C5P3 - Drainage & Sewerage	120	29-Dec-16	02-Jun-17	02-Jan-17	06-Jun-17	3				Portion C5P3 - Drainage & S	ewerage		
CP-8580 Portion C5P3 - Road Paving & Marking	120	03-Jun-17	23-Oct-17	07-Jun-17	26-Oct-17	3				Portión C5P3	- Road Pav	ing & Markin	ıg
CP-8590 Portion C5P3 - Road Furnitures & Misc. Works	120	03-Jun-17	23-Oct-17	07-Jun-17	26-Oct-17	3				Portion C5P3	Road Fur	nitures & Mis	c. Works
Portion C5P6													
3CP-8610 Portion C5P6 - Condition + Tree Survey	6	25-Oct-17	01-Nov-17	27-Oct-17	03-Nov-17	2				Portion C5P6	- Conditie	n + Tree Surv	/ev
3CP-8620 Portion C5P6 - Site Clearance + Tree Felling	9	02-Nov-17	11-Nov-17	04-Nov-17	14-Nov-17	2				Portion C5P	6 - Site Cl	earance + Tre	e Felling
CP-8630 Portion C5P6 - Initial Survey	9	09-Nov-17	18-Nov-17	11-Nov-17	21-Nov-17	2				Portion C51	% - Initial	Survey	
CP-8640 Portion C5P6 - Road Formation	15	20-Nov-17	06-Dec-17	22-Nov-17	08-Dec-17	2				Portion C	5P6 - Roa	Formation	
3CP-8650 Portion C5P6 - Watermain	42	07-Dec-17	26-Jan-18	09-Dec-17	29-Jan-18	2				Port	ion C5P6	Watermain	
3CP-8660 Portion C5P6 - Utilities	42	07-Dec-17	26-Jan-18	09-Dec-17	29-Jan-18	2				Port	ion C5P6	Utilities	
CP-8670 Portion C5P6 - Drainage & Sewerage	42	07-Dec-17	26-Ian-18	09-Dec-17	29-Jan-18	2				Port	ion C5P6	Drainage &	Sewerhoe
CP-8680 Portion C5P6 - Road Paving & Marking	36	27-Jan-18	16-Mar-18	30-Jap-18	19-Mar-18	2					Portion C	5P6 - Road P	aving & Markin
CP-8600 Portion C5P6 - Road Furnitures & Mise Works	36	27-Jan-18	16-Mar-18	30-Jan-18	19-Mar-18	2					Portion C	5P6 - Road F	urnitures & Mide
8 - Sewage Treatment Plant	50	27-5411-10	10-1414-10	50-541-10	19-141-10								
Contractor's Design Approval													
3CP-7005 STP E&M AIP Design Submission	120	24-Jul-15	14-Dec-15	31-Jul-15	21-Dec-15	6	STP	E&M AIP Desi	gn Submission				
BCP-7010 STP E&M AIP Design Engineer Review + Approval	60	10-Nov-15	20-Jan-16	17-Nov-15	27-Jan-16	6	s s	STP E&M AIP1	DesignEngineer Review + Approval				
BCP-7015 STP E&M AIP Design Review by Relevant Govt. Dert.	70	21-Jan-16	22-Apr-16	28-Jan-16	29-Apr-16	6		STP F	&M AIP Design Review by Relevant	Govt. Dept.			
CP-7020 STP E&M DDA Design Submission	130	10-Nov-15	22-Apr-16	17-Nov-15	29-Apr-16	6		STP	&M DDA Design Submission	oon bep			
CP-7025 STP E&M DDA Design Approval	60	23-Apr-16	05-Jul-16	30-Apr-16	12-Jul-16	6	·····		STP E&M DDA Design Approval				
CP 7020 STP Civil and Structure Design Submission	90	15 Dec 15	11 Apr 16	28 Dec 15	22 Apr 16	10	·	STP (5	il and Structure Design Submission				+
CD 7025 STD Civil and Structure Design Submission	90	02 Mag 16	22 hm 16	15 Mar 16	05 bil 16	10		SII G	STD Civil and Statesture Design Submission	an Dornotro L			
CP 7040 STP Civit and Structure Design Engineer Review + Approva	90	02 Mar 16	22-Juli-10	25 May 16	0.9 Son 16	66		-	STP Civit and Su ticture Design Elign	ieer Keview + Approvar			
CP 7040 STP Architectural Design Submission	90	18 Mar 16	22-Jun-16	25-May-16	15 Oct 16	00			STP Aronnectural Design Submission	de Denieuro II. Anno 1991			
CP-7045 STP Architectural Design Engineer Review + Approval	60	18-May-16	28-Jul-16	05-Aug-16	13-06-16	00			STP:Architectural Design Engine	er Review # Approval	÷		
2P-7047 STP Architectural Design Submission	150	02-Sep-16	06-Mar-17	21-Nov-16	29-May-17	66			\$1P Arch	itectural Design Submission			
P-7048 STP Architectural Design Engineer Review + Approval	150	14-Nov-16	22-May-17	07-Feb-17	09-Aug-17	66				I P Architectural Design Engi	acer Revie	w + Approval	
CD 7050 STD E 844 E minimum (Long Lond Itam) Sylumication	49	22 Mag 16	21 May 16	10 May 16	07 bl 16	20		CT	E M F guingmont (Long L dod Hom)	Culumination			
CP 7055 STF E&M Equipment (Long Lead Item) Submission	48	22-Wai-10	21-May-10	10-May-10	07-Jui-10	20	·		CTD F 84 ( F mining (Long Lead Rem)	Submission			
CP-7055 STP East E quipment (Long Lead Item) Approval	48	23-Apr-10	20-Jun-16	08-Jun-16	04-Aug-16	20			STP Eage Equipment (Long Lead Ite	m) Approval		) D	nt i Dellema
CP-7060 STP EXM E quipment (Long Lead Item) Procurement + Delivery	300	21-Jun-16	24-Jun-1/	05-Aug-16	09-Aug-1/	38	·	· · · · · · · · · · · · · · · · · · ·		SIP Earl Equipment (Lon	g Lead Iter	m) Procureme	at + Delivery
CP-7065 STP E&M E quipment (Misc.) Submission	60	23-May-16	02-Aug-16	08-Jul-16	15-Sep-16	38			STP E&M Equipment (Misc.) Si	ibmission			
CP-7070 STP E&M Equipment (Misc.) Approval	60	21-Jun-16	30-Aug-16	05-Aug-16	15-Oct-16	38	·	·····	STP E&M Equipment (M isc.)	Approval			
CP-7075 STP E&M Equipment (Misc.) Procurement + Delivery	240	31-Aug-16	24-Jun-17	17-Oct-16	09-Aug-17	38				STP E&M Equipment (M is	<ol> <li>Procure</li> </ol>	ement + Deliv	ery
CP-7080 STP Procurement of ABWF Sub-contractor	75	04-Jun-16	01-Sep-16	23-Aug-16	19-Nov-16	66			STP Procurement of ABWF S	ub-contractor			
reliminary Works										·····			
CP-7100 STP Site Initial Survey + Condition Survey	30	07-Mar-16	14-Apr-16	30-Apr-16	04-Jun-16	43		STP Si	te Initial Survey + Condition Survey	ļ	ļ		
CP-7120 STP Acess Road Formation	60	07-Mar-16	20-May-16	30-Apr-16	12-Jul-16	43		ST.	P Acess Road Formation				
3CP-7130 STP Site Clearance	30	15-Apr-16	20-May-16	06-Jun-16	12-Jul-16	43		ST ST	P Site Clearance		<u> </u>		
CP-7150 STP Temp Work Design Submission & Approval	90	05-Apr-16	21-Jul-16	16-Apr-16	02-Aug-16	10			STP Temp Work Design Submissio	on & Approval			
CP-7160 STP Method Statement Submission & Approval	90	05-Apr-16	21-Jul-16	16-Apr-16	02-Aug-16	10			STP Method Statement Submission	n & Approval			
Structural Works													
CP-7200 STP Excavation and ELS	90	06-Jul-16	20-Oct-16	13-Jul-16	27-Oct-16	6			STP Excavation and EL	S			
CP-7210 STP Substructures and Underground Tank	90	21-Oct-16	10-Feb-17	28-Oct-16	17-Feb-17	6			STP Substru	etures and Underground Tank	1		
3CP-7250 STP Superstructure	140	11-Feb-17	02-Aug-17	18-Feb-17	09-Aug-17	6				STP Superstructure	1		
ABWF & BS Works													
											Dete: M	sko Dr	
◆ ◆ Mile	estone							Proj	ect ID :LT6-DWPB1	Dete	Detail WO	ins Program	Chooked A:
	tical Activity		D.( .	1 147			D. D4	Lay	out : LT6DWPB1	Date	Revisi	וטו	Спескеа Ар
CRBC Statesting com	n-Critical Activity		Detai	I Works	s Progra	amme	e Kev. B1	Page	e 35 of 37	13-Apr-16 Revisi	JI1 15 1		
RBC-CEC-KADEN Joint Venture	maining Level of Effort		Data D	Date: 24-Jun-15		Run	Date: 14-Apr-16						

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ctivity ID	ActivityName		Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	2015 J J A S O N D	JF	MAM	2016 JJJ	ASO	ND.	JFMAM	2017 JJJAS		JFM	2018 A M J J A	SONE	) J F M	)19 A M J
BCP-7350	STP ABWF and BS Works		180	03-Aug-17	12-Mar-18	10-Aug-17	19-Mar-18	- 6	1 1 2 3 4 5 6	789	9 10 11 1	2 13 1	4 15 16	17 18 1	9 2 21 22 23	24 25 26 27	28 29 30	31 3 33	34 35 36 37 38	39 40 41 42	43 4 45	46 47 48
E & M W	arke		100	00 1148 17	12 114 10	10 Hug 17	17 1141 10		· · · · · · · · · · · · · · · · · · ·											- DO WOIRD		
- EQM WO	CTD D RM Washes		190	02 Arrs 17	12 Mar 19	10 Arrs 17	10 Mar 19					- <del> </del>			·····		<u>.</u>	<u></u>	OTD DOM W.			
BCP-7300	STP Eddvi works		180	03-Aug-17	12-Mar-18	10-Aug-17	19-Mar-18	0											STP Eaded wor	KS		
BCP-7400	STP Testing & Commissiong		90	13-Mar-18	03-Jui-18	20-iviar-18	10-Jui-18	0				- <del> </del>			·····				511	r lesing & C		<u>اور</u>
- External	Works												<u></u>									
BCP-7445	STP Area - Rising Main		90	21-May-16	05-Sep-16	20-Mar-18	10-Jul-18	543					\$TP	Area -	Rising Main				ļ			
BCP-7450	STP Area - External Works		176	13-Mar-18	13-Oct-18	20-Mar-18	22-Oct-18	6												STP A	Area - Ext	ernal Wor
- Upgradir	g of Chuk Yuen Village S	SPT																				<u> </u>
BCP-7800	Chuk Yuen Village Sewage P	umpingStation - Upgrading	86	04-Jul-18	13-Oct-18	11-Jul-18	22-Oct-18	6												Chuk	Yuen Vill	age Sewag
16.9 - Rec	laimed Water Faciliti	ies (Provisional)															1	1			1	1
- Contracto	r's Design Annroval							+														
BCP 8780	PWE E&M AIP Design Subm	ission	90	05 Oct 15	20 Jan 16	02 Jan 16	27 Apr 16	74	· · · · · · · · · · · · · · · · · · ·	DW	E E & M A		ion Subn	viccion.			÷i					į
DCI-8780	DWE E &M AID Design Engin		60	21 Jan 16	20-Jan-10	28 Apr 16	27-Api-10	74			DW			ion Eng	ina an Daviany				+			
BCF-8790	DWE E &M AID Design Engli	www.Palavant Cart, Dant	70	12 Apr 16	05 bl 16	28-Apt-10	20 San 16	74			KWI	- Eccivi	VE DON		nicel Review	· Appi ovai	Vort Dout					
BCP-8800	RWF Earl AIP Design Revie	w by Relevant Govt. Dept.	/0	12-Apr-16	05-Jul-16	11-Jul-10	20. Sep-16	74	·····			K I	WF E&N		esign Review t	y Relevant C	jovi. Depi.	4	·····			ł
BCP-8810	RWF E&M DDA Design Sub	missiai	130	21-Jan-16	05-Jui-16	28-Apr-16	30-Sep-16	74				K	WF Early	TDDA	Design Submis	sion						
BCP-8820	RWF E&M DDA Design App	proval	60	06-Jul-16	13-Sep-16	03-Oct-16	10-Dec-16	/4		÷	<u></u>	da a	RW	FE&M	DDA Design	Approval			÷	;		¦
BCP-8830	RWF Civil and Structure Des	Ign Submission	90	21-Jan-16	17-May-16	02-Sep-16	17-Dec-16	180				wi c	ivil and S	structure	e Design Subm	ISSION						
BCP-8840	RWF Civil and Structure Des	ign Engineer Review + Approval	90	12-Apr-16	28-Jul-16	21-Nov-16	13-Mar-17	186					RWF Ci	vil and	Structure Desi	gn Engineer	Review + A	Approval	ļ			
BCP-8850	RWF ABWF Design Submissi	ion	90	12-Apr-16	28-Jul-16	14-Nov-16	06-Mar-17	180	ļ				RWF AI	3WF De	sign Submissio	n	!		ļ			ļ
BCP-8860	RWF ABWF Design Engineer	r Review+ Approval	60	23-Jun-16	01-Sep-16	23-Jan-17	11-Apr-17	180					RWF	ABWF	Desi gn Engi n	eer Review+	Approval	4				ļ
- Procuren	ent & Delivery												1				1		1			1
BCP-8870	RWF E&M Equipment Submi	ission	48	14-Sep-16	10-Nov-16	12-Dec-16	13-Feb-17	74					_	RWF	E&M Equipn	ent Submissi	.on					
BCP-8880	RWF E&M Equipment Appro	wal	48	14-Oct-16	08-Dec-16	09-Jan-17	13-Mar-17	74	[ ] ]	1	1	11		R	WF E&M Equ	ipment Appro	Jv∤al	1	1			
BCP-8890	RWF E&M Equipment Procu	rement + Delivery	180	09-Dec-16	24-Jul-17	14-Mar-17	19-Oct-17	74				1				RW	F E&M Eq	quipment P	rocurement + D	elivery		
- Prelimina	urv Works															;	1	1	1			1
BCP-8700	RWF Site Initial Survey + Co	ndition Survey	30	07-Mar-16	14-Apr-16	19-Dec-16	21-Jan-17	237			RW	F Site I	nitial Sur	vev +:C	ondition Surve	v	+					
BCP-8705	RWF Acess Road Formation		30	15-Apr-16	20-May-16	23-Jan-17	06-Mar-17	237		·		RWF A	cess Roa	d Form	ation	·		4	·			
BCP-8708	RWF Site Clearance		30	21-May-16	25-lun-16	07-Mar-17	11-Apr-17	237				RW	/F Site C	learance			+	+				<u> </u>
BCP 8030	PWF Temp Work Decion Sub	mission & Annroyal	72	01 hm 16	25-Jun-16	09 Jan 17	11 Apr 17	186			······		DAVE	Tamp	Vork Dation S	ubraticei on &	Amproval					÷
BCI-8930	DWE Mathad Statemant Subm	nission & Appioval	72	01-Jun-16	25-Aug-16	09-Jan-17	11-Apr-17	100	÷	+			DWE	Mathad	Cto tomont Cu	ionussion &	Appioval .		+			
BCF-8940	Kwr Weulou Statement Subi	nission & Approvar	12	01-Jui-10	23-Aug-10	09-Jail-17	11-Api-17	180					INVV F	wienioc	Statement Su		approvar	+				
- Structura	I Works												····					4	ļ			
BCP-8710	RWF Excavation		12	11-Feb-17	24-Feb-17	12-Apr-17	28-Apr-17	50							RWF E	cavation						
BCP-8715	RWF Substructures		24	25-Feb-17	24-Mar-17	29-Apr-17	29-May-17	50							RWI	Substructur	eş		ļ			ļ
BCP-8720	RWF Superstructure		60	25-Mar-17	10-Jun-17	31-May-17	09-Aug-17	50								RWF Su	perstructure	Ċ	ļ			
- ABWF &	BS Works													1								1
BCP-8740	RWF ABWF and BS Works		180	03-Aug-17	12-Mar-18	10-Aug-17	19-Mar-18	6									_		RWF ABWF ar	d BS Works		
- E&M We	rks										-						1	1				1
BCP-8730	RWF E&M Works		180	03-Aug-17	12-Mar-18	10-Aug-17	19-Mar-18	6											RWF E&M Wo	rks		
BCP-8750	RWF Testing & Commissiong		90	13-Mar-18	03-Jul-18	20-Mar-18	10-Jul-18	6											RW	/F Testing &	Commissic	ng
- External	Works																				-	1
BCP-8770	RWF External Works		176	13-Mar-18	13-Oct-18	20-Mar-18	22-Oct-18	6	·····								÷		<u>}</u>	RWF	External '	Works
15.0			170	15-1411-16	15-001-18	20-14141-10	22-001-10	· · · ·	÷	+										i con		
17.0 - Wor	ks Subject to Excision	1																	÷			
17.1 - Sec	tion IA of the Works												1				1		1			1
WSE-1000	Works within Portion PL1 of	the Site	485	23-Jun-16	20-Oct-17	23-Jun-16	20-Oct-17	0									Work	ks within P	ortion PL1 of th	e Site		
17.2 - Sec	tion IB of the Works																					
WSE-2000	Works within Portion PL2 of	the Site	485	23-Jun-16	20-Oct-17	23-Jun-16	20-Oct-17	0								;	Work	ks within P	brtion PL2 of th	ie Site		
17.2 See	tion IC of the Works														·		7					<u> </u>
17.5 - Sec	tion ic of the works									:	1			1	1	1		<u> </u>	<u>: : :</u>		1	<u>}</u>
	N.S.	Milestone									р	maiaat		DWD	0.1			[	Detail Works F	rogramme		
	é	Critical Activity									I P	avout	. L.10 • L.Т6D3	wPt ע VPR1	<b>1</b>	F	Date		Revision	Ch	ecked A	pprovec
					Datai	l Works	Progra	amm	Rov R1			ayout 9900-34	. 510D			1	3-Apr-16	3 Revisi	on B1			
UR UR		Remaining Level of Ef	ffort		Detai		, i i ogli				1		51 51			F	-					
CRBC-C	EC-KADEN Joint	Venture			Data D	ate: 24-Jun-15		Run	Date: 14-Apr-16													
		Actual WOIK																				

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Activity ID Act	ctivity Name			Orig Dur	Start	Finish	Late Start	Late Finish	Total 2 Float J		201 A M J	16 2017 J A S O N D J F M A M J J A 2 44 45 46 47 48 40 2 24 29 29 24 25 29	SONDJI	MAM	2018 JJASOND	2019 J F M A M J
WSE-3000 Wo	Vorks within Portion PL3 of	the Site		485	23-Jun-16	20-Oct-17	23-Jun-16	20-Oct-17	0	1 2 3 4 5 6 7 8 9 10		3 14 13 10 17 10 19 2 21 22 23 24 25 21	Works wit	ain Portion P	L3 of the Site	43 4 45 46 47 46
17.4 - Section	n ID of the Works															
WSE-4000 Wo	Vorks within Portion PL4 of	the Site		485	23-Jun-16	20-Oct-17	23-Jun-16	20-Oct-17	0		i-	·	Works wit	ain Portion P	L4 of the Site	
175 - Section	n IE of the Works															
WSE-5000 W	Works within Portion PLA1 c	of the Site		485	23-Jun-16	20-Oct-17	23-Jun-16	20-Oct-17	0	·····		·····	Works wit	nin Portion P	LA1 of the Site	
17.6 Section	n II A of the Works	i die Site		105	25 544 10	20 000 17	25 541 10	20 000 17	· · · ·		1					
WSE-6000 Pir	ine Jacking HV001 and HV	/002		475	25-Jan-16	13-May-17	25-Jan-16	13-May-17	0	·····		Pine lac	ring HV001 and H	V002	-+	
18.0 Landson	oping and Establis	hm ont Works		475	25-541-10	15-Way-17	25-541-10	15-Way-17		·····					-++	
18.0 - Landsca	caping and Establis	anment works								·····					-+	
Portion WCI	1 and WC2			100				44.37 44								
LEW-1000 See	ection 7A - Portion WCI In	itial Survey + Site Es	stablishment	100	23-Jul-15	30-Oct-15	08-Aug-15	15-Nov-15	16	Section /A - Por	ortion WC	Initial Survey + Site Establishment			-+	
LEW-1100 Se	action 7A - Portion WC1 In	itial Planting	stablishment	220	31-Oct-15	06-Jun-16	16-Nov-15	22-Jun-16	16	Section 7.4 Der	wition WC	Section / A - Portion WC1 Initial Planting			-+	
LEW-1200 Set	action 7A - Portion WC2 In	itial Blanting	stablishinent	220	22=Aug=15	06 hm 16	16 Nov 15	22 Jun 16	16	Secuoli /A - For	ortion we	E linital Sulvey + Site Establishment			-+	
LEW-1300 Set	action 7R Portion WC2 In	WC1 Commance En	hancement Planting	220	07 Jun 16	00-Juli-10	22 Jun 16	22-Juii-10	16	······		Section 7 P Portion WC2 & WC1 Comman	Enhancement Play			
Turn and Sha	web Diantin a	wer commence En	nancement i fanting	U	07-541-10		25-541-10		10			certoi 715 - Fortion wez a wer contaiteite		g	-+	
Tree and Snr	rub Planting	T 17 1 1 4 1		2(0	15 1 10	02.14 10	07.4 10	22.4 10	<u></u>	······						
TRP-1500 Tr	ree & Shrub Planting - Sha	Tau Kok Interchange		260	17-Jun-18	03-Mar-19	07-Aug-18	23-Apr-19	51							Tree & Sh
TRP-1600 IF	ree & Shrub Planting - Brid	ige A and North Porta	41 al	360	00 Mar 18	23-Feb-19	29-Apr-18	23-Apr-19	51	·····						Tree & Shi
TRP-1900 Tr	ree & Shrub Planting - At-a	rade Road between F	ai Bridge B and C	360	28-Dec-17	22-Dec-18	29-Apt-18	23-Apr-19	122	·····					- <u>.</u>	Tree & Shub Plan
TRP-2000 Tr	ree & Shrub Planting - Reg	pe C	bridge b and e	360	28-Dec-17	22-Dec-18	29-Apr-18	23-Apr-19	122					;		Tree & Shub Plan
TRP-2100 Tr	ree & Shrub Planting - At-g	rade Road between F	Bridge C and D	360	28-Dec-17	22-Dec-18	2.9-Apr-1.8	23-Apr-19	122	·····		+			-4	Tree & Shrub Plan
TRP-2300 Tr	ree & Shrub Planting - Ping	Yeung Interchange		360	28-Dec-17	22-Dec-18	29-Apr-18	23-Apr-19	122							Tree & Shrub Plan
TRP-2400 Tr	ree & Shrub Planting - Brid	ge D and BCP Area		360	28-Dec-17	22-Dec-18	29-Apr-18	23-Apr-19	122							Tree & Shrub Plan
Bridge Deck	Landscaning	-				)										
TRP-2500 Br	Bridge A Hard Landscaping			150	19-Nov-17	17-Apr-18	30-Nov-17	28-Apr-18	11					Bri	dge A Hard Landscan	áng
TRP-2510 Br	Bridge B Hard Landscaping			85	21-Oct-17	13-Jan-18	05-Nov-17	28-Jan-18	15			+++++++++	E	ridge B Har	d Landscaping	
TRP-2520 Br	Bridge C Hard Landscaping			56	28-Dec-17	21-Feb-18	04-Mar-18	28-Apr-18	66					Bridge C	Hard Landscaping	
TRP-2530 Br	Bridge D Hard Landscaping			154	26-Jul-17	26-Dec-17	26-Nov-17	28-Apr-18	123				Bri	dge D Hard	Landscaping	
TRP-2540 Br	Bridge A Soft Landscaping			240	18-Apr-18	13-Dec-18	29-Apr-18	24-Dec-18	11							Bridge A Soft Land
TRP-2550 Br	Bridge B Soft Landscaping			240	14-Jan-18	10-Sep-18	29-Jan-18	25-Sep-18	15						Bridge B	Soft Landscaping
TRP-2560 Br	Bridge C Soft Landscaping			240	18-Apr-18	13-Dec-18	29-Apr-18	24-Dec-18	11							Bridge C Soft Land
TRP-2570 Br	Bridge D Soft Landscaping			360	18-Apr-18	12-Apr-19	29-Apr-18	23-Apr-19	11							Bridge
中國路橋 CRBC CRBC-CEC	C C-KADEN Joint	K <mark>aden</mark> <mark>⊯</mark> Venture	Milestone     Critical Activity     Non-Critical Activ     Remaining Level     Actual Work	rity of Effort		Detai Data D	I Works ate: 24-Jun-15	s Progra	amme Run I	e Rev. B1 Date: 14-Apr-16	Proje Layo Page	ject ID :LT6-DWPB1 yout : LT6DWPB1 ge 37 of 37	Date 13-Apr-16 Re	Detail W Revi vision B1	Vorks Programme ision Che	ecked Approved



**Contract 7** 

			NE/2014/	/03 - Liantang/ He	eung Yuen Wa	i Boundary Co	ntrol Point S	Site Fo	ormation ar	nd Infras	structure	Works	- Contra	ct 7									
ID	Task Name		Duration	Start	Finish	Predecessors		0.1	2016			2017			04	2018		0.2	04	2019	00	02	
1								<u></u> Q4	<u>vi </u>	<u>12   U</u>	<u>19   Q4</u>		Q2	עט	<u>Q</u> 4		<u> </u>	<u> (</u> )	Q4	<u>l</u> QI	<u>  Q2</u>	<u>1 U3</u>	<u> </u>
2	Commencement of the Works		0 da <b>y</b>	s 11/12/2015	11/12/2015	5		\$															
3	Commencement of Works -	(Project Start - PS)	0 day	s 11/12/2015	11/12/2015	5	_	•															
4	Section I Commencement of	the Works Notification	0 day	s 11/12/2015	11/12/201	5	_	•															
5	Section II - Commencement	of the Works Notification	0 day	s 11/12/2015	11/12/201	5		•															
6	Section III - Commencement	t of the Works Notification	0 day	s 11/12/2015	11/12/201	5		•															
7	Section IV - Commencement	t of the Works Notification	0 day	s 11/12/2015	11/12/2015	5		•															
8	Section V - Commencement	of the Works Notification	0 day	s 11/12/2015	11/12/2015	5		•															
9																							
10	Completion of Section of the	Works	550 da <b>y</b>	s 9/3/2018	10/9/2019	2										-						Ţ	J
11	(KD-2) Completion of Section	on II of the Works (PS+820d)	0 day	s 9/3/2018	9/3/2018	8				• • • • • • •						\$		• • • • • • • •			• • • • • • •		
12	(KD-3) Completion of Section	on III of the Works (PS+1005d)	0 day	s 10/9/2018	10/9/2018	8												•					
13	(KD-4) Completion of Section	on IV of the Works (PS+1005d)	0 day	s 10/9/2018	10/9/2018	3												<b></b>					
14	(KD-5) Completion of Section	on V of the Works (PS+1370d)	0 day	s 10/9/2019	10/9/2019	9																\$	,
15																							
16	Completion of Section of the	Works Subject to Excision	0 da <b>y</b>	s 10/9/2018	10/9/2018	3				• • • • • • •								<b>♦</b>					
17	(KD-1) Completion of Section	on I of the Works (PS+1005d)	0 day	s 10/9/2018	10/9/2018	3												•					
18																							
19	Archeivement of Stage of the	Works	550 da <b>y</b>	s 8/4/2016	10/10/2017	7			-														
20	(KD-S1) Acheivement of Sta	ige I of the Works (PS+640d)	0 day	s 10/9/2017	10/9/2017	7								\$									
21	(KD-S2) Acheivement of Sta	ige II of the Works (PS+365d)	0 day	s 9/12/2016	9/12/2016	5					•	•											
22	(KD-S3) Acheivement of Sta	age III of the Works (PS+490d)	0 day	s 13/4/2017	13/4/2017	7							•										
23	(KD-S4) Acheivement of Sta	age IV of the Works (PS+670d)	0 day	s 10/10/2017	10/10/2017	7								\$									
24	(KD-S5) Acheivement of Sta	ige V of the Works (PS+120d)	0 day	s 8/4/2016	8/4/2016	5			<b>\$</b>														
25																							
26	Works Areas Possession Date	•	30 da <b>y</b>	s 11/12/2015	9/1/2016	5			7														
27	Possession of Portion A (PS-	-30d)	0 day	s 9/1/2016	9/1/2016	5			>														
28	Possession of Portion B (PS)		0 day	s 11/12/2015	11/12/201	5		•															
29	Possession of Portion C (PS)		0 day	s 11/12/2015	11/12/2015	5		•															
30	Possession of Portion D (PS)		0 day	s 11/12/2015	11/12/2015	5		•															
Revisi	ion: 1	Task	Progress			ary 🗸		Proj	ject Summar	, 🖵		7											
		Critical Task	Milestone	•	Split			Dea	ıdline	<b>₽</b>													
Kwan	On - Richwell - SCG JV					P	age 1 of 10														Initial V	/orks Pr	ogramme

		NE/2014/03	- Liantang/ Heu	ng Yuen Wai	i Boundary Co	ontrol Point	Site Fo	ormat	ion and Ir	nfrastru	icture V	Vorks -	Contra	ct 7									
ID	Task Name	Duration	Start	Finish	Predecessors			2016	0.00	0.2		2017	0.0			2018		0.0		2019			
31	Possession of Portion E (PS)	0 days	11/12/2015	11/12/2015	5	Q3	Q4	<u>Q1</u>	Q2	Q3	Q4		Q2	<u> </u>	<u>  Q</u> 4		<u> </u>	<u> </u>	Q4	<u>Q1</u>	<u> </u>	<u> </u>	Q4
32	Possession of Portion F (PS)	0 days	11/12/2015	11/12/2015	5		•																
33	Possession of Portion G (PS)	0 days	11/12/2015	11/12/2015	5		•																
34	Possession of Portion H (PS)	0 days	11/12/2015	11/12/2015	5		\$																
35	Possession of Portion Y (above +20.5mPD) (PS+30d)	0 days	9/1/2016	9/1/2016	5																		
36	Possession of Portion Z (PS+30d)	0 days	9/1/2016	9/1/2016	5			>															
37																							
38	Possession of Works Areas to be Relinguished by Contractor	425 days	11/8/2016	10/10/2017	1					$\nabla$													
39	Possession of Portion A to be relinquished by Contractor (below +16.0mPD) (PS+490d)	0 days	13/4/2017	13/4/2017	7								<b></b>										
40	Possession of Portion B to be relinquished by Contractor (PS+460d)	0 days	14/3/2017	14/3/2017	7							•	•										
41	Possession of Portion C to be relinquished by Contractor (PS+365d)	0 days	9/12/2016	9/12/2016	5						•												
42	Possession of Portion D to be relinquished by Contractor (PS+245d)	0 days	11/8/2016	11/8/2016	5					<b>♦</b>													
43	Possession of Portion E to be relinquished by Contractor (PS+245d)	0 days	11/8/2016	11/8/2016	5					\$													
44	Possession of Portion F to be relinquished by Contractor (PS+550d)	0 days	12/6/2017	12/6/2017	Ţ								\$										
45	Possession of Portion G to be relinquished by Contractor (below +19.5mPD) (PS+670d)	0 days	10/10/2017	10/10/2017	7										<b>♦</b>								
46																							
47	Submission and Approval	463 days	11/12/2015	17/3/2017	T							÷,	2										
48	General Submission	463 days	11/12/2015	17/3/2017									2										
49	Submit Temoprary Drainage Management Plan (Include Requirement in PS1.24A and PS1.112)	51 days	11/12/2015	30/1/2016	5																		
50	Submit Initial Record Survey of area of Shenzhen River	120 days	11/12/2015	8/4/2016	5		6																
51	Submit Draft Safety Plan	14 days	11/12/2015	24/12/2015	5		0																
52	Submit Environmental Management Plan	21 days	11/12/2015	31/12/2015	5		0																
53	Submit Sub-contractor Management Plan	42 days	11/12/2015	21/1/2016	5			3															
54	Submit Risk Management Plan	42 days	11/12/2015	21/1/2016	5			2															
55	Submit Method Statement and Risk Assessment for Ground	14 days	11/12/2015	24/12/2015	5		۵																
	1	<u>ı                                    </u>	I		1	I						:				:				:			
Revi	sion: 1 Task	Progress	<i></i>		ry 🛡		Pro;	ject Su	ımmary 👎			)											
	Critical Task	Milestone	•	Split			- Dea	adline	<u>ዮ</u>														
Kwa	n On - Richwell - SCG JV				I	Page 2 of 10	)														Initial V	Norks I	Programme

		NE/2014/03	- Liantang/ Heu	ng Yuen Wa	i Boundary Co	ontrol Point	t Site F	ormatio	on and li	nfrastr	ructure \	Norks -	Contra	ct 7									
ID	Task Name	Duration	Start	Finish	Predecessors			2016				2017				2018				2019			
56	Submit Method Statement, Material Submission and Risk Assessement for Piling Works	30 days	11/12/2015	9/1/2016	5	Q3	Q4 @	<u>Q1</u>	<u>  Q2</u>	<u>  Q3</u>	<u>  Q4</u>	<u>Q1</u>	<u>Q2</u>	<u>  Q3</u>	<u>  Q4</u>	<u>Q1</u>	Q2_	<u>Q3</u>	Q4	<u>Q1</u>	<u>  Q2</u>	<u>  Q3</u>	<u> </u>
57	Material submission for bearings and movement joints for bridges	60 days	1/5/2016	29/6/2016	5					)													
58	Façade	432 days	11/1/2016	17/3/2017	7								J										
59	Prepare and submit material submission of Façade for approval	180 days	11/1/2016	8/7/2016	5					മ													
60	Prepare mock-up for facade and approval of the mock-up	180 days	9/7/2016	4/1/2017	7 59							۵ ۲											
61	Procument and factory production of material	72 days	5/1/2017	17/3/2017	7 60								· · · · · · · · · · · · · · · · · · ·										
62																							
63																							
64	Alternative Design	172 days	11/12/2015	30/5/2016	5		$\nabla$																
65	Bridge A - Pile Caps and Piling Outside Abutments and U-troughs	172 da <b>y</b> s	11/12/2015	30/5/2016	5		Ţ																
66	Prepare and submit Initial Design Report submission	105 days	11/12/2015	24/3/2016	5		6		 م														
67	Engineer review/ comments on Initial Desgin Report submission	. 30 days	25/3/2016	23/4/2016	5 66				🍐														
68	Submit Final Design Report with ICE Certification for Engineer's approval	30 days	24/4/2016	23/5/2016	5 67																		
69	Engineer's approval on Final Design Report submisssion	7 days	24/5/2016	30/5/2016	5 68				<b>S</b>														
70																							
71	Bridge E - Pile Caps and Piling Outside Abutments and U-troughs	172 days	11/12/2015	30/5/2016	5																		
72	Prepare and submit Initial Design Report submission	105 days	11/12/2015	24/3/2016	5				א														
73	Engineer review/ comments on Initial Desgin Report submission	. 30 days	25/3/2016	23/4/2016	5 72				🍆														
74	Submit Final Design Report with ICE Certification for Engineer's approval	30 days	24/4/2016	23/5/2016	5 73				٢														
75	Engineer's approval on Final Design Report submisssion	7 days	24/5/2016	30/5/2016	5 74				<b>K</b>														
76																							
77	Preliminary	135 days	11/12/2015	23/4/2016	5		$\nabla$																
78	Site Office	135 da <b>y</b> s	11/12/2015	23/4/2016	5																		
79	Contractor's Accomodation	135 days	11/12/2015	23/4/2016	5		6																
80	Erection of Engineer's Accomodation	135 days	11/12/2015	23/4/2016	5		Ø																
Revis	ion: 1 Task	Progress	·		ary 🖵	· 	Pro	oject Sun	nmary 🖵							-							
	Critical Task	Milestone	<b></b>	Split			·· De	adline	Ŷ														
Kwan	I On - Richwell - SCG JV				P	Page 3 of 10	0														Initial V	√orks Pr	ogramme

			NE/2014/03	- Liantang/ Heu	ung Yuen Wai	i Boundary Co	ntrol Point	Site Fo	ormat	tion and	Infrastru	cture V	Vorks -	Contra	ct 7									
ID	Task Nam <del>e</del>		Duration	Start	Finish	Predecessors		01	2016	01	03		2017			04	2018	01	03	04	2019			
81								<u>Q</u> 4	<u> </u>	Q2	<u> </u>	<u> </u>		<u>Q</u> 2	<u> </u>	<u>Q</u> 4	<u> </u>	<u>Q</u> 2	Q3	Q4		<u> </u>	0	<u> </u>
82	Bridge A		1005 days	11/12/2015	10/9/2018	6																		
83	Commencement		0 days	11/12/2015	11/12/2015	5		<b>(</b>																
84	Preliminary Works		21 days	11/12/2015	31/12/2015	j 			,															
85	Initial survey and site c	learance	21 days	11/12/2015	31/12/2015	5 83			,	,														
86	Portion from Pier A01 to Prebore Socketed H-Pile)	Pier A05 (Alternative Design -	679 days	1/3/2016	8/1/2018	k											7							
87	GI Works		36 days	1/3/2016	5/4/2016	i			4															
88	Pier A04 and A05	(OutsideBoundary Fence)	12 days	1/3/2016	12/3/2016	5 85				م														
89	Pier A01, A02 and	A03 (Inside Boundary Fence)	24 days	13/3/2016	5/4/2016	5 88				<b>b</b>	r													
90	Piling - Prc-bored St	ocket H-Piles	87 days	31/5/2016	25/8/2016	j				-														
91	Pier A04 and A05	(Outside Boundary Fence)	30 days	31/5/2016	29/6/2016	5 88,69					,  • •	······												
92	Pier A01, A02 and	A03 (Inside Boundary Fence)	36 days	30/6/2016	4/8/2016	5 89,91																		
93	Loading Testing of	Pre-bored Socket H-Piles	21 days	5/8/2016	25/8/2016	5 91,92					<b>*</b>													
94	Cap & Column		97 days	26/8/2016	30/11/2016	5	_				-													
95	Pier A04 and A05	(Outside Boundary Fence)	30 days	1/11/2016	30/11/2016	5 91,93						<b></b>												
96	Pier A01, A02 and	A03 (Inside Boundary Fence)	60 days	26/8/2016	24/10/2016	5 92,93						ا ر	•											
97	Decking		340 da <b>y</b> s	15/11/2016	20/10/2017	1										2								
98	Pier A04 to Cantile	ever End	100 days	1/12/2016	10/3/2017	7 95						2												
99	Abutment to Pier A	404	340 days	15/11/2016	20/10/2017	7 96,116						<b>*</b>				Π								
100	Stressing of Permane	nt Tendons	244 days	11/3/2017	9/11/2017	1										•								
101	Pier A04 to Cantile	ever End	20 days	11/3/2017	30/3/2017	7 98								1										
102	Abutment to Pier A	404	20 days	21/10/2017	9/11/2017	7 99										۵ ۱								
103	Removal of Tempora	r <b>y</b> Wor <b>k</b> s	284 days	31/3/2017	8/1/2018												•							
104	Pier A04 to Cantile	ever End	14 days	31/3/2017	13/4/2017	7 101								۵ ۲										
105	Abutment to Pier A	404	60 days	10/11/2017	8/1/2018	8 102											•							
106	Reinstate of Shenzhen I	River	14 days	31/3/2017	13/4/2017	7 101								<u>s</u>										
107	Handover of Portion A		0 days	13/4/2017	13/4/2017	7 83SS+490 days,106,104								*										
108																								
	, 			<u> </u>		1	1					I		1					I		-			
Revis	ion: 1	Task Critical Task	Progress Milestone	<b>~</b>	Summa Split	ıry 🛡		Prog Dea	ject S adline	ummary 🛡 🖓			J											
Kwan	n On - Richwell - SCG JV					Р	age 4 of 10	)														Initial	Works I	Programme

			NE/2014/03	- Liantang/ Heu	ng Yuen Wai	i Boundary Control P	oint Site	e Form	ation	and In	frastru	cture \	Vorks -	Contra	ct 7										
ID	Task Name		Duration	Start	Finish	Predecessors	2 0	201	.6	01	03	04	2017	01	03	04	2018	01	03		2019	)	01	03	04
109	Portion of Abutment and	U-trough (Conforming Design)	516 days	1/5/2016	28/9/2017		<u>, v</u>	4 (	21		<u> </u>	Q4		Q2				<u> </u>		Q4		<u>1   (</u>	<u>Q</u> 2	<u>(</u> )	<u> </u>
1 10	GI Works		126 days	1/5/2016	3/9/2016																				
111	Abutment		36 days	1/5/2016	5/6/2016																				
112	U-trough		90 days	6/6/2016	3/9/2016	111				-	<b></b>														
113	Piling - Bored Piles		270 da <b>y</b> s	6/6/2016	2/3/2017					-			<u> </u>												
1 14	Abut ment		72 days	6/6/2016	16/8/2016	111					<b></b>														
115	U-trough		180 days	4/9/2016	2/3/2017	112							, T												
116	Abutment Structure		90 days	17/8/2016	14/11/2016	114								• • • • • •											
117	U-trough Structure		120 days	3/3/2017	30/6/2017	115							8	, 	ച										
118	Backfilling of U-trough		90 days	1/7/2017	28/9/2017	117																			
1 19																									
120	Construct Drop-in Span		90 days	10/11/2017	7/2/2018	99,118,102										*	i i i i i i i i i i i i i i i i i i i								
121	Install parapet, lighting, drai	inage works, movement joint	90 days	8/2/2018	8/5/2018	120												<b></b>							
122	Lay road surface and paint r	oad marking	12 days	9/5/2018	20/5/2018	121												8							
123	Handover of Bridge A		0 days	10/9/2018	10/9/2018	122,83SS+1005 days,105														6					
124																									
125	Bridge B		1005 days	11/12/2015	10/9/2018			-											(	7					
126	Commencement		0 days	11/12/2015	11/12/2015			r <b>¢</b>		••••											• • • • •				
127	Preliminary Works		21 days	11/12/2015	31/12/2015			-																	
128	Initial survey and site c	elearance	21 days	11/12/2015	31/12/2015	5 126		<b>A</b>																	
129	GI Works		36 days	11/1/2016	15/2/2016			-	-																
130	Pier B01 (Outside Bour	idary Fence)	24 days	11/1/2016	3/2/2016	5 128			ו																
131	Pier B00 (Inside Bound	ary Fence)	12 days	4/2/2016	15/2/2016	130		•••••		••••											• • • • •				• • • • • • • •
132	Piling - Bored Piles		72 days	4/2/2016	15/4/2016	i		F		,															
133	Pier B01 (Outside Bour	idary Fence)	48 days	4/2/2016	22/3/2016	5 130		Ì																	
134	Pier B00 (Inside Bound	ary Fence)	24 days	23/3/2016	15/4/2016	131,133			*	η															
135	Cap & Column		229 days	16/4/2016	30/11/2016				Ţ												-				
136	Pier B01 (Outside Bour	idary Fence)	30 days	1/11/2016	30/11/2016	133						. <b>t</b> on		• • • • • •							• • • • • •				
137	Pier B00 (Inside Bound	ary Fence)	30 days	16/4/2016	15/5/2016	134				<b>*</b>															
Revisi	on: 1	Task	Progress	<b>~</b>	Summa	ry 🗸		Project	Summ	ary 🖵 ""			7												
Kwan	On - Richwell - SCG JV		MILESTORS	•	Shu	Page 5 d	of 10	Deadin	ιc	~												Init	ial Wo	:ks Pro	gramme

			NE/2014/03	- Liantang/ Heu	ing Yuen Wa	i Boundary Cor	trol Point	t Site F	ormatic	on and	Infrastr	ucture V	Norks -	Contra	ct 7									
ID	Task Name		Duration	Start	Finish	Predecessors			2016				2017				2018				2019			
138	Decking		100 days	1/12/2016	10/3/2017	1	Q3	<u>Q4</u>	Q1	Q2	Q3	<u>  Q4</u>	Q1	Q2 	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
139	Pier B00 to Cantilever	End	100 days	1/12/2016	10/3/2017	7 136,137								ſ										
140	Stressing of Permanent 7	Cendons	20 days	11/3/2017	30/3/2017	1							•	<b>•</b>										
141	Pier B00 to Cantilever	End	20 days	11/3/2017	30/3/2017	7 139																		
142	Removal of Temporary V	Vorks	14 days	31/3/2017	13/4/2017	1								•••										
143	Pier B00 to Cantileve E	End	14 days	31/3/2017	13/4/2017	7 141								<u>چ</u>										
144	Reinstate of Shenzhen River		14 days	31/3/2017	13/4/2017	7 141	_							5										
145	Handover of Portion A		0 days	13/4/2017	13/4/2017	7 12688+490 days,144,143								**										
146																								
147	Construct Drop-in Span		90 days	11/3/2017	8/6/2017	7 139	_						Ì											
148	Install parapet, lighting, drai	inage works, movement joint	90 days	9/6/2017	6/9/2017	7 141,147	-								<b>ferred</b>									
149	Lay road surface and paint r	oad marking	10 days	7/9/2017	16/9/2017	7 148	_								\$									
150	Handover of Bridge B		0 days	10/9/2018	10/9/2018	3 149, 126SS+1005 days		L											*					
151																								
152	Bridge D		1005 days	11/12/2015	10/9/2018	8		<b>—</b>												l				
153	Commencement		0 days	11/12/2015	11/12/2015	5		¢																
154	Preliminary Works		10 da <b>y</b> s	11/12/2015	20/12/2015	j		~																
155	Initial survey and site c	clearance	10 days	11/12/2015	20/12/2015	5 153		0																
156	GI Works		36 days	11/1/2016	15/2/2016	j																		
157	Pier D01 (Outside Bour	ndary Fence)	24 days	11/1/2016	3/2/2016	5 155			<b>T</b>															
158	Pier D00 (Inside Bound	ary Fence)	12 days	4/2/2016	15/2/2016	5 157			ħ															
159	Piling - Bored Piles		72 da <b>y</b> s	4/2/2016	15 <b>/4/201</b> 6	i			-	-														
160	Pier D01 (Outside Bour	ndary Fence)	48 days	4/2/2016	22/3/2016	5 157																		
161	Pier D00 (Inside Bound	ary Fence)	24 days	23/3/2016	15/4/2016	5 158,160				۵ ۱														
162	Cap & Column		229 da <b>y</b> s	16/4/2016	30/11/2016	i l				-														
163	Pier D01 (Outside Bour	ndary Fence)	30 days	1/11/2016	30/11/2016	5 160						<b>i</b>												
164	Pier D00 (Inside Bound	ary Fence)	30 days	16/4/2016	15/5/2016	5 161				<b>D</b>														
165	Decking		100 da <b>y</b> s	1/12/2016	10/3/2017							-	- V	1										
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			NE/2014/03	- Liantang/ Heu	ung Yuen Wa	i Boundary Co	ntrol Point	Site Fo	ormatic	on and	Infrastru	ucture V	Vorks ·	Contra	ct 7									
ID	Task Name		Duration	Start	Finish	Predecessors			2016				2017			<u></u>	2018			- C1	2019			
166	Pier D00 to Cantilever I	End	100 days	1/12/2016	10/3/2017	7 163,164	<u> </u>	Q4	QI	<u> </u>	<u> </u>	Q4			<u>Q3</u>	Q4		<u>Q2</u>	<u> </u>	Q4		<u>  Q2</u>	<u> </u>	<u> </u>
167	Stressing of Permanent T	cndons	20 days	11/3/2017	30/3/2017	7	_						, t	-										
168	Pier D00 to Cantilever I	End	20 days	11/3/2017	30/3/2017	7 166	_						1											
169	Removal of Temporary W	/orks	14 days	31/3/2017	13/4/2017	7								••										
170	Pier D00 to Cantilever H	End	14 days	31/3/2017	13/4/2017	7 168	_							<b>Š</b>										
171	Reinstate Shenzhen River		14 days	31/3/2017	13/4/2017	7 168								5										
172	Handover of Portion A		0 days	13/4/2017	13/4/2017	7 171,153SS+490 days,170								₩ <sup>*</sup>										
173	Construct Drop-in Span		90 days	11/3/2017	8/6/2012	7 166																		
175	Install parapet lighting drait	nace works and movement joint	60 days	9/6/2017	7/8/2013	7 168 174	_																	
175	Construct Semi-Enclosure (S	ubject to Excision)	90 days	8/8/2017	5/11/2012	7 175									-	<b></b>								
177	Lav road surface and paint ro	oad marking	10 days	6/11/2017	15/11/2017	7 176	_																	
178	Handover of Bridge D		0 days	10/9/2018	10/9/2018	8 153SS+1005	_									<u> </u>			<b>&gt;</b>					
						days,177													, .					
179																								
180	Bridge E		1005 days	11/12/2015	10/9/2018	3																		
181	Commencement		0 days	11/12/2015	11/12/2015	5																		
182	Preliminary Works		21 days	11/12/2015	31/12/2015	ī		-	•															
183	Initial survey and site c.	learance	21 days	11/12/2015	31/12/2015	5 181																		
184	Portion from Pier E01 to Prebored Socket H-Pile)	Pier E08 (Alternative Design -	644 days	1/3/2016	4/12/2017	7			-															
185	GI Works		54 days	1/3/2016	23/4/2016	i .			-															
186	Pier E06, E07 and I	E08 (Outside Boundary Fence)	18 days	1/3/2016	18/3/2016	5 183			<b>*</b>															
187	Pier E03, E04 and I	E05 (Inside Boundary Fence)	24 days	19/3/2016	11/4/2016	5 186			Ì	ă														
188	Pier E01, E02		12 days	12/4/2016	23/4/2016	5 187				8														
189	Piling - Pre-bore Soc	keted H-Piles	153 days	31/5/2016	30/10/2016	5				•														
190	Pier E06, E07 and I	E08 (Outside Boundary Fence)	54 days	31/5/2016	23/7/2016	5 186,75																		
191	Pier E03, E04 and I	E05 (Inside Boundary Fence)	54 days	24/7/2016	15/9/2016	5 187,190		••• •••						•••••										
192	Pier E01, E02		24 days	16/9/2016	9/10/2016	5 188,191																		
<u> </u>								<b>.</b> –																
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		NE/2014/03	- Liantang/ Hei	ung Yuen Wai	i Boundary Cor	ntrol Point	Site F	ormatio	on and Ir	nfrastruct	ure V	Vorks	- Con	tract	7								
ID Ta	sk Name	Duration	Start	Finish	Predecessors	03	04	2016	01	03	04	2017		2	02	04	2018	03	20	019	01		01
193	Loading Testing of Pre-bored Socket H-Piles	21 days	10/10/2016	30/10/2016	5 190,191,192				<u> </u>	60	<u>ر</u> 4 م			2	<u>(</u> )	<u>Q</u> 4		; 03	<u>+                                    </u>	QI	<u>Q</u> 2		4
194	Cap & Column	60 days	31/10/2016	29/12/2016	5						-	2											
195	Pier E06, E07 and E08 (Outside Boundary Fence)	30 days	1/11/2016	30/11/2016	5 193						<b>T</b>												
196	Pier E03, E04 and E05 (Inside Boundary Fence)	30 days	31/10/2016	29/11/2016	5 193						*							 	 				
197	Pier E01, E02	30 days	30/11/2016	29/12/2016	5 196	_							1										
198	Drcking	335 days	1/12/2016	31/10/2017	1						-												
199	Pier E07 to Cantilever End	100 days	1/12/2016	10/3/2017	7 195	_							<u>h</u>										
200	Pier E03 to Pier E07	100 days	1/12/2016	10/3/2017	7 196,195								₩—										
201	Abutment to Pier E03	235 days	11/3/2017	31/10/2017	7 197,200,220													 	 				
202	Stressing of Permanent Tendons	255 days	11/3/2017	20/11/2017	1											-							
203	Pier E07 to Cantilever End	20 days	11/3/2017	30/3/2017	7 199								<b>Š</b> h										
204	Pier E03 to Pier E07	20 days	11/3/2017	30/3/2017	7 200								<b>\$</b>										
205	Abutment to Pier E03	20 days	1/11/2017	20/11/2017	7 201											۵.							
206	Removal of Temporary Works	249 days	31/3/2017	4/12/2017	1			• • • • • • •					•				•••••	 	 ••••••			• • • • • • •	
207	Pier E07 to Cantilever End	14 days	31/3/2017	13/4/2017	7 203								<b>F</b>										
208	Pier E03 to Pier E07	14 days	31/3/2017	13/4/2017	7 204								ð										
209	Abutment to Pier E03	14 days	21/11/2017	4/12/2017	7 205											Ŏ-							
210	Reinstate of Shenzhen River	14 days	31/3/2017	13/4/2017	7 203,204								5										
211	Handover of Portion A	0 days	13/4/2017	13/4/2017	7 18155+490 days,210,207,208													 					
212																							
213	Portion of Abutment and U-trough (Conforming Design)	461 days	2/5/2016	5/8/2017	1				-														
214	GI Works	111 days	2/5/2016	20/8/2016	5				<b>_</b>														
215	Abutment	36 days	2/5/2016	6/6/2016	5				<b></b>														
216	U-trough	75 days	7/6/2016	20/8/2016	5 215					<b>11</b>								 	 				
217	Piling - Bored Piles	215 days	7/6/2016	7/1/2017	7				-														
218	Abutment	72 days	7/6/2016	17/8/2016	5 215																		
219	U-trough	140 days	21/8/2016	7/1/2017	7 216,218																		
220	Abutment Structure	90 days	18/8/2016	15/11/2016	5 218								1										
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		NE/2014/03	- Liantang/ Hei	ung Yuen Wa	i Boundary Contr	ol Point S	ite Fo	ormati	on and	Infrastru	ucture V	Vorks -	Contra	ct 7									
ID 1	Fask Name	Duration	Start	Finish	Predecessors		0.1	2016				2017			0.1	2018				2019		02	
221	U-trough Structure	120 days	8/1/2017	7/5/2017	219	<u> </u>	04	<u>l</u> QI	<u> </u>	U3	<u> </u>			<u> </u>	Q4	QI	<u> </u>	03	Q4		2	<u> </u>	4
222	Backfilling of U-trough	90 days	8/5/2017	5/8/2017	221																		
223																							
224	Construct Drop-in Span	90 days	21/11/2017	18/2/2018	3 199,200,201,205,222										*								
225	Install parapet, lighting, drainage works, movement joint	90 days	19/2/2018	19/5/2018	3 224											2							
226	Construct noise barrier and semi-enclosure (Subject to Excision)	100 days	20/5/2018	27/8/2018	3 225															• • • • • • •	 		
227	Lay road surface and paint road marking	14 days	28/8/2018	10/9/2018	3 226													Ĩ	5				
228	Handover of Bridge E	0 days	10/9/2018	10/9/2018	3 227, 18155+1005 days,209														*				
229																							
230 <b>H</b>	Bridge C	820 days	11/12/2015	9/3/2018	l												J						
231	Commencement	0 days	11/12/2015	11/12/2015	5		·····														 		
232	Preliminary Works	21 days	11/12/2015	31/12/2015	 																		
233	Initial survey and site clearance	21 days	11/12/2015	31/12/2015	5 231			5															
234	GI Works	78 days	1/1/2016	18/3/2016	j				7														
235	Type C1, Type C2 and Type C3 (Outside Boundary Fence)	30 days	1/1/2016	30/1/2016	5 233			۵.															
236	Type A, Type B1, Type B2, Type B3, Type B4, Type B5, Type B6, Type D (Inside Boundary Fence)	48 days	31/1/2016	18/3/2016	5 235		•• •••		<u>،</u>												 		
237	Piling - Bored Piles	132 days	31/1/2016	10/6/2016	j			-		7													
238	Type C1, Type C2 and Type C3 (Outside Boundary Fence)	120 days	31/1/2016	29/5/2016	5 235					1													
239	Type A, Type B1, Type B2, Type B3, Type B4, Type B5, Type B6, Type D (Inside Boundary Fence)	84 days	19/3/2016	10/6/2016	236				<b>*</b>	<b>b</b>													
240	Cap & Column	72 days	30/5/2016	9/8/2016	j				Ţ														
241	Type C1, Type C2 and Type C3 (Outside Boundary Fence)	60 days	30/5/2016	28/7/2016	5 238					ן רייין											 		
242	Type A, Type B1, Type B2, Type B3, Type B4, Type B5, Type B6, Type D (Inside Boundary Fence)	60 days	11/6/2016	9/8/2016	5 239																		
243	Erection of falsework to 2nd floor slab	45 days	10/8/2016	23/9/2016	5 241,242						۹												
244	Construct 2nd Floor Slab and Column	60 days	24/9/2016	22/11/2016	5 243						ter ter ter ter ter ter ter ter ter ter												
245	Construction of 3rd Floor Slab and Column	60 days	23/11/2016	21/1/2017	7 244						2	<b>1</b>											
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Kwan On - Richwell - SCG JV

Page 9 of 10

		NE/2014/03	- Liantang/ Heur	ng Yuen Wai	i Boundary Co	ntrol Point Site Formation and Infrastructure Works - Contract 7
ID	Task Name	Duration	Start	Finish	Predecessors	2016         2017         2018         2019           01
246	Construction of Roof Slab	55 days	22/1/2017	17/3/2017	245	$\frac{ 03 }{ 04 } = \frac{ 01 }{ 02 } = \frac{ 03 }{ 04 } = \frac{ 01 }{ 02 } = \frac{ 03 }{ 04 } = \frac{ 04 }{ 01 } = \frac{ 02 }{ 02 } = \frac{ 03 }{ 04 } = \frac{ 04 }{ 01 } = \frac{ 02 }{ 02 } = \frac{ 03 }{ 04 } = \frac{ 04 }{ 04 $
247	Removal of Temporary Works	12 days	18/3/2017	29/3/2017	7 246	
248	Reinstate Shen Zhen River	15 days	30/3/2017	13/4/2017	247	
249	Handover of Portion A	0 days	13/4/2017	13/4/2017	7 231SS+490 days,248	
250	Construction of Roof Upstand and Parapet	40 days	18/3/2017	26/4/2017	7 246	
251	Install Façade Wall	180 days	18/3/2017	13/9/2017	7 246,61	
252	Achievement of Stage I	0 days	13/9/2017	13/9/2017	7 231SS+640 days,251	
253	Install Building Maintenance Unit	110 days	14/9/2017	1/1/2018	3 251,250	
254	Install green roof and irrigation system at Roof Floor	67 days	2/1/2018	9/3/2018	3 253	
255	Handover of Bridge C	0 days	9/3/2018	9/3/2018	3 231SS+820 days,254	
256						
257	Establishment works at Portion Z	528 days	1/4/2018	10/9/2019	)	
258	Landscape softworks	163 days	1/4/2018	10/9/2018	3	
259	Commencement of establishment works	0 days	10/9/2018	10/9/2018	3 258	$\rightarrow$
260	Establishment works	365 days	11/9/2018	10/9/2019	259	
261						
262	Provision and delivery of stainless steel reinforcement bars to the contractor at Shenzhen	120 days	11/12/2015	8/4/2016		
263	Contractor at Shenzhen to provide bar bending schedule	45 days	11/12/2015	24/1/2016	5	
264	Provision and delivery the stainless steel reinforcemetn bars to the contactor at Shenzhen	75 days	25/1/2016	8/4/2016	5 263	
- Porte	om 1	Drogens		?	7/	
Kev1s1	Critical Task	Progress Milestone	<b></b>		су • • • • •	
Kwan	On - Richwell - SCG JV				Pa	age 10 of 10 Initial Works Programme



**Contract SS C505** 

## Liantang/Heung Yuen Wai Boundary Control Point

## **BCP Buildings and Associated Facilities**

					·					
Activity ID	Activity Name	Dur	Start	Finish	Finish Variance	February		March	2016	April
LHYW Bour	ndary Control Point - Works Programme Rey	396	09-Jul-15 A	08-Nov-16	64	08 15 22	29 0	07   14   21	28 04	11 18
PRELIMIN	ARIES AND GENERAL REOUIREMENTS	79	21-Jul-15 A	15-Apr-16	0					
Possession	of Site		15-Apr-16	15-Apr-16						
PP2	Possession of Portion 2 (Day 270)	0	15-Apr-16		0					<b>♦</b>
Submissio	n and Approvals	76	21-Jul-15 A	11-Apr-16	-50					
Other Subm	lissions	24	10-Mar-16	11-Apr-16	-50					
1161	Prepare and submit Ironmongery Schedule for PTB	24	10-Mar-16	11-Apr-16	-50					
8796	Prepare and submit Ironmongery Schedule for Ancillary Buildings	24	10-Mar-16	11-Apr-16	-50	_				
CSD / CBW	D Submission	30	13-Jan-16 A	11-Mar-16	-34					
8810	Address to Comments and Resubmission	30	13-Jan-16 A	10-Mar-16	-34			0		
8811	Approval Obtained	0	11-Mar-16		-34					
Permit		90	21-Jul-15 A	24-Mar-16	-128					
Environme	ntal Permit EP-404/2011	90	21-Jul-15 A	24-Mar-16	-128					
1176	EP - Prepare and submit Environmental Monitoring and Audit (EM&A) Programme	90	21-Jul-15 A	24-Mar-16	-128					
DETAILED	DESIGN OF WORKS	378	24-Jul-15 A	08-Nov-16	20					
Foundatio	ns for Passenger Terminal Building		16-Feb-16 A	16-Feb-16 A	-101					
Piles adjace	ent to CEDD Subway	0	16-Feb-16 A	16-Feb-16 A	-101					
8224	19 - Architect issue consent to commence construction	0		16-Feb-16 A	-101	\$				
Foundation	n for Ancillary Buildings (Portion 1)	224	24-Jul-15 A	05-May-16	-128					
Driven H-Pi	iles - 02 HKPF Building	224	24-Jul-15 A	05-May-16	-155		<u> </u>			
8226	Prepare design submission	24	24-Jul-15 A	04-Mar-16 A	-151					
8230	Architect review design submission	12	05-Mar-16 A	19-Mar-16	-153					
8232	Response to Architect comments	6	21-Mar-16	30-Mar-16	-153					
8234	Architect review final submission	6	31-Mar-16	07-Apr-16	-153					
8235	SCU review	28	08-Apr-16	05-May-16	-197					
8236	Architect issue consent to commence construction	0		05-May-16	-155					
Driven H-Pi	iles - 03 Fire Station	34	03-Feb-16 A	12-Apr-16	-109					
8520	Response to Architect comments	6	03-Feb-16 A	08-Mar-16 A	-112					
8521	Architect review final submission	6	09-Mar-16 A	15-Mar-16	-113	-	-			
8522	SCU review	28	16-Mar-16	12-Apr-16	-143					
8523	Architect issue consent to commence construction	0		12-Apr-16	-109					<b>♦</b>
Driven H-Pi	iles - 07 FXRVIS Building (Outbound)	21	16-Jan-16 A	08-Mar-16 A	-82					
8534	SCU review	28	16-Jan-16 A	12-Feb-16 A	-82					
8535	Architect issue consent to commence construction	0		08-Mar-16 A	-82	-	\$			
Foundation	n for Ancillary Buildings (Portion 2) and Elevated	145	24-Jul-15 A	12-May-16	-55					
Driven H-Pi	iles - 06 FXRVIS Building (Inbound)	20	26-Jan-16 A	08-Mar-16 A	-4					
8540	SCU review	28	26-Jan-16 A	24-Feb-16 A	8		_			
8541	Architect issue consent to commence construction	0		08-Mar-16 A	-4	-	♦ 💲			
Driven H-Pi	iles - Elevated Walkways 1, 3 & 4	145	24-Jul-15 A	12-May-16	-73					
Actual N	/ilestone			Pag	ge 1 of 11			Project I	D: H2634-P9	

Actual Milestone
 Milestone
 Baseline Milestone
 Actual Work
 Critical Remaining Work
 Project Baseline

# 3 Months Lookahead Works Programme

Progress to 10-Mar-16

Project ID: H2634-P9 Baseline: Works Programme Rev 1A

Layout: 3 Month Lookahead Works Programme Filter: TASK filter: Date range DD-1M to DD+3M.

Page 1 of 11

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Activ	ity ID	Activity Name		Dur	Start	Finish	Finish Variance	February			March	· · · ·		201	6 April	
	8547	Prepare design submission		24	24-Jul-15 A	12-Mar-16	-74	08 15 2	22	29 0	07 14	21	28	04	11	18
	8549	Architect review design submission		12	12-Mar-16	30-Mar-16	-74									
	8550	Response to Architect comments		6	30-Mar-16	07-Apr-16	-74	_								
	0550				07 Aug 10	14 Apr 16	74									
	8551	Architect review final submission		6	07-Apr-16	14-Apr-16	-/4	_								
	8551a	SCU review		28	14-Apr-16	12-May-16	-98									
	8552	Architect issue consent to commence const	truction	0		12-May-16	-73									
	Foundation	for Bridges B1 - B5		0	18-Feb-16 A	18-Feb-16 A	-53									
	DDA (B1/B2	(B3)	es Canaturation	0	18-Feb-16 A	18-Feb-16 A	-53	•								
	8202	B1/B2/B3 - Architech Consent to Commen	ce construction	U		18-FED-16 A	-53	<b>*</b>								
	Architectur	al & Others	nac	265	01-Dec-15 A	18-Oct-16	-50									
	PMU Desig	n an an an an an an ann ann an an an an	iigs	107	28-Dec-15 A	08-Apr-16	-66									
	1556	Submit for comment		21	28-Dec-15 A	11-Mar-16	-66									
	1558	Incorporate comments		6	12-Mar-16	18-Mar-16	-66	-								
-	8656	Resubmit and approval		14	19-Mar-16	08-Apr-16	-66	-								
	Drototypes	and Mockups		37	29-Dec-15 A	11-Apr-16	-152									
	1576	Architect Review and comment on Perform	ance Prototype & prototype	21	29-Dec-15 A	11-Mar-16	-174									
	1570	trial assemblies submission Mock up Submission for Curtain Wall, Glass	Wall and Aluminum Cladding	24	10-Mar-16	11-Apr-16	-153	-								
	1578	Re-submit Performance prototype & protot	vne trial assemblies submission	7	12-Mar-16	19-Mar-16	-137	-								
	13/0			100	10 May 10	10 0+ 10	50									
	1410	Metal Roofing & Roof Fall Arrest System D	esign Submission Review &	180	10-Mar-16 10-Mar-16	18-Oct-16	-50									
	1414	Approval Skylight/Glazed Canopies/Glazed Roofing &	Sun Shades Design Submission	180	10-Mar-16	18-0ct-16	-50									
	1410	Review & Approval		150	10 May 10	00 Can 10	50									
	1410	Green Roor System Design Submission Rev		150	10-Mai-10	09-3ep-10	-50									
	Suspended (	Ceiling, Steel Windows, Louvre an Steel Windows, Louvre and Door Design Su	d Door bmission Review & Approval	180 150	10-Mar-16 10-Mar-16	18-Oct-16 09-Sep-16	-62 -50									
	1419	Suspended Ceiling System Design Submissio		190	10 Mar 16	19 Oct 16	62	-								
	1410	Suspended Celling System Design Submissio		100	10-Mai-10	10-000-10	-02									
	Others 8666	Glass and Metal Balustrades Design Submis	ssion Review & Approval	120	10-Mar-16 10-Mar-16	05-Aug-16 05-Aug-16	-50		-							
	8676	Minor Structural Steelworks Design Submiss		120	10-Mar-16	05-Aug-16	-50	-								
	0070			120		05-Aug-10	-50		1							
	8706	Glass Cladding Design Submission Review &	a Approval	120	10-Mar-16	05-Aug-16	-50									
	8716	X-ray Shielding Doors Design Submission R	eview & Approval	90	10-Mar-16	30-Jun-16	-50									
	8726	Hoisting and Beams Installation Design Sub	mission Review & Approval	90	10-Mar-16	30-Jun-16	-50									
	Bridge Bear	ing Design Submission (Bridge 4	& 5)	39	30-Jan-16 A	19-Feb-16 A	-29									
	A1095	Architect 2nd Review		14	30-Jan-16 A	19-Feb-16 A	-29									
	A1096	Architech Approval		0		19-Feb-16 A	-29	*								
	Bridge Move	ement Joint Design Submission (B	ridge 4 & 5)	48	22-Feb-16 A	26-Apr-16	-96		·····							
	A1097	Prepare Submission		21	22-Feb-16 A	15-Mar-16	-96	_					_			
	A1098	Architech 1st Review		14	16-Mar-16	29-Mar-16	-96									
	A1099	Response to Architech Comment		14	30-Mar-16	12-Apr-16	-96									
	A1100	Architect 2nd Review		14	13-Apr-16	26-Apr-16	-96									
	A1101	Architech Approval		0		26-Apr-16	-96									
	Bridge Bear	ing Design Submission (Bridge 1-	3)	39	01-Dec-15 A	12-Apr-16	-68						·			
	Actual M	ilestone				Pac	ge 2 of 11		·			Proiec	t ID: H26	34-P9		
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ACTIVITY ID	Activity Name	Dur	Start	Finish	Variance	February	29	March	21	28 04	April	18 25		May
A1083	Architech 1st Review	14	01-Dec-15 A	15-Mar-16	-68	00 13 22	29		21	20 04	11	10 23		03
A1084	Response to Architech Comment	14	16-Mar-16	29-Mar-16	-68	_								
A1085	Architect 2nd Review	14	30-Mar-16	12-Apr-16	-68	_			[					
A1000				12 Apr 16		_					۵			
A1086		0		12-Apr-16	-08						•			
Bridge Move	ment Joint Design Submission (Bridge 1-	<b>3)</b> 47	15-Feb-16 A	26-Apr-16	-81									
A1087		21	15-FeD-16 A	12-MgL-10	-81	_								
A1088	Architech 1st Review	14	15-Mar-16	29-Mar-16	-81									
A1089	Response to Architech Comment	14	29-Mar-16	12-Apr-16	-81									
A1090	Architect 2nd Review	14	12-Apr-16	26-Apr-16	-81	_								
A1091	Architech Approval	0		26-Apr-16	-81							\$		
MEP System	ns	250	15-Sep-15 A	08-Nov-16	20									
Shop Drawir	ngs	156	15-Oct-15 A	24-Mar-16	20									
3100	Combined BWIC & Concealed Conduit / Services Drav	vings 120	15-Oct-15 A	14-Mar-16	-7									
3102	Combined Services Drawings & Shop Drawings	120	27-Oct-15 A	24-Mar-16	20							_		
Fuel Tank		100	27-Oct-15 A	10-Mar-16	117									
DD.BS82	Fuel Tank Submission/Review & Approval	100	27-Oct-15 A	10-Mar-16	117			D						
Air Conditio	ning	110	15-Sep-15 A	05-Aug-16	98									
DD.BS0010	Chiller Design Submission/Review & Approval	100	15-Sep-15 A	06-Apr-16	98									
DD.BS0012	Chiller Package Pumps Design Submission/Review & A	pproval 100	30-Mar-16*	29-Jul-16	4	-			I					
DD.BS0016	VRV/VAV Design Submission Review & Approval	100	30-Mar-16*	29-Jul-16	4									
DD 850020	AHLI/DALL Design Submission/Review & Approval	100	07-Apr-16	05-00-16	08	_								
DD.D30020		100	07-Api-10	05-Aug-10	50	_								
DD.BS0014	Cooling Tower Design Submission/Review & Approval	100	07-Apr-16	05-Aug-16	98									
Electrical	MCC Design Coloniario (Design A Assessed	100	05-Apr-16	03-Aug-16	0									
DD.BS0030	MCC Design Submission/Review & Approval	100	05-Apr-16	03-Aug-16	0									
DD.BS0032	Armoured Cable Design Submission/Review & Approva	al 100	05-Apr-16	03-Aug-16	0								<u></u>	
DD.BS0034	MCB/ MCCB Design Submission/Review & Approval	100	05-Apr-16	03-Aug-16	0									
Fire Services	s	100	30-Apr-16	29-Aug-16	-22									
DD.BS0040	FS Pumps Design Submission/Review & Approval	100	30-Apr-16*	29-Aug-16	-22									
DD.BS0058	Fire Shutters, Folding Gates & Smoke Curtain Design	Submission Review & 100	30-Apr-16	29-Aug-16	-22	=								
Diesel Gene	rators	100	05-Apr-16	03-Aug-16	0									
DD.BS0050	Diesel Generators Design Submission/Review & Appro	oval 100	05-Apr-16	03-Aug-16	0									
Broadcast R	eception & Burglar Alarm System	100	05-Apr-16	03-Aug-16	0									
DD.BS0070	Broadcast Reception Design Submission/Review & Ap	pproval 100	05-Apr-16	03-Aug-16	0									
DD.BS0072	Burglar Alarm & Security System Design Submission/R	eview & Approval 100	05-Apr-16	03-Aug-16	0								_ <u></u>	
Catering Equ	uipment	180	05-Apr-16	08-Nov-16	0									
DD.BS0080	Catering Equipment Design Submission/Review & App	roval 180	05-Apr-16	08-Nov-16	0									
LPG		100	05-Apr-16	03-Aug-16	0					_				
DD.BS80	Liquified Petroleum Gas Design Submission/Review & A	Approval 100	05-Apr-16	03-Aug-16	0								 	
Drainage		100	27-Oct-15 A	16-Mar-16	112									
DD.BS81	Drainage and plumbing Design Submission/Review & A	Approval 100	27-Oct-15 A	16-Mar-16	112									
Temporary	Works Design & Engineering	126	29-Oct-15 A	18-Jul-16	0									
ELS for u/g	Water / Fuel Tanks	40	29-Oct-15 A	02-Apr-16	-120									
1492		6	29-001-15 A	10-1914-10	-120				1				<u> </u>	
Actual Mi	ilestone			Pa	ge 3 of 11				Project ID	: H2634-P9 Works Programma	Rev 14			Date
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1 10 1				20.01.45.4		100	08 15 22	29	07 14	21 28	3 04	11 18			
1494	TW2 - Prepare 1st submission; incl. Method Design, etc	I Statement, Temp works	6	29-0ct-15 A	16-Mar-16	-120									
1496	Two - Submit to Architect for review		12	17-Mar-10	02-Apr-16	-120									
1498	Tw2 - Architect Issue Consent		U		02-Apr-16	-120					•				
Formworl	and Falsework - Bridge		36	10-Mar-16	25-Apr-16	-66									
8802	TW9 - Prepare design for Formworks and F	alseworks	18	10-Mar-16	02-Apr-16	-66									
8803	TW9 - ICE review and issue check certificat	e	6	05-Apr-16	11-Apr-16	-66									
8804	TW9 - Prepare 1st submission; incl. Method	Statement	6	05-Apr-16	11-Apr-16	-66									
8805	TW9 - Submit to Architect for review		12	12-Apr-16	25-Apr-16	-66					I				
8806	TW9 - Architect Issue Consent		0		25-Apr-16	-66						\$			
Interfacir			72	21-Apr-16	18-Jul-16	0									
Interfaci	ng with NE/2014/03 (LTBCP - Contr	act 7)	72	21-Apr-16	18-1ul-16	0									
1550	INT - NE/2014/03 Pre-Construction Coordin	ation Meeting	24	21-Apr-16	20-May-16	0									
1552	INT - NE/2014/03 Prepare and note the de preconstruction interfaces arrargement	tails of some of the design and	48	21-May-16	18-Jul-16	0									
PROCUR	EMENT MOCK-UPS MANUFAC	TURING & DELIVE	216	28-Jul-15 A	27-Sep-16	98									
Procuren	ent of Major Subcontracts		214	28-Jul-15 A	01-Aug-16				1						
3778	Building Services		150	28-Jul-15 A	03-Apr-16	0									
3774	Builder's Works		180	06-Nov-15 A	03-May-16	0									
2770			00	04 May 16	01 Aug 16	0	-								
3770	Lanuscaping		90	04-May-16	01-Aug-16	U									
Mock-Up	s, Prototypes & Performance Te	st	214	21-Dec-15 A	24-Sep-16	6									
Facade			1/3	21-Dec-15 A	06-Aug-16	4/									
A1020	1st stage inspection		60	27-Jan-16 A	26-Mar-16	-24									
A1020			12	27 Juli 10 A	00 Apr 16	25									
A1050			12	20-Mai-10	09-Api-16	-23			Ť						
A1040	2nd stage inspection		60	10-Apr-16	08-Jun-16	-29									
A1050	Approval		6	09-Jun-16	15-Jun-16	-25									
PMU	-		79	09-Apr-16	11-Jul-16	-34									
A1060	Procurement including extrusion and glazing	]	25	09-Apr-16	07-May-16	-34									
A1070	Fabricate and install		12	09-May-16	21-May-16	-34				_		1			
A1080	Testing		42	23-May-16	11-Jul-16	-34									
GV Kiosk	(Prototype A)		142	22-Jan-16 A	30-Jul-16	0									
PT.1051	RC Structure		24	22-Jan-16 A	31-Mar-16										
PT.1060	Fabricate prototype		28	01-Apr-16	03-May-16	1									
PT.1070	Install prototype		24	04-May-16	31-May-16	1	-								
PT.1080	Stage I Inspection		60	01-Jun-16	30-Jul-16	1									
Double C	urved Aluminum Cladding (Prototyp	е В)	173	21-Dec-15 A	06-Aug-16	47									
PT.1130	Prepare shop drawings and structural calcu	lations	60	21-Dec-15 A	15-Mar-16	49									
PT.1140	Submit to Architect		18	16-Mar-16	07-Apr-16	49		·····							
PT.1150	Fabricate prototype		28	08-Apr-16	10-May-16	49									
PT.1160	Install prototype (assembled off-site)		24	11-Mav-16	07-Jun-16	49	-								
PT 1170	Stage I Inspection		60	08-Jun-16	06-Aug-16	58	-								
			00		00-Aug-10	50									
PTB Pase	Senger Hall Interior (Prototype D)	lations	88 60	16-Mar-16	28-Jun-16	49									
11.1310				10 100 -10	20 1109-10										
Actual	al Milestone				Pa	ge 4 of 11				Project ID: H	12634-P9				
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PT.1320	Submit to Architect		18	27-May-16	16-Jun-16	49					· · · · · · · · · · · · · · · · · · ·	10		
PT.1330	Fabricate prototype		28	27-May-16	28-Jun-16	49	_							
Mock-ups			162	10-Mar-16	24-Sep-16	0								
Other Spe	cified Mockups (PS.A01)		162	10-Mar-16	24-Sep-16	0								
MU.1110	Acoustic Panel System		60	10-Mar-16*	25-May-16	-50				]				
MU.1170	Dog Kennel Partitions and Doors		120	10-Mar-16*	05-Aug-16	-50								
MU.1210	Fairface Concrete Works		120	10-Mar-16*	05-Aua-16	-98								
MII 1240	Floor Self Smoothing System		60	10-Mar-16*	25-May-16	-50	_							
MU 1250			00	10 May 10*	25-May-10	-50								
MU.1250	Flooring System		60	10-Mar-16*	25-May-16	-50				J				
MU.1360	Toilet Cubicle and Changing Cubicle (incl fitting	s etc)	120	10-Mar-16*	05-Aug-16	-50								
MU.1370	Structural Steel works		120	10-Mar-16*	05-Aug-16	-98							1	
MU.1120	Aluminium Windows Louvres and Doors		120	12-Apr-16	02-Sep-16	-152		1						
MU.1130	Aluminium Standing Seam Metal Roofing		120	12-Apr-16	02-Sep-16	-74	-							
MU.1180	Electrically Operated Chain Actuator System		120	04-May-16	24-Sep-16	0	_							
MU.1190	Electrically Operated Security Gates and Barrier	rs	120	04-May-16	24-Sep-16	0								
MU.1200	External Paving Works		120	04-May-16	24-Sep-16	0	_							
MIL 1220	Einich Corporta		120	04-May-16	24-Sop-16	0	_							
M0.1250			120	04-May-10	24-Sep-10	0	_							
MU.1270	Ironmongery		120	04-May-16	24-Sep-16	0	_							
MU.1280	Painting works		60	04-May-16	15-Jul-16	0								
MU.1290	Raised access flooring		100	04-May-16	31-Aug-16	0								
MU.1300	Recycled Timber Systems		120	04-May-16	24-Sep-16	0								
MU.1310	Signage Works		120	04-May-16	24-Sep-16	0								
MU.1350	Tiling and Plastering Works		120	04-May-16	24-Sep-16	0	_							
MU.1380	Smoke Vent & Curtain System		120	04-May-16	24-Sep-16	0	_							
Procureme	ent Architectural & Others		100	01-Dec-15 A	21-Jul-16	54								
Walls, Wind	dows & Claddings		96	23-Mar-16	21-Jul-16	54								
1574	Bulk material procurement		96	23-Mar-16	21-Jul-16	54								
Interior an	d Others		96	01-Dec-15 A	29-Apr-16	78								
8756	Steel Maintenance and Support Platforms orde	er manufacture and delivery	96	01-Dec-15 A	29-Apr-16	78					[			
Elavated W	alkway Type A & B Steel Trusses		60	27-Apr-16	11-Jul-16	-73								
Elavated V	Valkway 1		60	27-Apr-16	11-Jul-16	-73								
8901	Subcontracting / Prepare Shop Drawings / Mat	tierial Submission	60	27-Apr-16	11-Jul-16	-73		1						
Procureme	ent MEP Systems		158	17-Mar-16	27-Sep-16	98								
Air Conditio	Chiller Order, Manufacturing & Delivery		144 144	07-Apr-16 07-Apr-16	27-Sep-16 27-Sep-16	98							<u></u>	
Diumbing	and Drainage		96	17-Mar 16	20-lup.16	140								
8566	Plumbing and Drainage materials & equipment	Order Manufacturing &	96	17-Mar-10	20-Jun-16	140								
CONSTRU	Delivery		348	09-Jul-15 A	09-Sep-16	99								
Establish	CITON		290	09-1ul-15 A	04-10-16	91								
Establishment Mobilisation & Advance Works		33	15-Apr-16	25-May-16										
Site Establishment Works		33	15-Apr-16	25-May-16	0									
Initial Sur	rveys		33	15-Apr-16	25-May-16	0								
1262	Initial site survey (P2)		6	15-Apr-16	21-Apr-16	0					E			
	Milestone			,	Pa	ge 5 of 11	-	1		Proiect ID: H263	4-P9		1	
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D Activity Name		Dur	Start	Finish	Finish Variance	February 08 15	22	29	Marc 07 1	h 4   21	28	20	16 April	18	25	02	May 09   16
8506 Initial utility survey (P2)		6	15-Apr-16	21-Apr-16	0												
1264         Setup monitoring station (P2)		3	22-Apr-16	25-Apr-16	0												
1266 Topographic survey and pre-condition survey	of existing structures (P2)	12	26-Apr-16	10-May-16	0	-										1 1 1 1	
1268 Baseline monitoring & report (P2)		12	11-May-16	25-May-16	0												
Offices Welfare and other Facilities		24	22-Apr-16	21-May-16	0	-											
1306 Weighbridge		24	22-Apr-16	21-May-16	0											 	
emporary Utilities		220	09-Jul-15 A	08-Apr-16	-72											       	
Obtain permit for electric connection and bu	ild sub-station	180	09-Jul-15 A	08-Apr-16	-95				-								
296 Temporary Site Power ready		0		08-Apr-16	-72	-						\$					
ower Cranes		102	16-Dec-15 A	04-Jul-16	91												
9 Passenger Terminal Building (PTB)	Cart by ICE	77	16-Dec-15 A	02-Jun-16	-35											, , , , ,	
		3	10-Dec-15 A	10-FED-10 A	10												
1368 IC - Setup Tower Crane IC3 & IC4; Test 8	Cert. by ICE	3	19-Feb-16 A	12-Mar-16	-1												
1372 TC - Construct Tower Crane Footing (TC5 &	TC6)	30	22-Apr-16	30-May-16	-35				<b></b>							1 1 1	
1374 TC - Setup Tower Crane TC5 & TC6; Test &	Cert. by ICE	3	30-May-16	02-Jun-16	-35												
)5 Cargo Examination Building (Outbound)		30	24-Feb-16 A	21-Apr-16	9												
1378 TC - Concrete Tower Crane Footing (TC7 &	TC8)	30	24-Feb-16 A	18-Apr-16	9												
1380 TC - Setup Tower Crane TC7 & TC8; Test &	Cert. by ICE	3	19-Apr-16	21-Apr-16	9											i 1 	
04 Cargo Examination Building (Inbound)		30	28-May-16	04-Jul-16	91	-											
1390 TC - Concrete Tower Crane Footing (TC10 8	& TC11 )	30	28-May-16	04-Jul-16	91												
assenger Terminal Building (PTB)		261	28-Sep-15 A	17-Aug-16	-54												
9 - PTB (Podium) 19 - Foundations		261	28-Sep-15 A 28-Sep-15 A	1/-Aug-16 20-Jun-16	-54												
19 - Foundations Portion C1		144	27-Oct-15 A	27-Apr-16	-96												
19.804 19C1b - H Piles Outside Tower(177 no)		18	27-Oct-15 A	18-Mar-16	-96											1 1 1 1	
19.808 19C1 Architect review Piling Record and Loa	d Test Under Tower	12	27-Jan-16 A	10-Mar-16	-72				-								
19.116 19C1 - Start to construct Pilecaps at Portion	n C1	0	11-Mar-16		-60				<b></b>							, , , , , ,	
19.810 19C1 Submit Piling Record & Load Test Outs	side Tower	18	18-Mar-16	13-Apr-16	-96	-											
19.812 19C1 Architect review Piling Record and Loa	d Test Outside Tower	12	13-Apr-16	27-Apr-16	-96												
19 - Foundations Portion C2		133	23-Oct-15 A	24-Mar-16	-74												
19.816 19C2b - H Piles Outside Tower (165 no)		18	23-Oct-15 A	14-Mar-16	-95												
19.818 19C2 Submit Piling Record & Load Test Under	er Tower	18	06-Feb-16 A	05-Mar-16 A	-83											, ,	
19.822 19C2 Submit Piling Record & Load Test Outs	side Tower	18	01-Mar-16 A	07-Mar-16 A	-72												
19.820 19C2 Architect Review Piling Record and Loa	ad Test Under Tower	12	07-Mar-16 A	19-Mar-16	-83	-		-								1 1 1 1	
19.824 19C2 Architect Review Piling Record and Los	ad Test Outside Tower	12	08-Mar-16 A	23-Mar-16	-74	_											
10.210 1002 Chat he construct Places of Ducking			24 May 16	25 110 10	74					۵							
19.218 19C2 - Start to construct Pilecaps at Portion	1 C2	U	24-Mar-16		-74					<b>..</b>						, , ,	
19 - Foundations Portion B1         19.826       19B1a - H Piles Under Tower (295 no)		167 30	02-Oct-15 A 02-Oct-15 A	26-Apr-16 10-Mar-16	-95 -102				_								
19.830 1981h - H Piles Outside Tower (182 no)		18	27-Oct-15 ∆	17-Mar-16	-95	-											
	·· -	10	27 000 13 A										_				
19.834 19B1 Submit Piling Record & Load Test Outs	ide lower	18	17-Mar-16	12-Apr-16	-95												
19.836 19B1 Architect Review Piling Record and Loa	ad Test Outside Tower	12	12-Apr-16	26-Apr-16	-95											1 1 1 1	
<b>19 - Foundations Portion B2</b>		209	28-Sep-15 A	20-Jun-16	-89 -105			1									
		23	20 Jeh-12 W	11-mai-10	-102												
Actual Milestone				Pa	ge 6 of 11					F	Project ID: H	2634-P9				C	Pro
Milestone     Baseline Milestone		3 Mon	ths Lo	okahea	ad Wo	orks Pro	gran	nme		E		nina mogramme	NEV IA			10-Mar-16	Progres
Actual Work			-							L	ayout: 3 Mo	nth Lookahead	Norks Progra				
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Activit	y ID	Activity Name	Dur	Start	Finish	Finish Variance	February		March			2016 April	
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	19.842	19B2c - H Piles Outside Tower (116 no)	25	24-Oct-15 A	05-Apr-16	-103	08 15 22	29	07 14	21 2	8 04	11	18
	19.844	19B2 Submit Piling Record & Load Test Under Tower	18	01-Feb-16 A	29-Feb-16 A	-77							
	10.846	10R2 Architect Daview Diling Record and Load Test Under Tower	12	01-Mar-16 A	14-Mar-16	-77	_						
	19.040		12		14-140-10	-//							
	19.382	1982 - Start to construct Pilecaps at Portion 82	0	15-Mar-16		-//			v				
	19.848	19B2 Submit Piling Record & Load Test Outside Tower	18	05-Apr-16	26-Apr-16	-92							
	19.870	19B2b - H Piles Outside Tower adjacent to CEDD subway (49 no)	14	05-Apr-16	21-Apr-16	-103							
	19.850	19B2 Architect Review Piling Record and Load Test Outside Tower	12	19-Apr-16	04-May-16	-92							
	19.852	19B2 Submit Piling Record & Load Test for piles Outside Tower adja	acent 18	16-May-16	04-Jun-16	-89							
	19.854	19B2 Architect Review Piling Record and Load Test Outside Tower	12	06-Jun-16	20-Jun-16	-89							
	19 - Founda	ations Portion A1	47	25-Jan-16 A	05-May-16	-80	_						
	19.856	19A1 - H Piles Outside Tower (240 no)	23	25-Jan-16 A	29-Mar-16	-80							
	19.858	19A1 Submit Piling Record & Load Test Outside Tower	18	29-Mar-16	20-Apr-16	-80							
	19.860	19A1 Architect Review Piling Record and Load Test Outside Tower	12	20-Apr-16	05-May-16	-80	_						
	19.620	19A1 - Start to construct Pilecaps at Portion A1	0	05-May-16		-80							
	19 - Found	ations Portion A2	56	25-1an-16 A	09-May-16	-63	-						
	19.862	19A2 - H Piles Outside Tower (260 no)	24	25-Jan-16 A	01-Apr-16	-63		1			-		
	19.864	19A2 Submit Piling Record & Load Test Outside Tower	18	01-Apr-16	23-Apr-16	-63							
	19.866	19A2 Architect Review Piling Record and Load Test Outside Tower	12	23-Apr-16	09-Mav-16	-63							
	19.630	19A2 - Start to construct Pilecans at Portion A2		09-May-16		-63	<u>↓</u>						
	19.050		0	10.2	22.2.1.4.6	-03							
	19 - Substr	uctures	81	18-Jan-16 A 11-Mar-16	22-Jul-16	-73							
	19.118	19C1 - Excavation down to FL	19	11-Mar-16	06-Apr-16	-60							
	19.120	19C1 - Prepare Pile heads and construct pilecaps	71	23-Mar-16	21-Jun-16	-60	_	1 1 1					
	19 - Substr	ructures Portion C2	79	24-Mar-16	02-Jul-16	-74							
	19.220	19C2 - Excavation down to FL	19	24-Mar-16	19-Apr-16	-74							
	19.222	19C2 - Prepare Pile heads and construct pilecaps	69	09-Apr-16	02-Jul-16	-74					<b>_</b>		
	19 - Substr	uctures Portion B1	69	18-Jan-16 A	26-May-16	-50							
	19.374	19B1 - Excavation down to FL	28	18-Jan-16 A	16-Mar-16	-37		1					
	19.376	19B1 - Prepare Pile heads and construct pilecaps	65	19-Jan-16 A	26-May-16	-50				<b>_</b>			
	19 - Substr	uctures Portion B2	67	24-Feb-16 A	05-Jul-16	-84							
	19.384	19B2 - Excavation down to FL	29	24-Feb-16 A	21-May-16	-92							
	19.386	19B2 - Prepare Pile heads and construct pilecaps	67	27-Feb-16 A	05-Jul-16	-84		1					
	19 - Substr	ructures Portion A1	64	05-May-16	22-Jul-16	-80							
	19.622	19A1 - Excavation down to FL	20	05-May-16	30-May-16	-80							
	19.624	19A1 - Prepare Pile heads and construct pilecaps	58	12-May-16	22-Jul-16	-80		1					
	19 - Substr	uctures Portion A2	51	09-May-16	11-Jul-16	-63							
	19.632	19A2 - Excavation down to FL	15	09-May-16	27-May-10	-03	_						
	19.634	19A2 - Prepare Pile heads and construct pilecaps	45	17-May-16	11-Jul-16	-63		·					
	19 - RC Str	uctures	118	30-Jan-16 A	17-Aug-16	-54	-						
	19 - PTB G 19 - PTB G	Fortion C1	60	23-Apr-16	06-Jul-16	-60							
	19.122 19C1 - Construct Columns up to MF		60	23-Apr-16	06-Jul-16	-60							
	19.128 19C1 - Construct RC Structures up to GF (GL17-18/PN-PM) (Genset Rm)		t Rm) 15	10-May-16	27-May-16	-60			<b>-</b>				
	📥 Actual M	ilestone	]	1	Pa	ge 7 of 11		1	•	Project ID:	H2634-P9		
<b>♦</b>	Actual Milestone     Milestone			the I of	okaho	ad Wo	orks Program	nme		Baseline: W	/orks Programr	ne Rev 1A	
<b>◇</b>	Baseline Milestone									Lavout: 3 M	lonth I ookahea	d Works Proor	amme
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	Remaini	ng Work			- 3		-			Page 7 of 1	1		
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Action	ity ID	Activity Namo	Dur	- Stort	Finich	Einich					2016	
ACTIV			Dur	Start	FILIST	Variance	February	20 1 2	March		2010	April
	19.172	19C1 - Construct RC Structures up to GF slabs (GL13-15/PO) (DG Store)	18	10-May-16	31-May-16	-60		29 0	14	21 2	04	11 18
	19.124	19C1 - Construct RC Structures up to GF Slabs (GL8-11/G10-E) (Pump Rm	45	12-May-16	06-Jul-16	-60						
	19.126	& Tank) 19C1 - Construct RC Structures up to GF Slabs (GL14-17/PM-E) (Tx Rm)	36	24-May-16	06-Jul-16	-60	-					
	10.120	1001 - Construct BC Structures up to 120 225 (CI 17 10/DNI DNA) (Construct	10	20 May 10	15 Jun 10	60	-					
	19.130	ISCI - CONSTRUCT KC STRUCTURES UP to +20.225 (GL1/-18/PN-PM) (Genset Rm)	15	28-May-16	15-Jun-16	-60						
	19.174	19C1 - Construct RC Structures up to +17.575 (GL13-15/PO) (DG Store)	18	04-Jun-16	25-Jun-16	-60			_			<b>-</b>
	19 - PTB (	I/F Portion C2	62	03-May-16	16-Jul-16	-74						
	19.258		62	03-May-16	01-IUC-01	-/4	-					
	19.256	19C2 - Construct RC Structures up to GF Slabs (GL14-18/G7-G5) (Pump Rm & Tank)	30	09-May-16	14-Jun-16	-74			<b>_</b>			
	19.266	19C2 - Construct RC Structures up to GF Slabs (GL8-11/G7-G5) (Chiller Rm & L/UL area)	30	24-May-16	28-Jun-16	-74						
	19 - PTB G	F Portion B1	74	30-Jan-16 A	10-Jun-16	-40						
	19.530	1981 - Construct Columns up to MF	62	30-Jan-16 A	10-Jun-16	-40						
	19.528	19B1 - Construct RC Structures up to GF Slabs (GLP9-1/PK-PF) (Store Rm/Toilet/Lobby)	48	24-Mar-16	26-May-16	-49						
	19.532	19B1 - Construct RC Structures up to +19.425 (GLP9-1/PK-PF) (Store Rm/Toilet/Lobby)	30	04-May-16	10-Jun-16	-49						
	19 - PTB 0	F Portion B2	91	30-Mar-16	19-Jul-16	-79						
	19.544	19B2 - Construct RC Structures up to GF Slabs (GLP8-1/G4-G3) (Toilet)	18	30-Mar-16	20-Apr-16	-48						
	19.402	19B2 - Construct RC Structures up to GF slabs (GL8-9/PA) (Tank & Pump Rm)	18	14-Apr-16	05-May-16	-48						
	19.552	19B2 - Construct RC Structures up to GF Slabs (GLP11-4/PPB-PA) (Genset	18	21-Apr-16	12-May-16	-48	-		-			
	19.542	1982 - Construct RC Structures up to +19.425 Slabs (GLP8-1/G4-G3)	18	21-Apr-16	12-May-16	-48	]					
	19.546	19B2 - Construct Columns up to MF	66	29-Apr-16	19-Jul-16	-79						
	19.404	19B2 - Construct RC Structures up to +18.725 (GL8-9/PA) (Tank & Pump	18	06-May-16	27-May-16	-48						
	19.400	Rm) 19B2 - Construct RC Structures up to +20.225 Slabs (GLP11-4/PPR-PA)	18	13-Mav-16	03-Jun-16	-48						
		(Genset Rm)	-00	11 May 10	17 Aug 10	54						
	19 - PTB M 19 - PTB N	V/F Portion C1	82 75	20-May-16	17-Aug-16 17-Aug-16	-54 -60						
	19.132	19C1 - Construct RC Structures up to MF Slabs	51	20-May-16	20-Jul-16	-60						
	19.176	19C1 - Erect Structural Steel Platform	30	24-May-16	28-Jun-16	-60		_				
	19.134	19C1 - Construct Columns up to 1F	60	07-Jun-16	17-Aug-16	-60						
	1 <u>9 - PTB N</u>	1/F Portion C2	66	20-May-16	06-Aug-16	-74						
	19.268	19C2 - Construct RC Structures up to MF Slabs	66	20-May-16	06-Aug-16	-74						
	19.270	19C2 - Erect Structural Steel Platform	30	01-Jun-16	07-Jul-16	-74						
	19 - PTB N	//F Portion B1	77	11-May-16	12-Aug-16	-49						
	19.540	19B1 - Construct RC Structures up to MF Slabs	60	11-May-16	23-Jul-16	-49						
	19.556	19B1 - Erect Structural Steel Platform	30	26-May-16	02-Jul-16	-66	1					
	19.534	19B1 - Construct Columns up to 1F	62	30-May-16	12-Aug-16	-49				_		
	19 - PTB N	I/F Portion B2	30	30-May-16	05-Jul-16	-79						
	19.558	19B2 - Erect Structural Steel Platform	30	30-May-16	05-Jul-16	-79						
	Associated	Buildings	204	24-Nov-15 A	22-Jul-16	91						
	02 HKPF Bu	ilding and Observation Tower	51	03-May-16	04-Jul-16	-113						
	02 - Mileste		0	06-May-16	06-May-16	-113	-					
	U2.MS10		U	ор-мау-16		-113						
	02 - HKPF	Building	51	03-May-16	04-Jul-16	-113						
	02 - Found	02 - Mobilisation	3	03-May-16	06-May-16	-113	3					
	02.104	02 - Install Driven H-piles (64 nos)	24	06-May-16	03-Jun-16	-113						
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<b></b>	Actual N	lilestone			Pa	ge 8 of 11				Project ID: I	12634-P9	.14
	Mileston	e Milestone	3 Mon <sup>-</sup>	ths Lo	okahea	ad Wo	orks Program	me		Baseline: W	orks Programme Rev	IA
-	Actual V	/ork		_			-			Layout: 3 M	onth Lookahead Work	s Programme
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	Project F	Baseline								Page 8 of 1	l	

Project Baseline



Activ	vity ID	Activity Name		Dur	Start	Finish	Finish Variance	Februarv				N	larch				2016	April	
								08 15	22		29	07	14	21	28	04		11	18
	02.106	02 - Proof drilling & Loading test		24	04-Jun-16	04-Jul-16	-113												
	03 Fire Stati	ion and Drill Tower		70	06-Apr-16	29-Jun-16	-70												
	03 - Milesto		<u></u>	0	13-Apr-16	13-Apr-16	-70										^	•	
	03.MS10	Fire Station & Drill Tower Construction Works	Start	0	13-Apr-16		-70										•		
	03 Fire Stat	tion		54	06-Apr-16	10-Jun-16	-70	-											
	03 - Found	ations		54	06-Apr-16	10-Jun-16	-70	-											
	05.102			0	00-Api-10	13-Abi-10	-71												
	03.104	03 - Install driven H-piles (75 nos)		24	13-Apr-16	11-May-16	-70										•		
	03.106	03 - Proof drilling & Loading test		24	12-May-16	10-Jun-16	-70					Ļ							
	03 - Struct	ures		24	12-May-16	10-Jun-16	-70												
	03.200	03 - Excavation down to FL (GL A-C/3-7)		24	12-May-16	10-Jun-16	-70					Ļ							
	03 Drill Tov	wer		40	12-May-16	29-Jun-16	-70	-											
	03 - Found	ations		40	12-May-16	29-Jun-16	-70												
	03.124	03 - Install Driven H-piles (15 nos)		16	12-May-16	31-May-16	-70				_								
	03.126	03 - Proof drilling & Loading test		24	01-Jun-16	29-Jun-16	-70	-											
	04 Cargo Ex	(amination Building (Inhound)		100	18-Dec-15 A	22-Jul-16	01												
	04 Cargo Ex	ations		91	18-Dec-15 A	18-Jun-16	43												
	04.106	04 - Install driven H-piles (542 nos)		46	18-Dec-15 A	28-May-16	36												
	04,108	04 - Proof drilling / Loading Test		72	19-Mar-16	18-1un-16	43												
	04.110				21 Am 10	10 5411 10	01	-											•
	04.110	04 - Start to construct the pilecaps		0	21-Apr-16		91	-											·
	04 - Pileca	ps / Tie Beams		76	21-Apr-16	22-Jul-16	91												
	04.112	04 - Excavation down to FL			21-Apr-16	27-May-10	91												
	04.114	04 - Construct pilecaps and tie beams		64	06-May-16	22-Jul-16	91												
	05 Cargo Ex	camination Building (Outbound)		180	24-Nov-15 A	23-Jun-16	5												
	05 - Founda	ations		168	24-Nov-15 A	02-Apr-16	-50												
	05.106	05 - Install driven H-piles (289 nos)		40	24-Nov-15 A	15-Mar-16	-61												
	05.108	05 - Proof drilling & Loading test		72	15-Feb-16 A	02-Apr-16	-50												
	05.110	05 - Start to construct the pilecaps		0	24-Feb-16 A		-19		\$										
	05 - Pileca	ns / Tie Beams		54	24-Feb-16 A	10-Mav-16	5												
	05.114	05 - Construct pilecaps and tie beams		50	24-Feb-16 A	25-Apr-16	5												
	05.116	05 - Backfilling		30	07-Mar-16 A	10-May-16	5	-											
				45		22.1.46		-											
	05 - RC Str	UCTURES	niremech	45	29-Apr-16	23-JUN-16	5												
	05.110			12	25 Apr 10	15 May 10													
	05.120	05 - Construct G/F beams		36	04-May-16	16-Jun-16	5												
	05.122	05 - Install precast planking and cast the G/	F slabs	18	02-Jun-16	23-Jun-16	5												
	06 Fixed X-r	ray Vehicle Inspection System (FXR	VIS) Buildings (Inbo	30	07-May-16	13-Jun-16	48												
	06 - Milesto	ones		0	16-May-16	16-May-16	48												
	06.MS10	Fixed X-ray Vehicle Inspection System (FXRV Construction Works Start	IS) Buildings (Inbound)	0	16-May-16		48												
	06 - Founda	ations		30	07-May-16	13-Jun-16	48	-											
	06.110	06 - Mobilisation		6	07-May-16	16-May-16	48												
	06.112	06 - Install driven H-piles (92 nos)		24	16-May-16	13-Jun-16	48												
	07 Fixed X-r	ray Vehicle Inspection System (FXR	VIS) Buildings (Outb	96	16-Mar-16	14-Jul-16	3												
	07 - Milesto	ones		0	16-Mar-16	16-Mar-16	-19												
	07.MS10	Fixed X-ray Vehicle Inspection System (FXRV	IS) Buildings (Outbound)	0	16-Mar-16		-19		<b></b>				<b></b>						
	07 - Founda	ations	48	16-Mar-16	18-May-16	-19	-												
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<b>♦</b>	Actual M	filestone											Proje Rasel	u ID: H2634 line: Works	+-ry Programm	ie Rev 1	IA		
<ul> <li>✓</li> <li>♦</li> </ul>	Nillesion A Baseline	e Milestone		3 Mon		окапе	ad wc	orks P	rogra	am	me			Lase		. iogiainii	5.107 1		
-	Actual W	Vork					_						Layou	ut: 3 Month	Lookahea	d Works	Program	nme	
	Critical F	Remaining Work		Pr	ogress	to 10-N	lar-16						Filter:	: TASK filter	: Date ran	ge DD-1	M to DD	+3M.	
	Remaini	ing Work Baseline											Page	9 of 11					
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Activity ID	Activity Name		Dur	Start	Finish	Finish Variance	February	March		April
07.112			24	16 May 16	16 Ann 16	10	08 15 22 29	07 14	21 28 04	11 18
07.112	07 - Install driven H-piles (84 nos)		24	16-Mar-16	16-Apr-16	-19			1	
07.114	07 - Proof drilling / Loading Test		24	18-Apr-16	17-May-16	-19	-			
07.116	07 - Start to construct pilecaps		0	18-May-16		-19				<b>◇</b>
			-							
07 - Struct	tures		48	18-May-16	14-Jul-16	3				
07.200	07 - Excavation down to FL (Main bldg)		12	18-May-16	31-May-16	3				
07.202	07 - Construct pilecaps and tie beams		36	01-Jun-16	14-Jul-16	3				
10 GV Kies	k (Inhound)		18	26-May-16	16-1up-16	0				
10 GV Klos	tones		0	26-May-16	26-May-16	0				
10.MS10	GV Kiosk (Inbound) Construction Works Star	t	0	26-May-16		0	-			
							-			
10 - Found	10 Open out exception down to formation		18	26-May-16	16-Jun-16	0	-			
10.108	10 - Open cut excavation down to formation	Tievel -2.4	10	20-May-10	10-101-10	0				
11 GV Kios	k (Outbound)		24	11-May-16	08-Jun-16	0				
11 - Milest	tones		0	11-May-16	11-May-16	0	_			
11.MS10	GV Kiosk (Outbound) Construction Works Si	tart	0	11-May-16		0				
11 - Found	lations		24	11-May-16	08-Jun-16	0				
11.168	11 - Open cut excavation down to formation	n level -2.4	18	11-May-16	01-Jun-16	0	_			
11.170	11 - Plate load test		6	02-Jun-16	08-Jun-16	0	-			
			-							
Other Asso	ociated Buildings for C&ED		130	19-Oct-15 A	11-Jun-16	-46				
09 MXRVSS	6 (Outbound)		130	19-Oct-15 A	11-Jun-16	-46				
09 - Struct	00 Construct BC facting (v10)		130	19-Oct-15 A	11-Jun-16	-46	_			
09.200	09 - Construct RC rooting (x10)		30	19-0Ct-15 A	06-Apr-16	-40				
09.202	09 - Backfilling and construct G/F Slab		18	07-Apr-16	27-Apr-16	-46				
09.212	09 - Construct Roof RC Strutrures		36	28-Apr-16	11-Jun-16	-46				
			202		00.0 10	00				
External C	ivil Works		202	16-Dec-15 A	09-Sep-16	99				
37-40 Eleva	ated Walkways		115	02-Jan-16 A	29-Jun-16	15				
37 Elevate	d walkway E1		0	12-May-16	29-Juli-10	-19				
37.MS10	Elevated Walkway E1 Construction Works St	art	0	12-May-16	12 110 10	-19				<b>♦</b>
			20			70				
37 - SI Wo	37 - Site Investigation (11 nos)		28	02-Jan-16 A	25-Feb-16 A	70				
37 - Found	dations		45	05-May-16	29-Jun-16	15				
37.104	37 - Mobilisation		0	05-May-10	12-May-10	15				
37.106	37 - Install driven of H-piles (39 nos)		39	12-May-16	29-Jun-16	15				
39 Elevate	d Walkway E3		13	26-Feb-16 A	10-Mar-16	61	-			
39 - Miles	tones		0	10-Mar-16	10-Mar-16	58				
39.MS10	Elevated Walkway E3 Construction Works St	art	0	10-Mar-16		58		<b>^</b>		
39 - ST W	orks		3	26-Feb-16 A	29-Feb-16 A	70				
39.100	39 - Site investigation (1 nos)		3	26-Feb-16 A	29-Feb-16 A	70				
	d Walkway E4		22	13-1-n-16 A	10-Mar. 16	71				
40 clevate	tones		0	10-Mar-16	10-Mar-16	61				
40.MS10	Elevated Walkway E4 Construction Works St	art	0	10-Mar-16		61		<b>\$</b>		
40.07.14			10	12 Jan 16 A	04 Mar 16 A	70				
<b>40 - SI W</b>	40 - Site investigation (4 nos)		10	13-Jan-16 A	04-Mar-16 A	76				
Vehicular E	Bridges		202	16-Dec-15 A	09-Sep-16	99				
Bridge 1	dations		111	30-Jan-16 A	09-Sep-16	6/				
B1 - Found B1.106	B1 - Construction of Bored Piles		72	30-Jan-16 A	05-May-16	67		_		
					-,					
Actual I	Milestone				Pag	e 10 of 11			Project ID: H2634-P9	
Milesto	ne	3	Mon	the I n	okahos	ad We	orks Programme		Baseline: Works Programm	e Rev 1A
♦ Baselin	ne Milestone	5							Lavout: 2 Manth Laskab	d Works Dragramma
Actual	Work			Π.			lor 16		Filter: TASK filter: Date ran	ae DD-1M to DD+3M
Critical	ning Work			PI	ogress		101-10			
Project	Baseline								Page 10 of 11	
-,										



Activ	ity ID	Activity Name	Dur	Start	Finish	Finish Variance	February	March			20	16 April	
	D1 100	D1 Cours hash full source couris hash	24	06 May 16	02 1 16	(7	08 15 22 29	07 14	21	28	04	11	18
	B1.108	BI - Core test, fuil core, sonic test	24	06-May-16	03-Jun-16	67							
	B1 - Pileca	ps / Piers / Abutment / Retaining Walls / Portal	106	06-May-16	09-Sep-16	67							
	B1.110	B1 - Excavation for retaining wall / abutment	10	06-May-16	18-May-16	67							
	B1.112	B1 - Plate Load test	6	19-May-16	25-May-16	67	-						
	B1.116	B1 - Construction of Retaining walls 1AW1-1AW10, 1BW1-1BW8	90	26-May-16	09-Sep-16	67							
	B1.114	B1 - Excavation for Pilecaps	30	04-Jun-16	11-Jul-16	67							
	Bridge 2		120	10-Mar-16	05-Aug-16	129							
	B2 - Found	lations	24	10-Mar-16	11-Apr-16	129							
	B2.108	B2 - Core test, full core, sonic test	24	10-Mar-16	11-Apr-16	129	_						
			120	10 May 16	05 4	120							
	B2 - Pileca	IPS / Piers / Abutment / Retaining Walls / Portal	10	10-Mar-16	05-Aug-16	129							
	D2.110		10	10-1481-10	21-Mai-10	129							
	B2.112	B2 - Plate Load test	6	22-Mar-16	31-Mar-16	129							
	B2.116	B2 - Construction of Retaining walls 2W1A-2W3A, 2W1B-2W3B	48	01-Apr-16	30-May-16	129							
	B2.114	B2 - Excavation for Pilecaps & Abutment	20	12-Apr-16	05-May-16	129							
	B2.122	B2 - Construct Pilecaps 2P1-2P2	22	23-Apr-16	20-May-16	129							
	B2.124	B2 - Construct Piers 2P1-2P2	12	24-May-16	06-Jun-16	129							
	B2.126	B2 - Construction of RW 2W4-2W6	30	31-May-16	06-Jul-16	129							
	B2.171	B2 - Install Bearings	50	07-Jun-16	05-Aug-16	129							
	Bridge 3		74	03-Mar-16 A	11-Jun-16	129							
	B3 - Found	lations	24	03-Mar-16 A	02-Apr-16	159				_			
	B3.104	B3 - Core test, full core, sonic test	24	03-Mar-16 A	02-Apr-16	159							
	B3 - Pileca	ps / Piers / Abutment / Retaining Walls / Portal	10	31-May-16	11-Jun-16	129							
	B3.106	B3 - Excavation for retaining wall	10	31-May-16	11-Jun-16	129							
	Bridge 4		24	29-Feb-16 A	30-Mar-16	-13							
	B4 - Found	lations	24	29-Feb-16 A	30-Mar-16	-13							
	B4.104	B4 - Core test, full core, sonic test	24	29-Feb-16 A	30-Mar-16	-13							
	Duideo E		149	16-Doc-15-A	09-1-1-16	-56							
ſ	Bridge 5	Intions	24	16-Dec-15 A	12-Mar-16	-30							
	B5.104	B5 - Core test, full core, sonic test	24	16-Dec-15 A	12-Mar-16	-44							
	B5 - Pileca	pps / Piers / Abutment / Retaining Walls / Portal	94	15-Feb-16 A	08-Jul-16	-56							
	B5.110	B5 - Excavation for Pilecaps	48	15-FeD-16 A	07-Apr-16	-15							
	B5.106	B5 - Excavation for retaining wall / abutment	10	12-Mar-16	24-Mar-16	-68							
	B5.108	B5 - Plate Load test	6	24-Mar-16	05-Apr-16	-68					]		
	B5.112	B5 - Construction of Retaing walls 5W10A-5W7A, 5W10B-5W7B	64	05-Apr-16	22-Jun-16	-68	=						
	B5.118	B5 - Construct Pilecaps 5P1-5P8	38	26-Apr-16	11-Jun-16	-56							
	B5.116	B5 - Construct Abutment A5 and Install bearing	30	27-Apr-16	02-Jun-16	-67		<b>_</b>					
	B5.120	B5 - Construct Piers 5P1-5P8	36	26-May-16	08-Jul-16	-56							
	External W	orks	48	15-Apr-16	13-Jun-16	0							
Γ	Portion 2		48	15-Apr-16	13-Jun-16	0							
	8120	P2 - Initial Site formation	48	15-Apr-16	13-Jun-16	0							

Actual Milestone	Page 11 of 11	Project ID: H2634-P9
Milestone	3 Months Lookahead Works Programme	Baseline: Works Programme Rev 1A
Baseline Milestone	o months coordicad works i rogiannic	
Actual Work		Layout: 3 Month Lookahead Works Programme
Critical Remaining Work	Progress to 10-Mar-16	Filter: TASK filter: Date range DD-1M to DD+3M.
Remaining Work	Ŭ	
Project Baseline		Page 11 of 11





# Appendix D

# Designated Monitoring Locations as Recommended in the Approved EM&A Manual









# Appendix E

# **Monitoring Locations for Impact Monitoring**









### Photographic Records for Water Quality Monitoring Location







# Appendix F

# Calibration Certificate of Monitoring Equipment and HOKLAS-accreditation Certificate of the Testing Laboratory

Location : Location :	: Garden ID :	Farm, Ts AM1b	sung Yu	en Ha Villa	ge		23/2/2016 23/4/2016 Fai So		
					C	CONDITIONS			
	Se	a Level I Temp	Pressure perature	(hPa) (℃)	1022.3 15.5	3	Corrected Pressure ( Temperature (	(mm Hg) (K)	766.725 289
					CALIE	BRATION ORI	FICE		
				Make-> Model-> Serial # ->	TISCH 5025A 1941	]	Qstd Slope -> Qstd Intercept ->	2.1026	<u>5</u> 35
					С	ALIBRATION			
Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINE/ REGRES	AR SSION	
18 13 10 7 5	6.7 5.2 4 2.5 1.5	6.7 5.2 4 2.5 1.5	13.4 10.4 8.0 5.0 3.0	1.779 1.567 1.375 1.087 0.842	53 47 41 31 22	54.10 47.98 41.85 31.65 22.46	Slope = Intercept = Corr. coeff. =	33.9477 -5.5459 0.9987	
<b>Calculatio</b> Qstd = 1/1 IC = I[Squ	<b>ons :</b> m[Sqrt(H rt(Pa/Pstc	20(Pa/Ps l)(Tstd/T	td)(Tstc a)]	l/Ta))-b]		60.00	FLOW RATE	E CHART	
Qstd = sta IC = corrected I = actual m = calibot	undard flo ected char chart res rator Qsto	ow rate rt respond ponse d slope	es			50.00		x	
b = canorTa = actuaPstd = act	alor Qsid al temper tual press	ature dur ure durin	t ing cali 1g calibr	bration ( des ation ( mm	g K ) Hg )	chart respon	/		
<b>For subs</b> 1/m(( I )[\$	e <b>quent ca</b> Sqrt(298/	<b>alculatio</b> Tav)(Pav	<b>n of sar</b> /760)]-1	<b>npler flow:</b> b)		90.02 <b>GCT ACT T</b>	<u> </u>		
m = samp b = samp I = chart 1 Tay = dai	ler slope ler interc esponse ly averag	ept e temper	ature			0.00			
Pav = dai	ly average	e pressur	e			0.000	Standard Flow F	Rate (m3/min)	2.000

Location : Location I	Village D :	House ne AM2	ear Lin N	Ma Hang Ro	bad			Date of Calibration:23/2/2010Next Calibration Date:23/4/2010Technician:Fai Sei
	Se	a Level F Temp	Pressure erature	(hPa) (°C)	<u>1022</u> 15	2.3 5.5		Corrected Pressure (mm Hg) 766.72 Temperature (K) 28
				Make-> Model-> Serial # ->	<b>CALIBI</b> TISCH 5025A 1941		TION ORIF	Qstd Slope ->         2.10265           Qstd Intercept ->         -0.00335
					CA	ALIE	BRATION	
Plate No. 18 13 10 7	H20 (L) (in) 6.4 4.8 3.7 2.4	H2O (R) (in) 6.4 4.8 3.7 2.4	H20 (in) 12.8 9.6 7.4	Qstd (m3/min) 1.739 1.506 1.322 1.065	I (chart) 56 48 44 24	)	IC corrected 57.17 49.00 44.92 24.71	LINEAR REGRESSION Slope = 34.8659 Intercept = -2.8852 Corr. coeff. = 0.9961
5	1.5	1.5	4.8 3.0	0.842	25		25.52	
CalculaticQstd = 1/rIC = I[SqnQstd = staIC = correI = actualm = calibrb = calibraTa = actuaPstd = actFor subsec $1/m((I))$	ons : n[Sqrt(H t(Pa/Psto ndard flo cted char chart res ator Qstd ator Qstd il temper ual press equent ca Sqrt(298/	20(Pa/Psi I)(Tstd/Ta ow rate tt respond ponse d slope intercept ature durin ure durin <b>alculation</b> Tav)(Pav	td)(Tstd a)] es ing calibra g calibra <b>n of san</b> /760)]-b	/Ta))-b] pration ( deg ation ( mm ) p <b>pler flow:</b>	g K ) Hg )	Actual chart response (IC)	70.00         60.00         50.00         40.00         30.00         20.00	FLOW RATE CHART
m = samp b = samp I = chart r Tav = dail Pav = dail	ler slope ler interc esponse y averag y averag	ept e tempera e pressure	ature e				10.00 0.00 0.000	0.500 1.000 1.500 2.000 Standard Flow Rate (m3/min)

Location : Location I	Ta Kwu D :	ı Ling Fiı AM3	e Servic	e Station				Date of Calibration:23/2/2016Next Calibration Date:23/4/2016Technician:Fai So
					cc	OND	DITIONS	
	Se	a Level I Temp	Pressure erature	(hPa) (°C)	<u>1022.3</u> 15.5	3 5		Corrected Pressure (mm Hg) 766.725 Temperature (K) 289
					CALIBR	ATI	ION ORIF	ICE
				Make-> Model-> Serial # ->	TISCH 5025A 1941			Qstd Slope -> 2.10265 Qstd Intercept -> -0.00335
					CA	LIB	RATION	
Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	C	IC corrected	LINEAR REGRESSION
18 13 10 7 5	6 $4.6$ $3.5$ $2$ $1.5$	6 4.6 3.5 2 1.5	12.0 9.2 7.0 4.0 3.0	1.683 1.474 1.286 0.973 0.842	56 50 45 37 29		57.17 51.04 45.94 37.77 29.60	Slope = $30.9841$ Intercept = $5.5195$ Corr. coeff. = $0.9902$
<b>Calculatic</b> Qstd = 1/r IC = I[Sqr Ostd = sta	o <b>ns :</b> n[Sqrt(H t(Pa/Psto ndard flo	20(Pa/Ps 1)(Tstd/T	td)(Tstd. a)]	/Ta))-b]		7	50.00	FLOW RATE CHART
IC = corre $I = actual$ $m = calibra$ $b = calibra$ $Ta = actua$ $Pstd = act$	cted char chart res ator Qstd ator Qstd al temper ual press	rt respond ponse l slope intercept ature dur ure durin	es : ing calib g calibra	pration ( deg ation ( mm	g K ) Hg )	chart response (IC)	50.00	
<b>For subse</b> 1/m(( I )[S	<b>equent c</b> Sqrt(298/	<b>alculatio</b> Tav)(Pav	<b>n of san</b> /760)]-b	npler flow:		Actual 5	20.00	
m = samp b = samp I = chart r Tav = dail Pav = dail	ler slope ler interc esponse y averag y averag	ept e tempera e pressur	ature e			1	0.00	0.500 1.000 1.500 2.000 Standard Flow Rate (m3/min)

Location : Location I	Ping Ye D :	eung Villa AM4a	age Hou	se				Date of Calibration:23/2/2016Next Calibration Date:23/4/2016
						0		Technician: Fai So
								د. 
	Se	ea Level I Temp	Pressure perature	(hPa) (°C)	1022 15	2. <u>3</u> 5.5		Corrected Pressure (mm Hg)766.725Temperature (K)289
					CALIB	RA		RIFICE
				Make-> Model-> Serial # ->	TISCH 5025A 1941			Qstd Slope ->         2.10265           Qstd Intercept ->         -0.00335
					C	ALI	BRATIO	)N
Plate	H20 (L)	H2O (R)	H20	Qstd	I (-1t)		IC	LINEAR
18	(in) 6.4	(in) 6.4	(1n)	(m3/min) 1.739	(chart) 57	)	58.19	$\frac{\text{ed}}{\text{Slope}} = 32.1143$
13	5	5	10.0	1.537	49		50.02	Intercept = $1.5084$
10	3.8	3.8	7.6	1.340	43		43.90	) Corr. coeff. = 0.9979
7	2.3	2.3	4.6	1.043	35 27		35.73	
5	1.4	1.4	2.0	0.014			27.30	<u>'</u>
<b>Calculatio</b> Qstd = 1/r	o <b>ns :</b> n[Sqrt(H	[20(Pa/Ps	td)(Tstd	/Ta))-b]			70.00	FLOW RATE CHART
IC = I[Sqr	t(Pa/Psto	d)(Tstd/T	a)]					
Ostd – sta	ndard flo	ow rate					60.00	<b>&gt;</b>
$Q_{SIG} = SIG$ IC = corre	cted cha	rt respon	es				50.00	
I = actual	chart res	ponse				(IC)	50.00	
m = calibra b = calibra	ator Qsu ator Ostd	l intercep	t			oonse	40.00	
Ta = actua	al temper	ature dur	ing calib	oration ( de	gK)	t resi		<b>y</b>
Pstd = act	ual press	ure durin	g calibra	ation ( mm	Hg)	ıl char	30.00	
For subse	equent c	alculatio	n of san	pler flow:		Actua		
1/m(( I )[S	Sqrt(298/	Tav)(Pav	r/760)]-b	)			20.00	
m = samn	ler slope						10.00	
b = samp	ler interc	ept						
I = chart r	esponse						0.00	
Tav = dail	y averag	e temper	ature				0.000	Standard Flow Rate (m3/min)
Pav = dall	y averag	e pressur	e		L			

Location ·	Ping Ye	-ung Ville	age Hou	se				Date of Calibration: 23/2/2016
Location 1	D:	AM5	uge 110u	50				Next Calibration Date: 23/4/2016
Location		1 11/12						Technician: Fai So
					С	ON	DITIONS	
	Se	ea Level I	Pressure	(hPa)	1022	2.3		Corrected Pressure (mm Hg) 766.725
		Temp	erature	(°C)	15	.5		Temperature (K) 289
					CALIB	RA	TION ORI	FICE
				Make->	TISCH			Qstd Slope -> 2.10265
				Model->	5025A			Qstd Intercept -> -0.00335
				Serial # ->	1941			
					C	ALI	BRATION	l
Plate	H20 (L)	H20 (R)	H20	Ostd	I		IC	LINEAR
No.	(in)	(in)	(in)	(m3/min)	(chart)	)	corrected	REGRESSION
18	6.8	6.8	13.6	1.792	57		58.19	Slope = 33.3494
13	5.4	5.4	10.8	1.597	51		52.06	Intercept = $-1.3144$
10	3.8	3.8	7.6	1.340	42		42.87	Corr. coeff. = 0.9960
7	2.5	2.5	5.0	1.087	36		36.75	
5	1.6	1.6	3.2	0.870	26		26.54	
Calculatio	ons :							FLOW RATE CHART
Qstd = 1/r IC = I[Sat	n[Sqrt(H t(Pa/Psto	l20(Pa/Ps d)(Tstd/T	td)(Tstd a)]	/Ta))-b]			70.00	
		(1000)					60.00	
Qstd = sta	ndard flo	ow rate						
IC = correction I	cted cha	rt respon	es			_	50.00	<b>/</b>
I = actual m = collibri	charl res	sponse d slope				(C)		
h = calibra	ator Osto	u siope Lintercen	t			onse	40.00	<b>^</b>
Ta = actua	al temper	ature dur	ing calik	oration ( de	σK)	resp		•
Pstd = act	ual press	sure durin	g calibra	ation ( mm	Hg)	chart	30.00	
For subse	equent c	alculatio	n of san	nder flow:		vctual		▲
1/m(( I )[S	Sqrt(298/	Tav)(Pav	/760)]-b	)		4	20.00	
m = samp	ler slope						10.00	
b = samp	ler interc	cept						
I = chart r	esponse	-					0.00	
Tav = dail	y averag	ge tempera	ature				0.000	0.500 1.000 1.500 2.000 Standard Flow Rate (m3/min)
Pav = dail	y averag	e pressur	e					

Location :	Wo Kei	ng Shan V AM6	/illage H	House				Date of Calibration: 23/2/2016 Next Calibration Date: 23/4/2016
Location	D .	AIVIO						Technician: Fai So
					CO	ONE	DITIONS	
	Se	ea Level I Temp	Pressure erature	(hPa) (°C)	1022.3 15.5	3 5		Corrected Pressure (mm Hg) 766.725 Temperature (K) 289
					CALIBR	AT	ION ORIF	ICE
				Make-> Model-> Serial # ->	TISCH 5025A 1941			Qstd Slope ->         2.10265           Qstd Intercept ->         -0.00335
					CA	LIB	BRATION	
Plate	H20 (L)	H2O (R)	H20	Qstd	[		IC	LINEAR
18	(in) 6.6	(1n) 6.6	$\frac{(1n)}{13.2}$	(m3/min) 1.765	(chart)	С	59.21	$\frac{REGRESSION}{Slope} = 28.4255$
13	5.3	5.3	10.6	1.582	51		52.06	Intercept = $7.9294$
10	3.7	3.7	7.4	1.322	44		44.92	Corr. coeff. = 0.9966
7	2.4	2.4 1.5	4.8 3.0	1.065	37 32		37.77 32.67	
Calculatic Qstd = $1/r$ IC = I[Sqr Qstd = sta IC = corre I = actual m = calibr b = calibra Ta = actua Pstd = actua For subse 1/m((I)[S]	ons : n[Sqrt(H t(Pa/Psto ndard flo ected cha chart res rator Qsto ator Qsto al temper ual press equent c Sqrt(298/	(20(Pa/Ps d)(Tstd/T ow rate rt respond ponse d slope l intercept ature dur ure durin <b>alculatio</b> Tav)(Pav	td)(Tstd. a)] es ing calib g calibra n of san /760)]-b	/Ta))-b] pration ( deg ation ( mm ) <b>apler flow:</b> ))	g K ) Hg )	Actual chart response (IC)	70.00	FLOW RATE CHART
m = samp b = samp I = chart r Tav = dail Pav = dail	ler slope ler interc esponse y averag y averag	ept e tempera e pressur	ature e				0.00	0.500 1.000 1.500 2.000 Standard Flow Rate (m3/min)

Location : Location I	Village ] D :	House of AM7b	Loi Tur	Date of Calibration:23/2/2016Next Calibration Date:23/4/2016Technician:Fai So			
					COND	ITIONS	
	Se	a Level I Temp	Pressure perature	(hPa) (°C)	<u>1022.3</u> 15.5	]	Corrected Pressure (mm Hg) 766.725 Temperature (K) 289
				C	ALIBRATI	ON ORIFICE	
				Make-> Model-> Serial # ->	TISCH 5025A 1941	]	Qstd Slope ->         2.10265           Qstd Intercept ->         -0.00335
					CALIB	RATION	
Plate	H20 (L)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR
18 13 10 7 5	4.9 4 3.3 2 1.3	4.9 4 3.3 2 1.3	9.8 8.0 6.6 4.0 2.6	1.521 1.375 1.249 0.973 0.784	55 50 45 36 28	56.14 51.04 45.94 36.75 28.58	Slope = $36.9465$ Intercept = $0.0791$ Corr. coeff. = $0.9991$
Calculations :         Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]         IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]         Qstd = standard flow rate         IC = corrected chart response         m = calibrator Qstd slope         b = calibrator Qstd intercept         Ta = actual temperature during calibration ( deg K )         Pstd = actual pressure during calibration ( mm Hg )         For subsequent calculation of sampler flow:         1/m(( I )[Sqrt(298/Tav)(Pav/760)]-b)         m = sampler slope						60.00 50.00 <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)</b> <b>(U)(U)(U)(U)(U)(U)</b>	FLOW RATE CHART
b = samp I = chart r Tav = dail Pav = dail	= sampler intercept = chart response Cav = daily average temperature Cav = daily average pressure						0.500 1.000 1.500 2.000 Standard Flow Rate (m3/min)

Location ID : AM8 Next Calibration Date of Canoration. 2. Location ID : AM8 Next Calibration Date: 2. Technician: CONDITIONS Sea Level Pressure (hPa) 1022.3 Temperature (°C) 15.5 Corrected Pressure (mm Hg) Temperature (K)	766.725 289
CONDITIONS     Technician:       Sea Level Pressure (hPa)     1022.3 Temperature (°C)     Corrected Pressure (mm Hg)	Fai So 766.725 289
CONDITIONS       Sea Level Pressure (hPa)     1022.3       Temperature (°C)     15.5	766.725 289
Sea Level Pressure (hPa) 1022.3 Corrected Pressure (mm Hg) Temperature (°C) 15.5 Temperature (K)	766.725 289
Sea Level Pressure (hPa)1022.3Corrected Pressure (mm Hg)Temperature (°C)15.5Temperature (K)	766.725 289
Temperature (°C) 15.5 Temperature (K)	289
	207
CALIBRATION ORIFICE	
Make->TISCH Qstd Slope -> 2.10	0265
Model-> 5025A Qstd Intercept -> -0.0	0335
Serial # -> 1941	
CALIBRATION	
Plate H20 (L)H2O (R) H20 Ostd I IC LINEAR	
No. (in) (in) (m3/min) (chart) corrected REGRESSION	
18 6.5 6.5 13.0 1.752 66 67.37 Slope = $33.4105$	
13 5.2 5.2 10.4 1.567 58 59.21 Intercept = 7.6575	
10 4 4 8.0 1.375 52 53.08 Corr. coeff. = 0.9967	
7 2.6 2.6 5.2 1.109 43 43.90	
5 1.5 1.5 3.0 0.842 36 36.75	
	]
Calculations : FLOW RATE CHART	
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]	
IC = I[Sqrt(Pa/Pstd)(Istd/Ia)] 70.00	
	•
Qstd = standard flow rate IC	
I = actual chart response	
m = calibrator Ostd slope	
h – calibrator Ostd intercent	
Ta = actual temperature during calibration (deg K) $= \frac{2}{40.00}$	
Pstd = actual pressure during calibration ( mm Hg )	
For subsequent calculation of sampler flow:	
1/m(( I )[Sqrt(298/Tav)(Pav/760)]-b)	
m – sampler slope	
h – sampler intercent	
U – sampler intercept I – chart response	
I - Chart response0.0000.5001.0001.500Tay - daily average temperatureStandard Flow Rate (m3/min)	2.000
Pay – daily average pressure	
r ut – aunij utorugo prosouro	

Location : Location ]	: Nam W ID :	a Po Vill AM9b	age Hoi	ise No. 80			Date of C Next Calibra T	alibration: tion Date: echnician:		23/2/2016 23/4/2016 Fai So
						CONDITIONS				
	Se	ea Level I Temp	Pressure perature	(hPa) (°C)	<u>1022</u> 15	<u>.3</u> .5	Corrected Pressure ( Temperature (	(mm Hg) (K)		766.725 289
					CAL	IBRATION OR	FICE			
				Make-> Model-> Serial # ->	TISCH 5025A 1941		Qstd Slope -> Qstd Intercept ->		2.10265 -0.00335	
						CALIBRATION	I			
Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINE. REGRES	AR SION		
18 13 10 7 5	6.5 5.2 4.0 2.5 1.5	6.5 5.2 4 2.5 1.5	13.0 10.4 8.0 5.0 3.0	1.752 1.567 1.375 1.087 0.842	54 50 44 36 28	55.12 51.04 44.92 36.75 28.58	Slope = Intercept = Corr. coeff. =	29.3935 4.3436 0.9985		
<b>Calculatio</b> Qstd = 1/n IC = I[Squ	<b>ons :</b> m[Sqrt(Hi rt(Pa/Pstd	20(Pa/Pst l)(Tstd/Ta	td)(Tstd a)]	/Ta))-b]		60.00	FLOW RATE	CHART		
Qstd = standard flow rate IC = corrected chart respones I = actual chart response m = calibrator Qstd slope b = calibrator Qstd intercept Ta = actual temperature during calibration ( deg K ) Pstd = actual pressure during calibration ( mm Hg )					g K ) Hg )	50.00 (C) 40.00 30.00 30.00		<b>x</b>		
For subsequent calculation of sampler flow: 1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)						Actual Ac				
m = samp b = samp I = chart r Tav = dai Pav = dail	n = sampler slope o = sampler intercept [ = chart response Tav = daily average temperature Pav = daily average pressure					10.00	0.500 1.0 Standard Flow Ra	00 ate (m3/min)	1.500	2.000



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

# ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Operator	Tisch	Orifice I.	D	1941	Pa (mm) -	756.92
PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1 2 3 4 5	NA NA NA NA NA	NA NA NA NA NA	1.00 1.00 1.00 1.00 1.00	1.4880 1.0510 0.9360 0.8920 0.7360	3.2 6.4 7.9 8.8 12.7	2.00 4.00 5.00 5.50 8.00

#### DATA TABULATION

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

#### CALCULATIONS

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

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

For subsequent flow rate calculations:

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

#### **Equipment Calibrated:**

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456660
Equipment Ref:	EQ117
Job Order	

#### Standard Equipment:

Higher Volume Sampler	_
AUES office (calibration room)	_
HVS 018	
6 February 2015	_
	Higher Volume SamplerAUES office (calibration room)HVS 0186 February 2015

### **Equipment Verification Results:**

Testing Date:

5 April 2015

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr11min	10:00 ~ 12:11	26.0	1011.3	0.041	2344	17.9
2hr21min	12:20 ~ 14:41	26.0	1011.3	0.038	2104	14.9
2hr17min	14:50 ~ 17:07	26.0	1011.3	0.057	3514	25.7

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration) 607 (CPM) 602 (CPM)

#### Linear Regression of Y or X

Slope (K-factor):	0.0022
Correlation Coefficient	0.9940
Date of Issue	20 April 2015

#### Remarks:

1. Strong Correlation (R>0.8)

2. Factor 0.0022 should be apply for TSP monitoring





Location : Location I	D :	Gold Kir Calibrati	ng Indus ion Rooi	strial Buildi m	ng, K	wai Ch	ung	Date of Calibration: 6-Feb-15 Next Calibration Date: 6-May-15
						COND	ITIONS	
	Se	a Level I Temp	Pressure erature	(hPa) (°C)	]	1024.5 13.4		Corrected Pressure (mm Hg)768.375Temperature (K)286
					CALI	BRATI		CE
Make-> TIS Model-> 50 Calibration Date-> 7-A						SCH 25A pr-14		Qstd Slope ->2.00757Qstd Intercept ->-0.01628Expiry Date->7-Apr-15
						CALIBI	RATION	
Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	(ch	I nart)	IC corrected	LINEAR REGRESSION
18 13 10 8 5	3.8 3 2.3 1.7 1.0	3.8 3 2.3 1.7 1.0	7.6 6.0 4.6 3.4 2.0	1.417 1.260 1.104 0.950 0.731		52 18 12 36	57.44 53.33 49.23 43.08 36.92	Slope = 30.5075 Intercept = 14.6821 Corr. coeff. = 0.9974
Calculatic Qstd = $1/r$ IC = I[Sqn Qstd = sta IC = corre I = actual m = calibr b = calibra Ta = actua Pstd = act For subse 1/m((I))	ns : n[Sqrt(H t(Pa/Psto ndard flo cted cha chart res rator Qsto ator 20(Pa/Ps d)(Tstd/T ow rate rt respond ponse d slope l intercep rature durin ure durin <b>alculatior</b> Tav)(Pav	td)(Tstd a)] es t ing cali g calibr g calibr n of sam	/Ta))-b] bration ( de ation ( mm p <b>pler flow:</b> ))	g K ) Hg )	.07 .03 .05 .05 .02 .02 .02 .02 .02 .02		FLOW RATE CHART	
b = sampler intercept I = chart response Tav = daily average temperature Pav = daily average pressure						0.	0.000	0.500 1.000 1.500 Standard Flow Rate (m3/min)

#### **Equipment Calibrated:**

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456658
Equipment Ref:	EQ115
Job Order	

#### Standard Equipment:

Higher Volume Sampler	
AUES office (calibration room)	
HVS 018	
6 February 2015	
	Higher Volume Sampler AUES office (calibration room) HVS 018 6 February 2015

### **Equipment Verification Results:**

Testing Date:

5 April 2015

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr11min	10:00 ~ 12:11	26.0	1011.3	0.041	2407	18.4
2hr21min	12:20 ~ 14:41	26.0	1011.3	0.038	2219	15.7
2hr17min	14:50 ~ 17:07	26.0	1011.3	0.057	3644	26.6

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration) 698 (CPM) 701 (CPM)

5

10

15

20

y = 0.0022x + 0.0014

 $R^2 = 0.9903$ 

25

30

0.07 0.06 0.05 0.04 0.03

0.02

0.01

0 🐳

#### Linear Regression of Y or X

Slope (K-factor):	0.0022
Correlation Coefficient	0.9951
Date of Issue	20 April 2015

#### Remarks:

1. Strong Correlation (R>0.8)

2. Factor 0.0022 should be apply for TSP monitoring



Location : Gold King Industrial Building, Kv Location ID : Calibration Room						wai Ch	ung	Date of Calibration: 6-Feb-15 Next Calibration Date: 6-May-15
						COND	ITIONS	
Sea Level Pressure (hPa) 1 Temperature (°C)						<u>1024.5</u> 13.4		Corrected Pressure (mm Hg)768.375Temperature (K)286
					CALI	BRATI		CE
Make-> TIS Model-> 502 Calibration Date-> 7-Aj						SCH 25A pr-14		Qstd Slope ->2.00757Qstd Intercept ->-0.01628Expiry Date->7-Apr-15
						CALIBI	RATION	
Plate         H20 (L)H2O (R)         H20         Qstd           No.         (in)         (in)         (in)         (m3/min)         (ch						I nart)	IC corrected	LINEAR REGRESSION
18 13 10 8 5	3.8 3 2.3 1.7 1.0	3.8 3 2.3 1.7 1.0	7.6 6.0 4.6 3.4 2.0	1.417 1.260 1.104 0.950 0.731		52 18 12 36	57.44 53.33 49.23 43.08 36.92	Slope = 30.5075 Intercept = 14.6821 Corr. coeff. = 0.9974
Calculatic Qstd = $1/r$ IC = I[Sqn Qstd = sta IC = corre I = actual m = calibr b = calibra Ta = actua Pstd = act For subse 1/m((I))	ns : n[Sqrt(H t(Pa/Psto ndard flo cted cha chart res rator Qsto ator 20(Pa/Ps d)(Tstd/T ow rate rt respond ponse d slope l intercep rature durin ure durin <b>alculatior</b> Tav)(Pav	td)(Tstd a)] es t ing cali g calibr g calibr n of sam	/Ta))-b] bration ( de ation ( mm p <b>pler flow:</b> ))	g K ) Hg )	.07 .03 .05 .05 .02 .02 .02 .02 .02 .02		FLOW RATE CHART	
<ul> <li>b = sampler intercept</li> <li>I = chart response</li> <li>Tav = daily average temperature</li> <li>Pav = daily average pressure</li> </ul>					0.	0.000	0.500 1.000 1.500 Standard Flow Rate (m3/min)	

#### **Equipment Calibrated:**

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	2X6145
Equipment Ref:	EQ105
Job Order	HK1603558

#### Standard Equipment:

Higher Volume Sampler	
AUES office (calibration room)	
HVS 018	
2 January 2016	
	Higher Volume SamplerAUES office (calibration room)HVS 0182 January 2016

### **Equipment Verification Results:**

	-
Docting	Date.
resting	Duic.

4 to 6 January 2016

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr17min	17:30 ~ 19:47	20.6	1018.9	0.027	1602	11.7
2hr42min	17:00 ~ 19:42	20.7	1015.9	0.021	1522	9.3
2hr21min	18:00 ~ 20:21	20.9	1018.8	0.051	3347	23.6

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration)





# Linear Regression of Y or X

Slope (K-factor):	0.0022		
Correlation Coefficient	0.9985		
Date of Issue	11 January 2016		

#### Remarks:

- 1. Strong Correlation (R>0.8)
- 2. Factor 0.0022 should be apply for TSP monitoring



Location : Gold King Industrial Building, Kwai Chu Location ID : Calibration Room						ung	Date of Calibration: 2-Jan-16 Next Calibration Date: 2-Apr-16	
						COND	TIONS	
Sea Level Pressure (hPa) Temperature (°C)						1022 18.9		Corrected Pressure (mm Hg) 766.5 Temperature (K) 292
					CALIE	BRATIO		CE
Make-> TIS Model-> 502 Calibration Date-> 24-M						CH 25A ar-15		Qstd Slope ->2.10265Qstd Intercept ->-0.00335Expiry Date->24-Mar-16
					C	CALIBR	RATION	
Plate	H20 (L)	H2O (R)	H20	Qstd (m3/min)	I (ch:	[ art)	IC corrected	LINEAR
No.         (in)         (in)         (m3/min)         (cha           18         4.1         4.1         8.2         1.384         50           13         3.2         3.2         6.4         1.222         52           10         2.4         2.4         4.8         1.059         44           8         1.6         1.6         3.2         0.865         42           5         1.0         1.0         2.0         0.684         32					5; 5; 4; 4; 4; 3;	6 2 8 2 5	56.82 52.76 48.71 42.62 35.51	Slope = 30.1332 Intercept = 15.8637 Corr. coeff. = 0.9950
Calculation Qstd = $1/r$ IC = I[Sqr Qstd = sta IC = corre I = actual m = calibr b = calibra Ta = actua Pstd = actua For subse 1/m((I)[S]	n[Sqrt(H t(Pa/Psto ndard flo cted cha chart res rator Qsto ator Qsto d temper ual press <b>quent ca</b> Sqrt(298/	(20(Pa/Ps d)(Tstd/T ow rate rt respond gponse d slope l intercep rature durin sure durin <b>alculatior</b> Tav)(Pav	td)(Tstd a)] es t ing cali g calibr n of san (760)]-t	/Ta))-b] bration ( de ation ( mm <b>ppler flow:</b> b)	g K ) Hg )	70. 60. 50. 50. 40. 30. 20. 10. 10.		FLOW RATE CHART
m = sampler slope b = sampler intercept I = chart response Tav = daily average temperature Pav = daily average pressure					0.	00 0.000	0.500 1.000 1.500 Standard Flow Rate (m3/min)	

#### **Equipment Calibrated:**

Туре:	Laser Dust monitor		
Manufacturer:	Sibata LD-3B		
Serial No.	366409		
Equipment Ref:	EQ109		
Job Order	HK1603560		

#### Standard Equipment:

Standard Equipment:	Higher Volume Sampler	
Location & Location ID:	AUES office (calibration room)	
Equipment Ref:	HVS 018	
Last Calibration Date:	2 January 2016	

## **Equipment Verification Results:**

Testing Date:

4 to 6 January 2016

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr17min	17:30 ~ 19:47	20.6	1018.9	0.027	1577	11.5
2hr42min	17:00 ~ 19:42	20.7	1015.9	0.021	1433	8.8
2hr21min	18:00 ~ 20:21	20.9	1018.8	0.051	3328	23.5

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration)



Slope (K-factor): Correlation Coefficient Date of Issue

0.0022	
0.9975	-
11 Januar	v 2016

#### Remarks:

1. Strong Correlation (R>0.8)

2. Factor 0.0022 should be apply for TSP monitoring







Location : Location I	D :	Gold Kin Calibrati	ng Indus ion Roo	strial Buildi m	ng, Kv	wai Ch	ung	Date of Calibration: 2-Jan-16 Next Calibration Date: 2-Apr-16
						COND	TIONS	
	Se	a Level I Temp	Pressure erature	(hPa) (°C)		1022 18.9		Corrected Pressure (mm Hg)766.5Temperature (K)292
					CALIE	BRATIO		CE
			Calibrat	Make-> Model-> ion Date->	TIS 502 24-M	CH 25A ar-15		Qstd Slope ->2.10265Qstd Intercept ->-0.00335Expiry Date->24-Mar-16
					C	CALIBR	RATION	
Plate	H20 (L)	H2O (R)	H20	Qstd (m3/min)	I (ch:	[ art)	IC corrected	LINEAR
18 13 10 8 5	4.1 3.2 2.4 1.6 1.0	$ \begin{array}{c} (11) \\ 4.1 \\ 3.2 \\ 2.4 \\ 1.6 \\ 1.0 \\ \end{array} $	<ul> <li>(III)</li> <li>8.2</li> <li>6.4</li> <li>4.8</li> <li>3.2</li> <li>2.0</li> </ul>	1.384 1.222 1.059 0.865 0.684	5; 5; 4; 4; 4; 3;	6 2 8 2 5	56.82 52.76 48.71 42.62 35.51	Slope = 30.1332 Intercept = 15.8637 Corr. coeff. = 0.9950
Calculation Qstd = $1/r$ IC = I[Sqr Qstd = sta IC = correct I = actual m = calibra Ta = actual Pstd = actual For subsect 1/m((I))	ns : n[Sqrt(H t(Pa/Psto ndard flo cted cha chart res ator Qsto ator Qsto d temper ual press quent ca Sqrt(298/	(20(Pa/Ps d)(Tstd/T ow rate rt respond sponse d slope l intercep rature durin sure durin <b>alculatior</b> Tav)(Pav	td)(Tstd a)] es t ing cali g calibr n of san (760)]-t	/Ta))-b] bration ( de ation ( mm <b>ppler flow:</b> ))	g K ) Hg )	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00		FLOW RATE CHART
m = samp b = samp I = chart r Tav = dail Pav = dail	ler slope ler interc esponse y averag y averag	cept ge temper ge pressur	ature e			0.	00	0.500 1.000 1.500 Standard Flow Rate (m3/min)

#### Equipment Calibrated:

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366410
Equipment Ref:	EQ110
Job Order	HK1603561

#### Standard Equipment:

Standard Equipment:	Higher Volume Sampler	
Location & Location ID:	AUES office (calibration room)	
Equipment Ref:	HVS 018	
Last Calibration Date:	2 January 2016	

# **Equipment Verification Results:**

Testing Date:

4 to 6 January 2016

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr17min	17:30 ~ 19:47	20.6	1018.9	0.027	1566	11.4
2hr42min	17:00 ~ 19:42	20.7	1015.9	0.021	1422	8.7
2hr21min	18:00 ~ 20:21	20.9	1018.8	0.051	3318	23.4

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration)



Linear	Regression	of	Y	or	X

Slope (K-factor): Correlation Coefficient Date of Issue

	0.0022	_
	0.9973	
11	January	2016

#### Remarks:

1. Strong Correlation (R>0.8)

2. Factor 0.0022 should be apply for TSP monitoring






## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Location I	D :	Gold Kin Calibrati	ng Indus ion Rooi	strial Buildi m	ng, Kv	wai Chu	ing	Date of Calibration: 2-Jan-16 Next Calibration Date: 2-Apr-16
						CONDI	TIONS	
	Se	a Level F Temp	Pressure erature	(hPa) (°C)		1022 18.9		Corrected Pressure (mm Hg)766.5Temperature (K)292
					CALIE	BRATIC	ON ORIFICE	E
			Calibrat	Make-> Model-> ion Date->	TIS 502 24-M	CH 25A ar-15		Qstd Slope ->2.10265Qstd Intercept ->-0.00335Expiry Date->24-Mar-16
					C	CALIBR	ATION	
Plate	H20 (L)	H2O (R)	H20	Qstd	]	[	IC	LINEAR
No. 18 13 10 8 5	(in) 4.1 3.2 2.4 1.6 1.0	(11) 4.1 3.2 2.4 1.6 1.0	(in) 8.2 6.4 4.8 3.2 2.0	(m3/min) 1.384 1.222 1.059 0.865 0.684	(cha 5) 5) 4 4) 4)	art) 6 2 8 2 5	corrected           56.82           52.76           48.71           42.62           35.51	$\frac{\text{REGRESSION}}{\text{Slope} = 30.1332}$ $\text{Intercept} = 15.8637$ $\text{Corr. coeff.} = 0.9950$
Calculation Qstd = $1/r$ IC = I[Sqr Qstd = sta IC = corres I = actual m = calibra ta = actual Pstd = actual For subsection	ns : n[Sqrt(H t(Pa/Psto ndard flo cted cha chart res ator Qsto ator br>Ator Qsto Ator Ator Ator Ator Ator Ator Ator At	20(Pa/Ps 1)(Tstd/Ta ow rate rt respond ponse d slope l intercep rature dur ure durin alculatior Tav)(Pav	td)(Tstd a)] es t ing cali g calibr n of san (/760)]-t	/Ta))-b] bration ( de ation ( mm <b>ppler flow:</b> b)	g K ) Hg )	0.07 0.06 0.02 0.02 0.02 0.02 0.02 0.02		FLOW RATE CHART
m = samp b = samp I = chart r Tav = dail Pav = dail	ler slope ler interc esponse y averag y averag	cept ge temper ge pressur	ature e			10.0 0.0	0.000	0.500 1.000 1.500 Standard Flow Rate (m3/min)

## **Equipment Verification Report (TSP)**

## **Equipment Calibrated:**

Туре:	Laser Dust monitor	
Manufacturer:	Sibata LD-3B	
Serial No.	3Y6503	
Equipment Ref:	EQ112	
Job Order	HK1603553	

## **Standard Equipment:**

Standard Equipment:	Higher Volume Sampler	
Location & Location ID:	AUES office (calibration room)	
Equipment Ref:	HVS 018	
Last Calibration Date:	2 January 2016	

## **Equipment Verification Results:**

Testing Date:

4 to 6 January 2016

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr17min	17:30 ~ 19:47	20.6	1018.9	0.027	1633	11.9
2hr42min	17:00 ~ 19:42	20.7	1015.9	0.021	1502	9.2
2hr21min	18:00 ~ 20:21	20.9	1018.8	0.051	3365	23.8

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration)

## Linear Regression of Y or X

Slope (K-factor): Correlation Coefficient Date of Issue

_	0.0022
	0.9989
	11 January 2016

## Remarks:

1. Strong Correlation (R>0.8)

2. Factor 0.0022 should be apply for TSP monitoring

\*If R<0.5, repair or re-verification is required for the equipment







## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Location I	D :	Gold Kin Calibrati	ng Indus ion Rooi	strial Buildi m	ng, Kv	wai Chu	ing	Date of Calibration: 2-Jan-16 Next Calibration Date: 2-Apr-16
						CONDI	TIONS	
	Se	a Level F Temp	Pressure erature	(hPa) (°C)		1022 18.9		Corrected Pressure (mm Hg)766.5Temperature (K)292
					CALIE	BRATIC	ON ORIFICE	E
			Calibrat	Make-> Model-> ion Date->	TIS 502 24-M	CH 25A ar-15		Qstd Slope ->2.10265Qstd Intercept ->-0.00335Expiry Date->24-Mar-16
					C	CALIBR	ATION	
Plate	H20 (L)	H2O (R)	H20	Qstd	]	[	IC	LINEAR
No. 18 13 10 8 5	(in) 4.1 3.2 2.4 1.6 1.0	(11) 4.1 3.2 2.4 1.6 1.0	(in) 8.2 6.4 4.8 3.2 2.0	(m3/min) 1.384 1.222 1.059 0.865 0.684	(cha 5) 5) 4 4) 4)	art) 6 2 8 2 5	corrected           56.82           52.76           48.71           42.62           35.51	$\frac{\text{REGRESSION}}{\text{Slope} = 30.1332}$ $\text{Intercept} = 15.8637$ $\text{Corr. coeff.} = 0.9950$
Calculation Qstd = $1/r$ IC = I[Sqr Qstd = sta IC = corres I = actual m = calibra ta = actual Pstd = actual For subsection	ns : n[Sqrt(H t(Pa/Psto ndard flo cted cha chart res ator Qsto ator br>Ator Qsto Ator Ator Ator Ator Ator Ator Ator At	20(Pa/Ps 1)(Tstd/Ta ow rate rt respond ponse d slope l intercep rature dur ure durin alculatior Tav)(Pav	td)(Tstd a)] es t ing cali g calibr n of san (/760)]-t	/Ta))-b] bration ( de ation ( mm <b>ppler flow:</b> b)	g K ) Hg )	0.07 0.06 0.02 0.02 Vectraal 0.02 0.02 0.02		FLOW RATE CHART
m = samp b = samp I = chart r Tav = dail Pav = dail	ler slope ler interc esponse y averag y averag	cept ge temper ge pressur	ature e			10.0 0.0	0.000	0.500 1.000 1.500 Standard Flow Rate (m3/min)

## **Equipment Verification Report (TSP)**

## **Equipment Calibrated:**

Туре:	Laser Dust monitor	
Manufacturer:	Sibata LD-3B	
Serial No.	3Y6505	
Equipment Ref:	EQ114	
Job Order	HK1603562	

## Standard Equipment:

Standard Equipment:	Higher Volume Sampler	
Location & Location ID:	AUES office (calibration room)	
Equipment Ref:	HVS 018	5
Last Calibration Date:	2 January 2016	

## **Equipment Verification Results:**

Testing Date:	4 to 6 Jar

4 to 6 January 2016

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr17min	17:30 ~ 19:47	20.6	1018.9	0.027	1589	11.6
2hr42min	17:00 ~ 19:42	20.7	1015.9	0.021	1473	9.0
2hr21min	18:00 ~ 20:21	20.9	1018.8	0.051	3314	23.4

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration)

## Linear Regression of Y or X

Slope (K-factor):	
Correlation Coefficient	
Date of Issue	

0.0	022	
0.9	985	
11 Ja	nuar	2016

## Remarks:

- 1. Strong Correlation (R>0.8)
- 2. Factor 0.0022 should be apply for TSP monitoring

\*If R<0.5, repair or re-verification is required for the equipment







## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :Gold King Industrial Building, Kwai ChungLocation ID :Calibration Room					ng, Kv	wai Chu	ing	Date of Calibration: 2-Jan-16 Next Calibration Date: 2-Apr-16
						CONDI	TIONS	
	Se	a Level F Temp	Pressure erature	(hPa) (°C)		1022 18.9		Corrected Pressure (mm Hg)766.5Temperature (K)292
					CALIE	BRATIC	ON ORIFICE	E
Make-> T Model-> 50 Calibration Date-> 24-1					TIS 502 24-M	CH 25A ar-15		Qstd Slope ->2.10265Qstd Intercept ->-0.00335Expiry Date->24-Mar-16
					C	CALIBR	ATION	
Plate	H20 (L)	H2O (R)	H20	Qstd	]	[	IC	LINEAR
No. 18 13 10 8 5	(in) 4.1 3.2 2.4 1.6 1.0	(11) 4.1 3.2 2.4 1.6 1.0	(in) 8.2 6.4 4.8 3.2 2.0	(m3/min) 1.384 1.222 1.059 0.865 0.684	(cha 5) 5) 4 4) 4)	art) 6 2 8 2 5	corrected           56.82           52.76           48.71           42.62           35.51	$\frac{\text{REGRESSION}}{\text{Slope} = 30.1332}$ $\text{Intercept} = 15.8637$ $\text{Corr. coeff.} = 0.9950$
Calculation Qstd = $1/r$ IC = I[Sqr Qstd = sta IC = corres I = actual m = calibra ta = actual Pstd = actual For subsection	ns : n[Sqrt(H t(Pa/Psto ndard flo cted cha chart res ator Qsto ator br>Ator Qsto Ator Ator Ator Ator Ator Ator Ator At	20(Pa/Ps 1)(Tstd/Ta ow rate rt respond ponse d slope l intercep rature dur ure durin alculatior Tav)(Pav	td)(Tstd a)] es t ing cali g calibr n of san (/760)]-t	/Ta))-b] bration ( de ation ( mm <b>ppler flow:</b> b)	g K ) Hg )	0.07 0.06 0.02 0.02 0.02 0.02 0.02 0.02		FLOW RATE CHART
m = samp b = samp I = chart r Tav = dail Pav = dail	ler slope ler interc esponse y averag y averag	cept ge temper ge pressur	ature e			10.0 0.0	0.000	0.500 1.000 1.500 Standard Flow Rate (m3/min)

SIBATA

(EQIII)

## SIBATA SCIENTIFIC TECHNOLOGY LTD.

1-1-62, Nakane, Soka, Saitama, 340-0005 Japan

TEL: 048-933-1582 FAX: 048-933-1591 -

## **CALIBRATION CERTIFICATE**

Date: May 11, 2015

Equipment Name	:	Digital Dust Indicator, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	3Y6501
Sensitivity	:	0.001 mg/m3
Sensitivity Adjustment	:	656CPM
Scale Setting	:	April 24, 2015

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

Sincerely

### SIBATA SCIENTIFIC TECHNOLOGY LTD.

tong

For Kentaro Togo Overseas Sales Division



Certificate No. : C151969 證書編號

ITEM TESTED / 送檢环	頁目	(Job No. / 序引編號: IC15-0720)	Date of Receipt / 收件日期: 24 March 2015
Description / 儀器名稱	:	Integrating Sound Level Meter (EQ006)	
Manufacturer / 製造商	;	Brüel & Kjær	
Model No. / 型號	:	2238	
Serial No. / 編號	:	2285762	
Supplied By / 委託者	:	Action-United Environmental Services and	d Consulting
		Unit A, 20/F., Gold King Industrial Buildin	ng,
		35-41 Tai Lin Pai Road, Kwai Chung, N.T	

## TEST CONDITIONS / 測試條件

Temperature / 溫度 :  $(23 \pm 2)^{\circ}$ C Line Voltage / 電壓 : --- Relative Humidity / 相對濕度 : (55 ± 20)%

### TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 11 April 2015

### TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. All results are within manufacturer's specification. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試	:	K ¢/Lee Project Engineer		
Certified By 核證	;	K-M Wu Engineer	Date of Issue 簽發日期	14 April 2015

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

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory e'o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong 輝創工程有限公司 – 校正及檢測實驗所 e'o 香港新界屯門興安里一號青山灣機樓四樓 Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com



Certificate No.: C151969 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- 2. Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment :

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

- 5. Test procedure : MA101N.
- 6. Results :
- 6.1 Sound Pressure Level
  - 6.1.1 Reference Sound Pressure Level
  - 6.1.1.1 Before Self-calibration

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

## 6.1.1.2 After Self-calibration

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

#### 6.1.2 Linearity

	UU	Г Setting		Applie	d Value	UUT
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
50 - 130	LAFP	A	F	94.00	1	94.1 (Ref.)
	01110			104.00		104.0
				114.00		114.0

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

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

Sun Creation Engineering Limited - Calibration & Testing Laboratory c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong 輝創工程有限公司 - 校正及檢測實驗所 c/o 香港新界屯門興安里一號背山灣機樓四樓 Tel/電話: 2927 2606 Fax/傳算: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

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



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#### 6.2 Time Weighting

#### 6.2.1 Continuous Signal

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

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

	UUT Setting				lied Value	UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration	Reading (dB)	Type 1 Spec. (dB)
30 - 110	LAFP	А	F	106.0	Continuous	106.0	Ref.
	LAFMax				200 ms	104.9	$-1.0 \pm 1.0$
	LASP		S		Continuous	106.0	Ref.
	LASMax				500 ms	101.9	$-4.1 \pm 1.0$

#### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

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

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



Certificate No. : C151969 證書編號

### 6.3.2 C-Weighting

	UUT	Setting		Appli	ed Value	UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Type 1 Spec. (dB)
50 - 130	L <sub>CFP</sub>	С	F	94.00	31.5 Hz	91.4	$-3.0 \pm 1.5$
				63 Hz	93.4	$-0.8 \pm 1.5$	
				125 Hz	93.9	$-0.2 \pm 1.0$	
				250 Hz	94.1	$0.0 \pm 1.0$	
					500 Hz	94.1	$0.0 \pm 1.0$
					1 kHz	94.1	Ref.
					2 kHz	93.9	$-0.2 \pm 1.0$
					4 kHz	93.3	$-0.8 \pm 1.0$
					8 kHz	91.1	-3.0 (+1.5 ; -3.0)
					12.5 kHz	88.0	-6.2 (+3.0 ; -6.0)

#### 6.4

Time Averaging

	บบา	Setting			Aj	oplied Value	e		UUT	IEC 60804
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
30 - 110	LAcq	L <sub>Aca</sub> A	10 sec.	4 1	1/10	110.0	100	100.0	± 0.5	
1.1						1/10 <sup>2</sup>		90	90.1	± 0,5
			60 sec.	]		1/103		80	79.4	± 1.0
			5 min.			1/104		70	69.2	± 1.0

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

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :	94 dB : 31.5 Hz - 125 Hz	$:\pm 0.35 \text{ dB}$
1	250 Hz - 500 Hz	$:\pm 0.30 \text{ dB}$
	1 kHz	$:\pm 0.20 \text{ dB}$
	2 kHz - 4 kHz	$:\pm 0.35 \text{ dB}$
	8 kHz	$:\pm 0.45 \text{ dB}$
	12.5 kHz	$\pm 0.70 \text{ dB}$
	104 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (Ref. 94 dB)
	114 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (Ref. 94 dB)
	Burst equivalent level	$\pm 0.2 \text{ dB}$ (Ref. 110 dB
		continuous sound level

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

Note :

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

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



Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C153055 證書編號

ITEM TESTED / 送檢項目	(Job No./序引編號: IC15-0720)	Date of Receipt / 收件日期: 15 May 2015
Description / 儀器名稱 :	Integrating Sound Level Meter (EQ065)	
Manufacturer / 製造商 :	Brüel & Kjær	
Model No. / 型號 :	2238	
Serial No. / 編號 :	2337676	
Supplied By / 委託者 :	Action-United Environmental Services and	Consulting
	Unit A, 20/F., Gold King Industrial Buildin	ng,
	35-41 Tai Lin Pai Road, Kwai Chung, N.T.	

## TEST CONDITIONS / 測試條件

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

### TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 4 June 2015

### TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. All results are within manufacturer's specification. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試	: K Lee	3		
Certified By 核證	: K M Wu Engineer	Date of Issue 簽發日期	: 5 June 2015	

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



Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No.: C153055 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- 2. The results presented are the mean of 3 measurements at each calibration point.
- 3. Test equipment :

Description	Certificate No.
40 MHz Arbitrary Waveform Generator	C150014
Multifunction Acoustic Calibrator	DC130171
	<u>Description</u> 40 MHz Arbitrary Waveform Generator Multifunction Acoustic Calibrator

- 4. Test procedure : MA101N.
- 5. Results :
- 5.1 Sound Pressure Level

	UUT	Setting		Applie	d Value	UUT	IEC 60651	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Type 1 Spec. (dB)	
50 - 130	LAFP	Α	F	94.00	1	94.0	$\pm 0.7$	

5.1.2 Linearity

	UU	Г Setting		Applie	d Value	UUT
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
50 - 130	LAFP	A	F	94.00	1	94.0 (Ref.)
				104.00	04.00	104.0
			1-	114.00		114.0

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

## 5.2 Time Weighting

## 5.2.1 Continuous Signal

	UUT Setting				d Value	UUT	IEC 60651	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq, (kHz)	Reading (dB)	Type 1 Spec. (dB)	
50 - 130	LAFP	A	F	94.00	1	94.0	Ref.	
	L <sub>ASP</sub>		S 9	94.0	± 0.1			
	LAIP		I	1-2-1		94.0	Ref. ± 0.1 ± 0.1	

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Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C153055 證書編號

## 5.2.2 Tone Burst Signal (2 kHz)

	UUT	Setting		App	lied Value	UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration	Reading (dB)	Type 1 Spec. (dB)
30 - 110	LAFP	А	F	106.0	Continuous	106.0	Ref.
	LAFMax				200 ms	105.0	$-1.0 \pm 1.0$
	LASP	in a C	S		Continuous	106.0	Ref.
	L <sub>ASMax</sub>				500 ms	102.0	$-4.1 \pm 1.0$

## 5.3 Frequency Weighting

## 5.3.1 A-Weighting

1.1.1	UUT	Setting		Appli	ed Value	UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Type 1 Spec. (dB)
50 - 130	LAFP	А	F	94.00	31.5 Hz	54.8	$-39.4 \pm 1.5$
				63 Hz	67.9	$-26.2 \pm 1.5$	
				125 Hz	77.8	$-16.1 \pm 1.0$	
					250 Hz	85.3	$-8.6 \pm 1.0$
					500 Hz	90.8	$-3.2 \pm 1.0$
					1 kHz	94.0	Ref.
					2 kHz	95.2	$+1.2 \pm 1.0$
					4 kHz	95.0	$+1.0 \pm 1.0$
					8 kHz	92.9	-1.1 (+1.5 ; -3.0)
				_	12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

## 5.3.2 C-Weighting

	UUT	Setting		Appli	ed Value	UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Type 1 Spec. (dB)
50 - 130	LCFP	С	F	94.00	31.5 Hz	91.1	$-3.0 \pm 1.5$
	11.11.11.1				63 Hz	93.2	$-0.8 \pm 1.5$
				125 Hz	93.8	$-0.2 \pm 1.0$	
					250 Hz	93.9	$0.0 \pm 1.0$
					500 Hz	94.0	$0.0 \pm 1.0$
					1 kHz	94.0	Ref.
					2 kHz	93.8	$-0.2 \pm 1.0$
			4 kHz	93.2	$-0.8 \pm 1.0$		
			1		8 kHz	91.0	-3.0 (+1.5 ; -3.0)
	1				12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

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



Certificate No. : C153055 證書編號

#### 5.4 Time Averaging

UUT Setting				Applied Value					UUT	IEC 60804
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
30 - 110	LAcq	Acg A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						1/10 <sup>2</sup>		90	89.7	± 0.5
			60 sec.			1/103		80	79.8	± 1.0
			5 min.	1		1/104		70	69.7	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812708

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :	94 dB : 31.5 Hz - 125 Hz	: ± 0.35 dB
Contraction and the state of the	250 Hz - 500 Hz	$\pm 0.30 \text{ dB}$
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
	104 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (Ref. 94 dB)
	114 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (Ref. 94 dB)
	Burst equivalent level	$\pm 0.2 \text{ dB}$ (Ref. 110 dB)
		continuous sound level)

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

Note :

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

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



Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C152552 證書編號

	ITEM TESTED / 送檢項目	(Job No. / 序引編號: IC15-0720)	Date of Receipt / 收件日期:	17 April 2015
	Description / 儀器名稱 :	Sound Level Meter (EQ011)		
	Manufacturer / 製造商 :	Rion		
	Model No. /型號 :	NL-52		
	Serial No. / 編號 :	01121362		
Supplied By / 委託者 : Action-United Environmental Services and Consulting Unit A, 20/F., Gold King Industrial Building, 35-41 Tai Lin Pai Road, Kwai Chung, N.T.				
	TEST CONDITIONS / 測	试條件	Sec. and the second second	
	Temperature / 溫度 : (2	$(3 \pm 2)^{\circ}C$	Relative Humidity / 相對濕度 :	$(55 \pm 20)\%$
	Line Voltage / 電壓 :			

### TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 8 May 2015

## TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. All results are within manufacturer's specification. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試	:	K C Lee Project Engineer		
Certified By 核證	:	K M Wu Engineer	Date of Issue 簽發日期	\$ 12 May 2015

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



Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C152552 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- 2. Self-calibration was performed before the test.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment :

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

- 5. Test procedure : MA101N.
- 6. Results :
- 6.1 Sound Pressure Level
- 6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L <sub>A</sub>	A	Fast	94.00	1	93.6	$\pm 1.1$

## 6.1.2 Linearity

UUT Setting				Applie	d Value	UUT
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
30 - 130	LA	A	Fast	94.00	1	93.6 (Ref.)
			104.00		103.6	
		( 05.5. S.)	A Constant Sec.	114.00		113.6

IEC 61672 Class 1 Spec. :  $\pm$  0.6 dB per 10 dB step and  $\pm$  1.1 dB for overall different.

## 6.2 Time Weighting

UUT Setting			Applied Value		UUT	IEC 61672	
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Class 1 Spec. (dB)
30 - 130	LA	A	Fast	94.00	1	93.6	Ref.
25, 01.0	2.25	1.4 ·····	Slow			93.6	± 0.3

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



Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C152552 證書編號

## 6.3 Frequency Weighting

## 6.3.1 A-Weighting

	UUT Setting			Appl	Applied Value		IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Class 1 Spec. (dB)
30 - 130	LA	L <sub>A</sub> A	Fast	94.00	63 Hz	67.3	$-26.2 \pm 1.5$
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		125 Hz	77.4	$-16.1 \pm 1.5$
					250 Hz	84.9	$-8.6 \pm 1.4$
					500 Hz	90.3	$-3.2 \pm 1.4$
					1 kHz	93.6	Ref.
					2 kHz	94.8	$+1.2 \pm 1.6$
					4 kHz	94.6	$+1.0 \pm 1.6$
					8 kHz	92.6	-1.1 (+2.1 ; -3.1)
			· · · · · · · · · · · · · · · · · · ·		12.5 kHz	89.2	-4.3 (+3.0 ; -6.0)

## 6.3.2 C-Weighting

UUT Setting			Appl	Applied Value		IEC 61672	
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L <sub>C</sub>	С	Fast	94.00	63 Hz	92.7	$-0.8 \pm 1.5$
	1.1.1.1				125 Hz	93.4	$-0.2 \pm 1.5$
	100				250 Hz	93.6	0.0 ± 1.4
					500 Hz	93.6	$0.0 \pm 1.4$
					1 kHz	93.6	Ref.
					2 kHz	93.4	$-0.2 \pm 1.6$
					4 kHz	92.8	$-0.8 \pm 1.6$
					8 kHz	90.7	-3.0 (+2.1;-3.1)
			-		12.5 kHz	87.2	-6.2 (+3.0 ; -6.0)

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 07459

- Mfr's Spec. : IEC 61672 Class 1

94 dB : 63 Hz - 125 Hz	$: \pm 0.35  dB$
250 Hz - 500 Hz	$:\pm 0.30 \text{ dB}$
1 kHz	: ± 0.20 dB
2 kHz - 4 kHz	: ± 0.35 dB
8 kHz	: ± 0.45 dB
12.5 kHz	: ± 0.70 dB
104 dB: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB : 1 kHz	$\pm 0.10 \text{ dB} (\text{Ref. 94 dB})$
	94 dB : 63 Hz - 125 Hz 250 Hz - 500 Hz 1 kHz 2 kHz - 4 kHz 8 kHz 12.5 kHz 104 dB : 1 kHz 114 dB : 1 kHz

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

Note :

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

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



Certificate No. : C151967 證書編號

ITEM TESTED / 送檢」	項目	(Job No./序引編號: IC15-0720)	Date of Receipt / 收件日期: 24 March 2015
Description / 儀器名稱	1	Sound Level Calibrator (EQ084)	
Manufacturer / 製造商	:	Cesva	
Model No. / 型號	4	CB-5	
Serial No. / 編號	1	030023	
Supplied By / 委託者	:	Action-United Environmental Services a	and Consulting
		Unit A, 20/F., Gold King Industrial Buil	ding,
		35-41 Tai Lin Pai Road, Kwai Chung, N	I.T.
	2000	N Lon Int	

### TEST CONDITIONS / 測試條件

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

## TEST SPECIFICATIONS / 測試規範

Calibration

DATE OF TEST / 測試日期 : 11 April 2015

### TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. All results are within manufacturer's specification. (after adjustment) The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試	:	K C Lee Project Engineer			
Certified By 核證	:	K M Wu Engineer	Date of Issue 簽發日期	:	14 April 2015

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

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong 輝創工程有限公司 – 校正及檢測實驗所 c/o 香港新界屯門興安里一號青山灣機樓四樓 Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com



Certificate No. : C151967 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- 2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID CL130 CL281 TST150A

Description Universal Counter Multifunction Acoustic Calibrator Measuring Amplifier <u>Certificate No.</u> C143868 DC130171 C141558

- 4. Test procedure : MA100N.
- 5. Results :
- 5.1 Sound Level Accuracy

### 5.1.1 Before Adjustment

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

Out of Mfr's Spec.

#### 5.1.2 After Adjustment

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

#### 5.2 Frequency Accuracy

#### 5.2.1 Before Adjustment

UUT Nominal	Measured Value	Mfr's	Uncertainty of Measured Value
Value (kHz)	(kHz)	Spec.	(Hz)
1	1,002	1 kHz ± 1.5 %	±1

#### 5.2.2 After Adjustment

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

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



Certificate No.: C151967 證書編號

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

Note :

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

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



Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C152550 證書編號

ITEM TESTED / 送檢項目	(Job No. / 序引編號: IC15-0720)	Date of Receipt / 收件日期: 16 April 2015
Description / 儀器名稱 :	Acoustical Calibrator (EQ081)	
Manufacturer / 製造商 :	Brüel & Kjær	
Model No. / 型號 :	4231	
Serial No. / 編號 :	2326408	
Supplied By / 委託者 :	Action-United Environmental Services an	nd Consulting
	Unit A, 20/F., Gold King Industrial Build	ling,
	35-41 Tai Lin Pai Road, Kwai Chung, N.	Τ.
TEST CONDITIONS / 測記	式條件	

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

## TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 7 May 2015

## TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. All results are within manufacturer's specification. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試	KCLee			
Certified By 核證	: K M Wri Engineer	Date of Issue 簽發日期	÷	12 May 2015

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

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory e/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong 輝創工程有限公司 – 校正及檢測實驗所 e/o 香港新界屯門興安里一號青山灣機樓四樓 Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab/@suncreation.com Website/網知:: www.suncreation.com



Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C152550 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- 2. The results presented are the mean of 3 measurements at each calibration point.
- 3. Test equipment :

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

- 4. Test procedure : MA100N.
- 5. Results :
- 5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		

### 5.2 Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's	Uncertainty of Measured Value
(kHz)	(kHz)	Spec.	(Hz)
1	1.000 0	$1 \text{ kHz} \pm 0.1 \%$	± 0.1

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

Note :

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

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



Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C151968 證書編號

ITEM TESTED / 送檢項目	(Job No. / 序引編號:IC15-0720)	Date of Receipt / 收件日期: 24 March 2015
Description / 儀器名稱 :	Sound Calibrator (EQ083)	
Manufacturer / 製造商 :	Rion	
Model No. / 型號 :	NC-74	
Serial No. / 編號 :	34246492	
Supplied By / 委託者 :	Action-United Environmental Services Unit A, 20/F., Gold King Industrial Bui 35-41 Tai Lin Pai Road, Kwai Chung, N	and Consulting lding, J.T.
TEST CONDITIONS / 測語	式條件	
Temperature / 溫度 : (2	$(3 \pm 2)^{\circ}C$	Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 :	-	

## TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 11 April 2015

## TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. All results are within manufacturer's specification. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試	:	K C Lee Project Engineer			
Certified By 核證	:	K M/Wu Engineer	Date of Issue 簽發日期	;	14 April 2015

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



Certificate No.: C151968 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- 2. The results presented are the mean of 3 measurements at each calibration point.
- 3. Test equipment :

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

- 4. Test procedure : MA100N.
- 5. Results :
- 5.1 Sound Level Accuracy

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

### 5.2 Frequency Accuracy

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

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

#### Note :

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

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



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

CONTACT:	MR BEN TAM
CLIENT:	ACTION UNITED ENVIRO SERVICES
ADDRESS:	RM A 20/F., GOLD KING IND BLDG,
	NO. 35-41 TAI LIN PAI ROAD,
	KWAI CHUNG,
	N.T., HONG KONG.

HK1548853
0
HONG KONG
16/12/2015
24/12/2015

## **COMMENTS**

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principals as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Dissolved Oxygen and Temperature
Equipment Type:	Dissolved Oxygen Meter
Brand Name:	YSI
Model No.:	YSI Pro 20
Serial No.:	12C100570
Equipment No.:	<u>22</u> 8
Date of Calibration:	23 December, 2015

## <u>NOTES</u>

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.

Mr. Fung Lim Chee Richard General Manager Greater China & Hong Kong

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Page 1 of 2

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

Work Order: Sub-Batch: Date of Issue: Client:	HK1548853 0 24/12/2015 ACTION UNITED ENVIRO SEF	RVICES		ALS
Equipment Type: Brand Name: Model No.: Serial No.: Equipment No.: Date of Calibration:	Dissolved Oxygen Meter YSI YSI Pro 20 12C100570  23 December, 2015	Date of next Calibration:	23 March, 2016	

## Parameters:

Dissolved Oxygen	Method Ref: APHA (21st edition), 45000: G
Dissolved Oxygen	Method Kell Al HA (213t cultion), 45000. d

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)		
1.80	1.75	-0.05		
4.86	4.73	-0.13		
8.59	8.69	+0.10		
	Tolerance Limit (mg/L)	±0.20		

### Temperature

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

uide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.			
Expected Reading (°C )	Displayed Reading (°C )	Tolerance (°C )	
10	10.4	+0.4	
20	20.6	+0.6	
40	39.2	-0.8	
	Tolerance Limit (°C)	±2.0	

## Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr. Fung Lim Che Richard

General Manager Greater China & Hong Kong



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

## CONTACT: MR BEN TAM CLIENT: ACTION UNITED ENVIRO SERVICES ADDRESS: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T., HONG KONG.

WORK ORDER:	HK1610840
SUB-BATCH:	0
LABORATORY:	HONG KONG
DATE RECEIVED:	16/03/2016
DATE OF ISSUE:	23/03/2016

## <u>COMMENTS</u>

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principals as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Dissolved Oxygen and Temperature
Equipment Type:	Dissolved Oxygen Meter
Brand Name:	YSI
Model No.:	550A
Serial No.:	16A104433
Equipment No.:	
Date of Calibration:	23 March, 2016

## **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.

Mr. Fung Lim Chee, Richard General Manager -Greater China & Hong Kong

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Page 1 of 2

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

Work Order:	HK1610840		
Sub-Batch:	0		
Date of Issue:	23/03/2016		
Client:	ACTION UNITED ENVIRO	) SERVICES	
Equipment Type:	Dissolved Oxygen Mete	r	
Brand Name:	YSI		
Model No.:	550A		
Serial No.:	16A104433		
Equipment No.:			
Date of Calibration:	23 March, 2016	Date of next Calibration:	23 June, 2016

## Parameters:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2 43	2 37	-0.06
5.50	5.40	-0.10
8.89	8.75	-0.14
	Tolerance Limit (mg/L)	±0.20

#### Temperature

#### Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure

Guide No. 5 Second edition March 2008. Working Thermometer Calibration Proceed		
Expected Reading (°C )	Displayed Reading (°C )	Tolerance (°C )
10		0.7
12	11.3	-0.7
22	21.7	-0.3
43	42.5	-0.5
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr. Fung Lim Chee, Richard

General Manager - Greater China & Hong Kong



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

## CONTACT: MR BEN TAM CLIENT: ACTION UNITED ENVIRO SERVICES ADDRESS: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T., HONG KONG

WORK ORDER:	HK1600633
SUB-BATCH:	0
LABORATORY:	HONG KONG
DATE RECEIVED:	06/01/2016
DATE OF ISSUE:	08/01/2016

## **COMMENTS**

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Turbidity
Equipment Type:	Turbidimeter
Brand Name:	HACH
Model No.:	2100Q
Serial No.:	12060C018266
Equipment No.:	
Date of Calibration:	07 January, 2016

## <u>NOTES</u>

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.

Mr. Fung Lim Chee, 'Richard General Manager -Greater China & Hong Kong

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Page 1 of 2

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

Work Order:	HK1600633
Sub-batch:	0
Date of Issue:	08/01/2016
Client:	ACTION UNITED ENVIRO SERVICES
Equipment Type:	Turbidimeter
Brand Name:	HACH
Model No.:	2100Q
Serial No.:	12060C018266
Equipment No.:	
Date of Calibration:	07 January, 2016

### Parameters:

## Turbidity

#### Method Ref: APHA 21st Ed. 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.00	
40	43.7	+9.3
400	404	+1.0
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr. Fung Lim Chee, Richard General Manager -Greater China & Hong Kong



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

CONTACT:	MR BEN TAM
CLIENT:	ACTION UNITED ENVIRO SERVICES
ADDRESS:	RM A 20/F., GOLDEN KING IND BLDG,
	NO. 35-41 TAI LIN PAI ROAD,
	KWAI CHUNG,
	N.T., HONG KONG

HK1549776	
0	
HONG KONG	
24/12/2015	
04/01/2016	

## <u>COMMENTS</u>

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principals as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:pH and TemperatureDescription:pH MeterBrand Name:AZModel No.:8685Serial No.:1118396Equipment No.:--Date of Calibration:04 January, 2016

## <u>NOTES</u>

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.

Mr Fung Lim Chee, Richard General Manager -Greater China & Hong Kong

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Page 1 of 2

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

Work Order:HK1549776Sub-batch:0Date of Issue:04/01/2016Client:ACTION UNITED ENVIRO SERVICESDescription:pH Meter

Brand Name:AZModel No.:8685Serial No.:1118396Equipment No.:--Date of Calibration:04 January, 2016

Date of next Calibration:

04 April, 2016

### Parameters:

pH Value

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

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.0	0.00
7.0	7.0	0.00
10.0	9.8	-0.20
	Tolerance Limit (pH 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 )
11	10.3	-0.7
23	22.0	-1.0
42	40.9	-1.1
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Rihlfy

Mr Fung Lim Chee, Richard General Manager -Greater China & Hong Kong





Hong Kong Accreditation Service 香港認可處

## **Certificate of Accreditation**

認可證書

This is to certify that 特此證明

## ALS TECHNICHEM (HK) PTY LIMITED

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

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

**HOKLAS Accredited Laboratory** 

「香港實驗所認可計劃」認可實驗所

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

## Environmental Testing 環境測試

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

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

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

Registration Number : HCKLAS 066 註冊號碼:



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

## ∟ 000552



Appendix G

**Event and Action Plan** 



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

Event	FT	IEC		Action
Action Level	EI	IEC		Contractor
1. Exceedance for one sample	<ol> <li>Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>Inform IEC and ER;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method.</li> </ol>	<ol> <li>Notify Contractor.</li> </ol>	<ol> <li>Rectify any unacceptable practice;</li> <li>Amend working methods if appropriate.</li> </ol>
2. Exceedance for two or more consecutive samples	<ol> <li>Identify source;</li> <li>Inform IEC and ER;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Discuss with IEC and Contractor on remedial actions required;</li> <li>If exceedance continues, arrange meeting with IEC and ER;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>Monitor the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Ensure remedial measures properly implemented.</li> </ol>	<ol> <li>Submit proposals for remedial to ER within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>
Limit Level				
<ol> <li>Exceedance for one sample</li> </ol>	<ol> <li>Identity source, investigate the causes of exceedance and propose remedial measures;</li> <li>Inform ER, Contractor and EPD;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Monitor theimplementation of remedial measures.</li> </ol>	<ol> <li>Contirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Ensure remedial measures properly implemented.</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>
<ol> <li>Exceedance for two or more consecutive samples</li> </ol>	<ol> <li>Notify IEC, ER, Contractor and EPD;</li> <li>Identify source;</li> <li>Repeat measurement to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Arrange meeting with IEC</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Ensure remedial measures properly implemented;</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Resubmit proposals if problem still not</li> </ol>
	and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	the ER accordingly; 5. Monitor the implementation of remedial measures.	5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.



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

Event	ET	IEC	ER	Action Contractor
Action Level	<ol> <li>Notify ER, IEC and Contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to the IEC, ER and Contractor;</li> <li>Discuss with the IEC and Contractor on remedial measures required;</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures.	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Submit noise mitigation proposals to IEC and ER;</li> <li>Implement noise mitigation proposals.</li> </ol>
Limit Level	Inform IEC, ER, Contractor and EPD;     Z. Repeat measurements to confirm findings;     J. Increase monitoring frequency;     4. Identify source and investigate the cause of exceedance;     S. Carry out analysis of Contractor's working procedures;     6. Discuss with the IEC, Contractor and ER on remedial measures required;     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.	Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.	<ol> <li>Confirm receipt of notification of failure in writino:</li> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Supervise the implementation of remedial measures;</li> <li>If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance:</li> <li>Submit proposals for remedial actions to IEC and ER within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Submit further proposal if problem still not under control;</li> <li>Stop the relevant portion of works as instructed by the ER until the exceedance is abated.</li> </ol>


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

EVENT		IFC		ACTION
Action level being exceeded by one sampling day	<ol> <li>Repeat in-situ measurement to confirm findings;</li> <li>Identify reasons for non-compliance and sources of impact;</li> <li>Inform IEC and Contractor;</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>Discuss mitigation measures with IEC and Contractor;</li> <li>Repeat measurement on next day of exceedance.</li> </ol>	<ol> <li>Discuss with ET and Contractor on the mitigation measures;</li> <li>Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>Assess the effectiveness of the implemented mitigation measures</li> </ol>	<ol> <li>Discuss with IEC on the proposed mitigation measures;</li> <li>Make agreement on the mitigation measures to be implemented;</li> <li>Assess the effectiveness of the implemented mitigation measures</li> </ol>	<ol> <li>Inform the ER and confirm notification of the non- compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment;</li> <li>Consider changes of working methods;</li> <li>Discuss with ET and IEC and propose mitigation measures to IEC and ER;</li> <li>Implement the agreed mitigation measures.</li> </ol>
Action Level being exceeded by more than two consecutive sampling days	<ol> <li>Repeat in-situ measurement to confirm findings;</li> <li>Identify reasons for non-compliance and sources of impact;</li> <li>Inform IEC and Contractor;</li> <li>Check monitoring data, all plant, equipment and Contractor's working matheres;</li> <li>Discuss mitigation measures with IEC and Contractor;</li> <li>Ensure mitigation measures are implemented;</li> <li>Prepare to increase the monitoring frequency to daily;</li> <li>Repeat measurement on next day of</li> </ol>	<ol> <li>Discuss with ET and Contractor on the mitigation measures;</li> <li>Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>Assess the effectiveness of the implemented mitigation measures</li> </ol>	<ol> <li>Discuss with IEC on the proposed mitigation measures;</li> <li>Make agreement on the mitigation measures to be implemented;</li> <li>Assess the effectiveness of the implemented mitigation measures</li> </ol>	<ol> <li>Inform the ER and confirm notification of the non- compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment;</li> <li>Consider changes of working methods;</li> <li>Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working neasures.</li> </ol>
Limit Level being exceeded by one sampling day	I. Repeat in-situ measurement to confirm findings;     I. Identify reasons for non-compliance and sources of impact;     Inform IEC, Contractor and EPD;     Check monitoring data, all plant, equipment and Contractor's working methods;     Discuss mitigation measures with IEC, ER and Contractor;     Ensure mitigation measures are implemented;     I. Increase the monitoring frequency to daily until no exceedance of Limit Level.	<ol> <li>Discuss with ET and Contractor on the mitigation measures;</li> <li>Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>Assees the effectiveness of the implemented mitigation measures</li> </ol>	<ol> <li>Discuss with IEC, ET and Contractor on the proposed mitigation measures;</li> <li>Request Contractor to critically review the working methods;</li> <li>Make agreement on the mitigation measures to be implemented;</li> <li>Assess the effectiveness of the implemented mitigation measures</li> </ol>	<ol> <li>Inform the ER and confirm notification of the non- compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment;</li> <li>Consider changes of working methods;</li> <li>Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days;</li> <li>Implement the agreed mitigation measures.</li> </ol>
Limit level being exceeded by more than one consecutive sampling days	Repeat in-situ measurement to confirm findings;     Identify reasons for non-compliance and sources of impact;     Inform IEC, Contractor and EPD;     Check monitoring data, all plant, equipment and Contractor's working methods;     Discuss mitigation measures with IEC, ER and Contractor;     Ensure mitigation measures are implementad;     Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days	<ol> <li>Discuss with ET and Contractor on the mitigation measures;</li> <li>Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol> <li>Discuss with IEC, ET and Contractor on the proposed mitigation measures;</li> <li>Request Contractor to critically review the working methods;</li> <li>Make agreement on the mitigation measures to be implemented;</li> <li>Assess the effectiveness of the implemented mitigation measures;</li> <li>Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit Level.</li> </ol>	<ol> <li>Inform the ER and confirm notification of the non- compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment;</li> <li>Consider changes of working methods;</li> <li>Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days;</li> <li>Implement the agreed mitigation measures;</li> <li>As directed by the ER, to slow down or to stop all or part of the construction activities.</li> </ol>



# Appendix H

# **Impact Monitoring Schedule**

 $Z: Jobs \ 2013 \ CS00694 \ 600 \ EM\&A \ Report \ Monthly \ EM\&A \ Report \ 32th \ (Mar \ 2016) \ R0227 \ v2. docx$ 



#### Impact Monitoring Schedule for the Reporting Period – March 2016

	Data	Dust Mor	nitoring	Noice Monitoring	Water Quality
	Date	1-hour TSP	24-hour TSP	rouse monitoring	water Quanty
Tue	1-Mar-16	C3&C5 & SSC505		C3&C5 & SSC505	
Wed	2-Mar-16				C2 & C3&C5& SSC505& C6
Thu	3-Mar-16		C6		
Fri	4-Mar-16	C6	C2	C6	C2 & C3&C5& SSC505& C6
Sat	5-Mar-16	C2	C3&C5 & SSC505	C2	
Sun	6-Mar-16				
Mon	7-Mar-16	C3&C5 & SSC505		C3&C5 & SSC505	C2 & C3&C5& SSC505& C6
Tue	8-Mar-16				
Wed	9-Mar-16		C6		C2 & C3&C5& SSC505& C6
Thu	10-Mar-16	C6	C2	C6	
Fri	11-Mar-16	C2	C3&C5 & SSC505	C2	C2 & C3&C5& SSC505& C6
Sat	12-Mar-16	C3&C5 & SSC505		C3&C5 & SSC505	
Sun	13-Mar-16				
Mon	14-Mar-16				C2 & C3&C5& SSC505& C6
Tue	15-Mar-16		C6		
Wed	16-Mar-16	C6	C2	C6	C2 & C3&C5& SSC505& C6
Thu	17-Mar-16	C2	C3&C5 & SSC505	C2	
Fri	18-Mar-16	C3&C5 & SSC505		C3&C5 & SSC505	C2 & C3&C5& SSC505& C6
Sat	19-Mar-16		C6		
Sun	20-Mar-16				
Mon	21-Mar-16	C6		C6	C2 & C3&C5& SSC505& C6
Tue	22-Mar-16		C2		
Wed	23-Mar-16	C2&C6	C3&C5 & SSC505	C2	C2 & C3&C5& SSC505& C6
Thu	24-Mar-16	C3&C5 & SSC505	C2&C6	C3&C5 & SSC505	
Fri	25-Mar-16				C2 & C3 (*)
Sat	26-Mar-16				
Sun	27-Mar-16				
Mon	28-Mar-16				
Tue	29-Mar-16	C2&C6	C3&C5 & SSC505	C2&C6	C2 & C3&C5& SSC505& C6
Wed	30-Mar-16	C3&C5 & SSC505	C2&C6	C3&C5 & SSC505	
Thu	31-Mar-16				C2 & C3&C5& SSC505& C6

(\*) Water monitoring will be conducted at WM4, WM4-CA and WM4-CB only.

Monitoring Day Sunday or Public Holiday

#### Monitoring Location

	Air Quality	AM7b & AM8
Contract 2 (C2)	Construction Noise	NM5, NM6, NM7
	Water Quality#	WM3, WM3-Control, WM4, WM4-Control A & WM4-Control B
	Air Quality	AM9b
Contract 3 (C3)	Construction Noise	NM8, NM9 & NM10
	Water Quality	WM4, WM4-Control A & WM4-Control B
	Air Quality	AM1b, AM2 & AM3
Contract 5 (C5)	Construction Noise	NM1, NM2
	Water Quality	WM1 & WM1-Control
	Air Quality	AM1b
Contract SS C505	Construction Noise	NM1
	Water Quality	WM1 & WM1-Control
	Air Quality	AM2, AM3, AM4b, AM5 & AM6
Contract 6 (C6)	Construction Noise	NM2,NM3, NM4, NM5 & NM6
	Water Quality	WM1, WM1C, WM2a, WM2A-C, WM2B, WM2B-C, WM3, WM3-C
Contract 7 (C7)	Air Quality	AM1b
Contract / (C/)	Construction Noise	NM1



#### Impact Monitoring Schedule for next Reporting Period – April 2016

	Data	Dust Mo	nitoring	Noise Monitoring	Water Quality
	Date	1-hour TSP	24-hour TSP	Noise Monitoring	water Quality
Fri	1-Apr-16				
Sat	2-Apr-16	C2&C6	C3&C5&C7&SSC505		C2 & C3&C5& SSC505& C6
Sun	3-Apr-16				
Mon	4-Apr-16				
Tue	5-Apr-16	C3&C5&C7&SSC505	C2&C6	C3&C5&C7&SSC505	C2 & C3&C5& SSC505& C6
Wed	6-Apr-16				
Thu	7-Apr-16				C2 & C3&C5& SSC505& C6
Fri	8-Apr-16	C2&C6	C3&C5&C7&SSC505	C2&C6	
Sat	9-Apr-16				C2 & C3&C5& SSC505& C6
Sun	10-Apr-16				
Mon	11-Apr-16	C3&C5&C7&SSC505	C2&C6	C3&C5&C7&SSC505	C2 & C3&C5& SSC505& C6
Tue	12-Apr-16				
Wed	13-Apr-16				
Thu	14-Apr-16	C2&C6	C3&C5&C7&SSC505	C2&C6	C2 & C3&C5& SSC505& C6
Fri	15-Apr-16				
Sat	16-Apr-16	C3&C5&C7&SSC505	C2&C6		C2 & C3&C5& SSC505& C6
Sun	17-Apr-16				
Mon	18-Apr-16				C2 & C3&C5& SSC505& C6
Tue	19-Apr-16				
Wed	20-Apr-16	C2&C6	C3&C5&C7&SSC505	C2&C6	C2 & C3&C5& SSC505& C6
Thu	21-Apr-16				
Fri	22-Apr-16	C3&C5&C7&SSC505	C2&C6	C3&C5&C7&SSC505	C2 & C3&C5& SSC505& C6
Sat	23-Apr-16				
Sun	24-Apr-16				
Mon	25-Apr-16				
Tue	26-Apr-16	C2&C6	C3&C5&C7&SSC505	C2&C6	C2 & C3&C5& SSC505& C6
Wed	27-Apr-16				
Thu	28-Apr-16	C3&C5&C7&SSC505	C2&C6	C3&C5&C7&SSC505	C2 & C3&C5& SSC505& C6
Fri	29-Apr-16				
Sat	30-Apr-16				C2 & C3&C5& SSC505& C6

Monitoring Day Sunday or Public Holiday

Monitoring Location

	Air Quality	AM7b & AM8
Contract 2 (C2)	Construction Noise	NM5, NM6, NM7
	Water Quality#	WM3, WM3-Control, WM4, WM4-Control A & WM4-Control B
	Air Quality	AM9b
Contract 3 (C3)	Construction Noise	NM8, NM9 & NM10
	Water Quality	WM4, WM4-Control A & WM4-Control B
	Air Quality	AM1b, AM2 & AM3
Contract 5 (C5)	Construction Noise	NM1, NM2
	Water Quality	WM1 & WM1-Control
	Air Quality	AM1b
Contract SS C505	Construction Noise	NM1
	Water Quality	WM1 & WM1-Control
	Air Quality	AM2, AM3, AM4b, AM5 & AM6
Contract 6 (C6)	Construction Noise	NM2,NM3, NM4, NM5 & NM6
	Water Quality	WM1, WM1C, WM2a, WM2A-C, WM2B, WM2B-C, WM3, WM3-C
$C_{outro ot 7}(C7)$	Air Quality	AM1b
Contract / (C/)	Construction Noise	NM1



Appendix I

**Database of Monitoring Result** 



## 24-hour TSP Monitoring Data

	SAMPLE	EI A	PSED TH	ME	(	CHAR	Г	AVG	AVG AIR	STANDARD	AIR	FILTER V	VEIGHT	DUST WEIGHT	24 LID TOD
DATE	NUMBE	LLA		VIL.	R	EADIN	JG	TEMP	PRESS	FLOW RATE	VOLUME	(g	)	COLLECTED	$24$ -HK ISP $(ug/m^3)$
	R	INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	$(m^3/min)$	(std m <sup>3</sup> )	INITIAL	FINAL	(g)	(µg/m)
AM1b – Ope	en Area, Tsu	ung Yuen I	Ha Villag	e											
5-Mar-16	29179	11214.97	11239.10	1447.80	44	44	44.0	20.8	1016.7	1.47	2130	2.8658	3.0896	0.2238	105
11-Mar-16	29188	11239.10	11263.24	1448.40	38	39	38.5	11.9	1022.6	1.33	1924	2.8756	2.9365	0.0609	32
17-Mar-16	29216	11263.24	11287.32	1444.80	28	30	29.0	15.3	1014.3	1.03	1491	2.9243	2.9494	0.0251	17
23-Mar-16	29226	11287.32	11311.44	1447.20	32	32	32.0	18.4	1012.8	1.12	1616	2.9009	2.9449	0.0440	27
29-Mar-16	29255	11311.44	11335.60	1449.60	47	47	47.0	17.7	1021.4	1.57	2277	2.8720	3.0108	0.1388	61
AM2 - Villag	ge House ne	ar Lin Ma	Hang Ro	oad		-			_		_	-			
5-Mar-16	29177	6762.62	6786.45	1429.80	36	36	36.0	20.8	1016.7	1.12	1608	2.8797	3.0200	0.1403	87
11-Mar-16	29187	6786.45	6810.29	1430.40	32	33	32.5	11.9	1022.6	1.04	1488	2.8785	3.0129	0.1344	90
17-Mar-16	29217	6810.29	6834.19	1434.00	30	30	30.0	15.3	1014.3	0.96	1374	2.9245	2.9771	0.0526	38
23-Mar-16	29227	6834.19	6857.86	1420.20	36	38	37.0	18.4	1012.8	1.16	1641	2.8859	2.9696	0.0837	51
29-Mar-16	29257	6857.86	6881.61	1425.00	45	45	45.0	17.7	1021.4	1.39	1987	2.8734	3.0593	0.1859	94
AM3 - Ta Ky	wu Ling Fir	e Service	Station of	' Ta Kwu	Ling	Village	•								
5-Mar-16	29718	7875.00	7899.00	1440.00	49	49	49.0	20.8	1016.7	1.42	2041	2.8792	3.0297	0.1505	74
11-Mar-16	29189	7899.00	7923.01	1440.60	38	39	38.5	11.9	1022.6	1.10	1582	2.8533	3.0099	0.1566	99
17-Mar-16	29215	7923.01	7946.99	1438.80	48	48	48.0	15.3	1014.3	1.40	2011	2.8986	2.9545	0.0559	28
23-Mar-16	29225	7946.99	7970.99	1440.00	48	48	48.0	18.4	1012.8	1.39	1999	2.8904	2.9514	0.0610	31
29-Mar-16	29258	7970.99	7994.99	1440.00	46	46	46.0	17.7	1021.4	1.33	1917	2.8385	3.0527	0.2142	112
AM4 - House	e no. 10B1 N	Nga Yiu H	a Village	1	-										
3-Mar-16	29123	9858.75	9882.75	1440.00	32	32	32.0	22.4	1023.2	0.96	1381	2.8450	2.9398	0.0948	69
9-Mar-16	29128	9882.75	9906.75	1440.00	38	39	38.5	20.8	1012.5	1.16	1670	2.8460	2.9028	0.0568	34
15-Mar-16	29193	9906.75	9930.76	1440.60	32	32	32.0	14.8	1017.1	0.97	1396	2.8892	2.9876	0.0984	71
19-Mar-16	29219	9930.76	9954.75	1439.40	36	36	36.0	22.4	1013	1.08	1553	2.8964	2.9875	0.0911	59
24-Mar-16	29230	9954.75	9978.75	1440.00	39	39	39.0	15.3	1020.3	1.19	1716	2.9079	2.9548	0.0469	27
30-Mar-16	29259	9978.75	10002.75	1440.00	40	40	40.0	20	1018.3	1.21	1746	2.8635	3.0637	0.2002	115
AM5a - Ping	Yeung Vill	lage House	9		-				T		Γ			I	
3-Mar-16	29124	7697.05	7721.05	1440.00	31	31	31.0	22.4	1023.2	0.98	1408	2.8646	2.9552	0.0906	64
9-Mar-16	29186	7721.05	7745.05	1440.00	28	29	28.5	20.8	1012.5	0.90	1296	2.8719	2.9175	0.0456	35
15-Mar-16	29194	7745.05	7769.07	1441.20	30	30	30.0	14.8	1017.1	0.96	1378	2.8642	2.9459	0.0817	59
19-Mar-16	29220	7769.07	7793.06	1439.40	32	32	32.0	22.4	1013.0	1.00	1444	2.8908	2.9577	0.0669	46
24-Mar-16	29231	7793.06	7817.06	1440.00	26	26	26.0	15.3	1020.3	0.83	1202	2.8875	2.9233	0.0358	30
30-Mar-16	29260	7817.06	7841.06	1440.00	28	28	28.0	20	1818.3	1.17	1690	2.8640	3.0027	0.1387	82
AM6 - Wo K	eng Shan V	illage Hou	use	1					1						•
3-Mar-16	29125	6268.47	6292.47	1440.00	30	30	30.0	18.7	1021.9	0.79	1141	2.8335	2.9674	0.1339	117

	SAMPLE	ELA	APSED TIN	ME	( D	CHAR	Г IC	AVG	AVG AIR	STANDARD	AIR	FILTER V	VEIGHT	DUST WEIGHT	24-HR TSP
DATE	R NUMBE	INITIAL	FINAL	(min)	MIN	MAX	AVG	$(^{\circ}C)$	(hPa)	$\frac{FLOW RATE}{(m^3/min)}$	$(\text{std m}^3)$	(g) INITIAL	) FINAL	(g)	$(\mu g/m^3)$
9-Mar-16	29127	6292 47	6316.47	1440.00	33	34	33.5	20.8	1012.5	0.91	1307	2 8560	2 9227	0.0667	51
15-Mar-16	29192	6316.47	6340.48	1440.60	34	34	34.0	14.8	1012.3	0.94	1355	2.8902	3.0567	0.1665	123
19-Mar-16	29221	6340.48	6364.47	1439.40	34	34	34.0	22.4	1013.0	0.92	1327	2.9160	3.0300	0.1140	86
24-Mar-16	29232	6364.47	6388.47	1440.00	34	34	34.0	15.3	1020.3	0.94	1355	2.9030	2.9420	0.0390	29
30-Mar-16	29261	6388.47	6412.04	1414.20	28	28	28.0	20.0	1018.3	0.72	1014	2.8754	3.0038	0.1284	127
AM7b - Loi T	Fung Villag	ge House													
4-Mar-16	29126	15301.10	15325.10	1440.00	30	32	31.0	20.2	1018.1	0.85	1218	2.8498	2.8993	0.0495	41
10-Mar-16	29195	15325.10	15349.10	1440.00	24	24	24.0	13.4	1019.5	0.66	954	2.8720	2.8933	0.0213	22
16-Mar-16	29213	15349.10	15373.10	1440.00	28	28	28.0	15.3	1015	0.77	1107	2.8999	2.9626	0.0627	57
22-Mar-16	29224	15373.10	15397.10	1440.00	30	30	30.0	16.6	1013.4	0.82	1183	2.8909	2.9264	0.0355	30
24-Mar-16	29253	15397.10	15421.10	1440.00	20	20	20.0	15.3	1020.3	0.55	792	2.8871	2.9095	0.0224	28
30-Mar-16	29262	15421.10	15445.10	1440.00	27	28	27.5	20	1018.3	0.75	1080	2.8595	2.9999	0.1404	130
AM8 - Po Ka	t Tsai Villa	nge No. 4		-											
4-Mar-16	29176	9171.50	9195.52	1441.20	38	38	38.0	20.2	1018.1	0.92	1326	2.8885	2.9251	0.0366	28
10-Mar-16	29191	9195.52	9219.52	1440.00	30	30	30.0	13.4	1019.5	0.69	993	2.8919	2.9252	0.0333	34
16-Mar-16	29214	9219.52	9243.51	1439.40	36	36	36.0	15.3	1015	0.87	1248	2.9166	2.9407	0.0241	19
22-Mar-16	29228	9243.51	9267.51	1440.00	36	36	36.0	16.6	1013.4	0.86	1244	2.8871	2.9148	0.0277	22
24-Mar-16	29254	9267.51	9291.50	1439.40	42	42	42.0	15.3	1020.2	1.05	1516	2.8769	2.9058	0.0289	19
30-Mar-16	29263	9291.50	9315.51	1440.60	37	37	37.0	20	1018.3	0.89	1283	2.8624	2.9527	0.0903	70
AM9b - Nam	Wa Po Vi	llage Hous	e No. 80												
5-Mar-16	29057	16648.32	16672.34	1441.20	38	38	38.0	20.8	1016.7	1.16	1667	2.7994	2.8573	0.0579	35
11-Mar-16	29190	16672.34	16696.34	1440.00	46	46	46.0	11.9	1022.6	1.46	2103	2.8755	2.9275	0.0520	25
17-Mar-16	29218	16696.34	16720.34	1440.00	24	24	24.0	15.3	1014.3	0.68	983	2.8877	2.9104	0.0227	23
23-Mar-16	29229	16720.34	16744.33	1439.40	29	29	29.0	18.4	1012.8	0.85	1223	2.8904	2.9363	0.0459	38
29-Mar-16	29256	16744.33	16768.33	1440.00	28	29	28.5	17.7	1021.4	0.84	1206	2.8705	2.9493	0.0788	65

### Construction Noise Monitoring Results, dB(A)

Date	Start Time	1 <sup>st</sup> Leq <sub>5min</sub>	L10	L90	$\begin{array}{c} 2^{nd} \\ Leq_{5min} \end{array}$	L10	L90	3 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	4 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	5 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	6 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	Leq30	façade correction
NM1 - Tsun	g Yuen	Ha Vill	lage Hou	ise No.	63																
1-Mar-16	11:27	57.0	59.5	46.5	55.8	59.5	48.0	51.7	54.5	47.0	50.2	52.5	47.0	57.3	61.0	47.0	54.7	54.5	47.0	55	NA
7-Mar-16	13:10	58.5	56.5	45.0	54.5	54.5	46.0	51.3	50.5	46.5	55.9	55.0	47.0	55.3	54.0	48.0	53.0	55.5	48.0	55	NA
12-Mar-16	10:04	62.9	67.9	55.0	61.9	66.3	55.0	64.3	67.7	56.3	62.1	66.4	54.5	66.0	67.3	53.8	63.5	67.1	54.2	64	NA
18-Mar-16	9:52	68.3	70.7	59.2	65.1	67.5	55.5	61.3	64.6	55.1	61.7	65.0	53.7	65.3	69.5	56.2	68.3	70.7	59.2	66	NA
24-Mar-16	13:41	54.0	56.6	50.2	53.7	55.6	50.7	53.4	56.0	50.5	56.5	57.0	50.2	53.7	55.8	50.6	53.0	55.1	50.4	54	NA
30-Mar-16	14:00	66.3	71.6	54.5	64.1	69.8	52.9	62.6	68.3	51.7	62.1	67.4	52.2	63.0	64.0	54.9	62.4	68.0	52.0	64	NA
NM2 - Villa	ge Hou	se near 🛛	Lin Ma	Hang R	load																
1-Mar-16	11:22	60.3	61.3	52.7	67.2	63.5	50.1	57.1	61.4	49.1	55.6	59.0	47.7	56.2	58.5	46.6	58.3	62.8	46.5	61	NA
7-Mar-16	14:07	63.2	65.5	54.5	71.3	74.5	57.5	69.3	73.5	57.0	70.1	71.5	58.0	62.6	66.0	51.5	60.5	63.5	50.5	68	NA
12-Mar-16	11:07	61.3	65.2	52.1	62.6	66.3	53.9	62.8	66.8	55.2	62.7	66.6	54.0	62.6	66.3	52.8	62.6	66.1	54.9	62	NA
18-Mar-16	10:27	64.3	67.5	55.2	66.4	68.1	55.0	67.7	69.7	55.7	60.2	63.1	53.7	60.2	59.8	52.4	56.8	60.2	53.3	64	NA
24-Mar-16	13:01	54.4	56.7	50.4	56.3	59.0	50.7	55.1	57.8	51.1	53.8	56.7	50.5	57.7	59.9	50.4	54.5	57.9	50.3	56	NA
30-Mar-16	13:19	63.0	64.2	54.9	60.2	63.2	54.3	56.6	58.5	53.7	58.5	61.1	53.8	57.6	59.5	54.7	59.5	62.0	54.9	60	NA
NM3 - Ping	Yeung	Village 1	House								1			1			1				
5-Mar-16	11:20	59.2	62.0	52.5	61.0	64.5	51.5	56.0	58.5	50.5	55.2	55.0	49.5	55.7	54.5	50.5	54.0	54.0	50.0	58	NA
10-Mar-16	14:45	63.9	66.4	56.9	61.7	63.2	55.1	58.1	60.0	54.8	60.1	62.1	53.9	61.6	62.5	54.5	60.4	63.4	57.3	61	NA
16-Mar-16	10:36	62.7	63.5	52.5	58.5	63.0	52.5	54.1	54.5	52.5	57.0	55.5	52.5	54.5	55.5	52.5	68.8	65.5	53.5	63	NA
21-Mar-16	11:04	64.3	66.7	55.4	59.3	60.4	55.1	62.0	63.7	55.7	60.3	62.5	54.1	62.0	63.1	54.7	60.5	63.1	57.0	62	NA
29-Mar-16	9:45	61.0	62.9	56.6	61.5	63.4	56.5	61.9	63.7	56.2	60.8	62.4	56.0	61.1	62.8	56.6	61.0	62.8	56.1	61	NA
NM4 - Wo k	Keng Sh	an Villa	ige Hou	se																	
5-Mar-16	10:14	65.2	67.6	59.7	63.9	61.9	57.0	61.2	60.5	55.9	63.4	66.6	57.8	62.6	62.8	57.8	63.9	65.4	58.4	64	NA
10-Mar-16	14:00	61.5	61.8	58.8	64.7	64.1	59.3	62.4	62.1	59.1	66.3	66.1	59.1	65.0	68.5	59.2	62.1	62.9	58.5	64	NA
16-Mar-16	9:19	56.7	56.5	48.5	57.9	61.5	49.0	50.2	52.0	47.5	57.7	60.5	48.0	60.3	58.0	47.5	56.6	58.0	48.0	57	NA
21-Mar-16	13:11	61.7	62.3	58.9	65.1	65.9	59.7	63.1	64.3	59.8	65.4	68.7	59.3	62.1	63.0	58.9	62.0	63.1	58.8	63	NA
29-Mar-16	10:25	61.9	60.3	55.1	61.0	63.4	56.0	61.5	62.8	55.8	60.8	63.7	56.0	61.1	62.8	55.1	61.0	62.4	56.1	61	NA
NM5– Ping	Yeung	Village I	House (f	açade fa	acing nor	rtheast)								I I							
5-Mar-16	10:25	51.4	53.5	48.5	53.0	53.5	49.0	52.8	56.5	48.5	49.7	51.0	47.5	51.4	53.5	48.0	51.6	53.5	48.5	52	NA
11-Mar-16	9:18	62.5	64.0	59.5	62.0	63.0	59.5	62.0	63.0	60.0	61.3	63.0	59.0	62.8	66.0	59.5	63.8	65.0	60.0	62	NA
17-Mar-16	15:17	51.6	53.8	48.4	51.4	53.6	48.6	50.0	52.7	46.0	50.5	52.6	46.4	50.9	53.5	46.9	51.0	53.2	47.0	51	NA
23-Mar-16	13:03	52.3	54.7	49.1	53.6	55.8	49.4	53.0	55.4	49.2	50.6	52.7	48.6	53.9	56.3	49.4	54.3	56.8	49.3	53	NA
29-Mar-16	11:15	51.5	55.0	44.8	50.6	53.7	45.0	51.1	54.5	44.9	52.5	56.0	44.8	50.6	53.8	45.6	51.9	55.8	45.4	51	NA
NM6 – Tai 7	fong W	u Villag	e House	2																	

## Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Control Point and Associated Works Monthly Environmental Monitoring & Audit Report (No.32) – March 2016

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Date	Start Time	1 <sup>st</sup> Leq <sub>5min</sub>	L10	L90	2 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	3 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	4 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	5 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	6 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	Leq30	façade correction
5-Mar-16	9:42	52.0	54.0	47.5	52.4	55.5	47.0	53.0	56.0	47.0	51.6	54.0	46.0	56.8	59.0	51.0	51.2	53.0	47.0	53	NA
11-Mar-16	9:59	56.6	58.0	54.5	55.8	57.5	53.5	55.5	56.5	54.0	64.7	58.5	54.5	57.2	59.0	54.5	56.7	58.5	54.0	59	NA
17-Mar-16	14:38	59.3	62.4	50.3	59.5	61.8	52.1	63.0	66.9	53.2	57.2	60.4	50.1	58.4	61.2	52.8	59.1	61.4	51.9	60	NA
23-Mar-16	13:44	59.4	62.7	50.6	63.7	67.5	53.6	62.1	66.3	52.9	61.3	65.7	52.6	58.4	61.4	52.8	59.5	61.7	52.1	61	NA
29-Mar-16	14:47	59.4	62.6	53.9	60.1	62.9	45.7	63.7	65.4	50.3	62.1	63.6	47.6	59.7	62.7	52.1	59.9	63.1	53.0	61	NA
NM7 – Po K	at Tsai	Village			• •						• •		-				• •		-		
5-Mar-16	13:09	57.7	59.5	53.0	65.3	62.0	52.0	58.0	58.5	52.0	55.9	58.0	52.0	56.5	57.0	51.5	54.2	55.5	52.5	60	NA
11-Mar-16	13:05	65.8	69.0	57.5	64.1	67.5	56.5	62.2	63.0	57.0	63.8	65.0	56.0	64.5	67.0	55.5	67.7	70.5	55.5	65	NA
17-Mar-16	13:53	60.6	59.8	52.8	61.2	61.6	52.5	58.5	58.1	51.4	57.5	57.0	52.0	59.7	60.1	51.9	53.4	55.1	51.7	59	NA
23-Mar-16	14:35	59.1	58.7	51.6	59.7	61.1	51.6	53.6	55.7	51.7	55.6	57.8	52.0	59.7	60.1	51.8	61.1	63.4	53.0	59	NA
29-Mar-16	14:01	61.0	62.9	56.6	62.1	63.3	56.7	62.9	63.8	56.8	64.7	65.9	57.0	62.5	64.1	56.8	63.3	64.1	56.9	63	NA
NM8 - Villa	ge Hou	se, Tong	g Hang																		
1-Mar-16	13:46	59.8	62.4	53.5	60	62.7	54	66.7	69	56.5	63.7	64.6	55.9	60.6	62.4	55.8	61.3	65.2	55.9	63	NA
7-Mar-16	13:42	56.2	58.5	47.5	53.5	55.5	47.5	54.6	54.5	46.5	53.8	55.5	48	52.4	54.5	47	51.9	54	47	54	NA
12-Mar-16	10:37	58.8	63	50.5	53.2	56	49	54.5	57	48.5	53.2	56	49	56.9	60	50.5	55.8	58.5	50	56	NA
18-Mar-16	13:43	55.3	57	50.5	58.2	60.5	50.5	55.3	56.5	51.5	54.5	56.5	51	54.7	57	51	57.4	60	51.5	56	NA
24-Mar-16	10:36	58.4	61	51.8	61.6	64.1	53.3	57.7	61.1	50.3	56.4	59.3	50.3	58.9	60.7	51.3	61.8	63.8	50.9	60	NA
30-Mar-16	10:21	62.1	66.4	51.9	63.3	67	52.2	63	66.8	52.3	62.5	66.7	52.3	62.8	67.1	52.5	64.4	68.5	53.1	63	NA
NM9 - Villa	ge Hou	se, Kiu '	Гаu Vill	age																_	
1-Mar-16	13:00	60.2	63.7	55.9	64.3	68.0	55.6	59.5	63.3	54.7	58.9	61.0	55.6	60.4	65.0	55.2	61.7	66.6	55.8	61	NA
7-Mar-16	13:00	61.9	62.0	52.0	60.2	60.5	53.5	58.6	59.5	53.0	62.6	64.5	53.4	59.0	60.0	52.5	55.3	57.0	51.0	60	NA
12-Mar-16	9:55	58.5	59.5	57.0	60.0	61.5	57.5	59.0	60.5	57.0	59.9	61.5	57.5	60.2	62.0	57.5	60.6	63.0	57.5	60	NA
18-Mar-16	13:00	62.7	61.0	51.5	53.5	54.5	51.0	63.2	62.0	53.0	55.4	56.0	52.0	53.4	55.0	50.5	65.3	67.0	51.0	61	NA
24-Mar-16	11:30	56.0	58.5	52.2	56.8	58.5	52.5	55.4	57.8	51.6	55.4	57.6	52.4	54.9	57.7	50.1	55.6	59.7	50.2	56	NA
30-Mar-16	10:40	61.8	62.5	58.5	63.0	64.7	58.6	63.1	65.7	58.5	63.7	65.9	58.1	62.6	64.7	58.5	63.1	64.5	58.5	63	NA
NM10 - Nan	n Wa P	o Villag	e House	No. 80																	
1-Mar-16	11:06	56.9	59.1	53.6	56.9	59.2	54.2	56.9	59.7	53.9	55.0	56.9	51.9	57.8	59.9	53.7	59.1	61.3	55.6	57	60
7-Mar-16	9:17	61.7	62.5	48.0	52.4	52.0	47.5	60.8	59.5	48.5	58.5	55.5	48.5	55.7	56.5	47.0	48.8	50.0	46.0	58	61
12-Mar-16	9:14	60.2	61.0	58.5	59.7	60.5	58.0	59.7	61.0	58.0	60.4	62.0	58.5	60.4	62.0	58.5	60.7	62.0	58.5	60	63
18-Mar-16	9:21	67.3	70.0	59.5	62.7	65.0	59.0	63.0	65.0	59.0	62.9	65.0	59.0	63.1	65.5	58.0	61.9	63.5	57.0	64	67
24-Mar-16	13:18	57.9	60.1	54.5	60.4	62.7	54.1	58.8	61.3	55.0	57.9	58.6	54.1	58.4	60.5	53.8	58.5	61.0	55.3	59	62
30-Mar-16	11:24	57.7	59.8	55.2	56.6	58.8	54.6	57.8	60.1	55.3	58.1	60.5	55.7	57.3	59.5	55.3	58.5	60.3	55.8	58	61

#### Water Quality Monitoring Data for Contract 5, 6 and SS C505

Date	2-Mar-16	-			_		-		-				-	
Location	Time	Depth (m)	Temp	) (oC)	D0 (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(n	ng/L)
	10,10	0.07	20.1	20.1	10.22	10.0	112.6	110 7	11.1	11 /	6.7	/ 7	4	4 6
VVIVI I-C	12:13	0.37	20.1	20.1	10.25	10.2	112.8	112.7	12.0	11.0	6.7	0.7	5	4.5
\\\/\\/1	12.20	0.41	20.3	20.2	8.56	0.4	95.9	E 20 E	30.6	21.1	6.5	4 5	38	27 F
	12:30	0.41	20.3	20.3	8.63	0.0	963.0	529.5	31.5	31.1	6.5	0.0	37	37.5

Date	4-Mar-16	-					-		-		-		-	
Location	Time	Depth (m)	Temp	o (oC)	D0 (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	H	SS(n	ng/L)
	11.00	0.17	19.6	10 (	9.42	0.4	103.1	102.2	9.1	0.1	6.4		3	25
VVIVIT-C	11:20	0.17	19.6	19.6	9.43	9.4	103.3	103.2	9.2	9.1	6.4	6.4	2	2.5
\\/\/\/1	11.25	0.25	20.5	20 F	7.97	0.0	88.5	00.4	145.0	146 0	6.4	6 4	185	10E E
WM1	11:35	0.25	20.5	20.5	7.98 8.0		88.7 88.6		147.0	140.0	6.4	0.4	186	185.5

Date	5-Mar-16						•	-	
Location	Time	Depth (m)	Temp (oC)	DO (mg/L)	DO (%)	Turbidity (NTU)	рH	SS(n	ng/L)
	11.00	0.00				11.4		5	ГО
VVIVIT-C	11:38	0.20				10.9		5	5.0
	11.00	0.00				30.9 21.2		23	22.0
VVIVI I	11:30	0.23				31.4 31.2		23	23.0

Date	7-Mar-16													
Location	Time	Depth (m)	Temp	(OC)	D0 (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Η	SS(n	ng/L)
	10.17	0.01	20.4	20.4	7.36	7 4	82.4	0.0 Г	11.4	11 /	6	( )	9	0.0
VVIVI I-C	12:17	0.21	20.4	20.4	7.37	7.4	82.6	82.5	11.7	11.0	6	0.0	9	9.0
10/041	12.01	0.00	20.8	20.0	4.92	4.0	55.6	<b>FF 7</b>	37.8	20.1	5.5	<b>.</b>	26	<u>ог г</u>
VVIVI I	12:01	0.22	20.8	20.8	4.93	4.9	55.8	55.7	38.4	38.1	5.5	5.5	25	25.5

Date	9-Mar-16	-					-		-					
Location	Time	Depth (m)	Temp	) (oC)	DO (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	H	SS(n	ng/L)
	10.45	0.21	22.7	22.0	6.68	( 7	78.8	70 F	22.5	22.0	5.6	ГО	11	11.0
WWIT-C	10:45	0.31	23.1	22.9	6.72	0.7	78.1	78.5	23.5	23.0	5.9	5.8	11	11.0
\\\/\\/1	11.00	0.20	23.4	<u></u>	5.14	ΕD	50.6	FO 7	82.6	027	5.6	57	51	E1 0
	11:00	0.29	23.4	23.4	5.16	5.Z	50.8	50.7	82.8	82.7	5.7	э. <i>1</i>	51	51.0

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Date	10-Mar-16												
Location	Time	Depth (m)	Temp	(OC)	D0 (n	ng/L)	DO	(%)	Turbidit	y (NTU)	pН	SS(n	ng/L)
	10.14	0.21	•						47.4	47.0	#DIV//01	35	25.0
VVIVIT-C	13:14	0.31							47.0	47.Z	#DIV/0!	35	35.0
10/0.41	10.00	0.07							350.0	252.0	//DIV//01	196	10/ 0
VVIVI I	13:03	0.27							354.0	352.0	#DIV/0!	196	196.0

Date	11-Mar-16	-			-		-		-		-		-	
Location	Time	Depth (m)	Temp	) (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(n	ng/L)
	0.50	0.24	12.9	12.0	9.23	0.0	87.6	07 (	8.1	0.1	7.4	7.0	6	
WIVIT-C	9:50	0.24	12.9	12.9	9.24	9.2	87.5	87.0	8.1	8.1	7.2	1.3	7	0.0
\\\/\\/1	10.00	0.21	12.6	10.4	8.56	0.4	80.5	00.4	27.6	20.0	6.4	6.4	44	40 E
	10:08	0.31	12.6	12.0	8.56	0.0	80.6	80.0	28.4	28.0	6.4	0.4	41	42.5

Date	12-Mar-16								
Location	Time	Depth (m)	Temp (oC)	DO (mg/L)	DO (%)	Turbidity (NTU)	рН	SS(n	ng/L)
	11.07	0.07				10.3		5	ГО
WIVIT-C	11:37	0.37				10.2		5	5.0
	11.07	0.07				27.8 00.1		26	24.0
VVIVI I	11:27	0.37				28.4 28.1		26	26.0

Date	14-Mar-16	-					•		-	-		•	•	
Location	Time	Depth (m)	Temp	(0C)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(n	ng/L)
	10.20	0.07	15.4	1 - 1	9.25	0.0	92.5	02.2	40.8	41 1	7.3	7.0	24	<u>ээ</u> г
WWIT-C	10:20	0.37	15.4	15.4	9.2	9.2	91.9	92.2	41.4	41.1	7.3	7.3	23	23.5
\\\/\\/1	10.27	0.20	16	14.0	7.81	7.0	79.1	70.0	47.0	47.4	6.6	<i>L L</i>	27	27 E
	10:37	0.39	16	10.0	7.84	7.8	79.3	19.2	47.7	47.4	6.6	0.0	28	27.5

Date	16-Mar-16													
Location	Time	Depth (m)	Temp	(oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Η	SS(n	ng/L)
	10.10	0.00	16.5	1//	8.38	0.4	86.5	07.0	13.3	10.1	5.8	ГО	9	0.0
WIVIT-C	12:15	0.29	16.7	10.0	8.47	8.4	87.4	87.0	12.8	13.1	5.9	5.9	9	9.0
\\\\\	12.20	0.07	16.5	1/ Г	8.25	0.0	84.5	04.4	38.7	20.0	5.7	<b>г</b> 7	41	42.0
	12:30	0.27	16.5	10.5	8.24	ö.2	84.3	84.4	38.9	30.8	5.7	5.7	43	42.0

 $Z: \label{eq:loss_2013} TCS00694 \\ 600 \\ EM\&A \ Report \\ Monthly \ EM\&A \ Report \\ 32th \ (Mar \ 2016) \\ R0227v2. docx \\ Routher \\ Rou$ 

Date	18-Mar-16													
Location	Time	Depth (m)	Temp	(OC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(n	ng/L)
	10.00	0.27	21.2	21.2	7.3	7 0	83.0	02.2	12.1	10.0	6.9	( )	7	/ F
VVIVIT-C	10:00	0.37	21.2	21.2	7.32	1.3	83.5	83.3	12.4	12.3	6.9	0.9	6	0.0
\\\\\\1	10.40	0.20	21.5	01 E	6.95	4.0	79.1	70.0	29.7	20.0	6.4	6. 1	17	17.0
	10:40	0.39	21.5	21.5	6.92	0.9	78.8	79.0	30.2	30.0	6.4	0.4	17	17.0
									-				-	

Date	21-Mar-16													
Location	Time	Depth (m)	Temp	) (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(n	ng/L)
	0.20	0.47	18.5	10 F	8.21	0.0	87.6	07 F	385.0	200.0	5.9	FO	191	102 F
WWWT-C	9:39	0.47	18.5	10.5	8.2	ð.Z	87.4	67.5	393.0	389.0	5.9	5.9	196	193.5
\\/\/\/1	0.55	0.20	18.3	10.2	8.04	0.0	85.6	05 7	364.0	247.0	6	4.0	210	204.0
	9:55	0.39	18.3	18.3	8.05	8.0	85.8	85.7	370.0	307.0	6	0.0	202	200.0

Date	23-Mar-16						-		-			•	-	
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	H	SS(n	ng/L)
	0.40	0.20	20.1	20.1	7.66		83.8	04.1	33.3	22.4	6.5	4 F	22	22.0
VVIVIT-C	9:48	0.39	20.1	20.1	7.68	1.1	84.3	04. I	33.4	33.4	6.5	0.0	24	23.0
\\/\/\1	0.57	0.20	20.5	20 F	7.95	0 0	88.4	00 E	47.8	47 5	6.1	4 1	37	27 E
	9.57	0.39	20.5	20.5	7.97	0.0	88.6	00.0	47.2	47.5	6.1	0.1	38	57.5

Date	29-Mar-16													
Location	Time	Depth (m)	Temp	) (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(n	ng/L)
	10.00	0.3/	17.7	177	8.9	0.0	93.4	02.2	92.5	02 (	9.6	0.(	95	07.0
WIVIT-C	10:09	0.30	17.7	17.7	8.87	8.9	93.0	93.2	92.7	92.0	9.6	9.0	99	97.0
\\\\\	10.47	0.20	17.8	17.0	9.02	0.0	95.0		93.8	04.0	9.4	0.4	69	71 Г
	10:47	0.39	17.8	17.8	9.04	9.0	95.3	95.2	94.1	94.0	9.4	9.4	74	/1.5

Date	31-Mar-16	-					-		-			-	-	
Location	Time	Depth (m)	Temp	o (oC)	D0 (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	H	SS(n	ng/L)
	10.07	0.20	23.5	22 5	8.77	0.0	103.1	100 F	10.5	10 (	9	0.0	7	7.0
WIVIT-C	13:27	0.29	23.5	23.5	8.79	8.8	103.8	103.5	10.7	10.6	9	9.0	7	7.0
\\\/\\/1	12.44	0.27	22.8	22.0	8.14	0.0	94.7	04.0	25.0	25.0	8.8	0.0	30	20 F
VVIVI I	13:40	0.37	22.8	22.8	8.17	ð.Z	94.9	94.8	26.8	25.9	8.8	0.8	29	29.5

## Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Control Point and Associated Works Monthly Environmental Monitoring & Audit Report (No.32) – March 2016

Water (	Juality	Monitoring	Data for	Contract	2 and 3
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Date	2-Mar-16													
Location	Time	Depth (m)	Temp	) (oC)	DO (n	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	g/L)
	14:40	0.12	21.4	21.6	6.66	6.6	75.3	75.2	90.0	00.5	6.7	67	34	22 F
WIVI4-CA	14.40	0.13	21.7	21.0	6.63	0.0	75.0	75.2	90.9	90.5	6.7	0.7	33	33.0
WM4_CB	14.55	0.25	22.9	<u> </u>	5.02	51	60.9	60.9	12.9	13.1	6.6	6.6	9	0 0
VVIVI4-CD	14.55	0.23	22.9	22.7	5.11	5.1	60.8	00.7	13.3	13.1	6.6	0.0	9	7.0
\\/\\/14	14.25	0.36	22.7	22.7	5.68	56	65.8	65 1	28.9	29.1	6.6	6.6	25	24 5
	11.20	0.00	22.7	22.7	5.56	0.0	64.3	00.1	29.2	27.1	6.6	0.0	24	21.0
Date	4-Mar-16					-				-	•	-		
Location	Time	Depth (m)	Temp	(OC)	DO (n	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(m	g/L)
	15.15	0.24	22.3	22.2	8.59	0 (	98.7	00.0	14.9	14.0	6.5		4	
WWW4-CA	15:15	0.24	22.3	22.3	8.61	8.0	98.9	98.8	14.8	14.9	6.5	0.5	6	5.0
WM4-CB	15.35	0.26	23.2	<u> </u>	7.04	71	82.1	82.2	14.9	15 1	6.1	6.1	13	13 5
VVIVI4-CD	15.55	0.20	23.2	23.2	7.06	7.1	82.3	02.2	15.3	13.1	6.1	0.1	14	15.5
	15.05	0.31	24	24.0	7.67	77	91.3	<b>01</b> 5	26.2	26.8	6.1	61	18	18 5
001014	15.05	0.51	24	24.0	7.69	7.7	91.7	71.5	27.3	20.0	6.1	0.1	19	10.5
Date	7-Mar-16									-	•	-		
Location	Timo	Donth (m)	Tom	(		~~ /l \		$\langle \alpha \rangle$	T	(			00/	~ /1 \
LOCATION		Depth (m)	remp	) (OC)	DO (n	ng/L)	DO	(%)	lurbiait	y (NIU)	р	н	55(m	g/L)
	12.50		20.3	(OC)	6.31	ng/L)	70.5	( <b>%)</b>	11.0	<u>y (NIU)</u>	<b>р</b> 6.4	H	9 9	g/L)
WM4-CA	13:52	0.19	20.3 20.3	20.3	<b>DO (n</b> 6.31 6.34	6.3	70.5 70.7	( <b>%)</b> 70.6	11.0 11.4	11.2	6.4 6.4	н 6.4	9 8	<b>g/L)</b> 8.5
WM4-CR	13:52	0.19	20.3 20.3 20.9	20.3	DO (n 6.31 6.34 4.14	6.3	70.5 70.7 47.1	70.6	11.0 11.4 33.2	11.2	6.4 6.4 6.0	H 6.4	9 8 43	8.5
WM4-CA WM4-CB	13:52 14:05	0.19 0.22	20.3 20.3 20.9 20.9	20.3 20.9	DO (n           6.31           6.34           4.14           4.16	6.3 4.2	DO           70.5           70.7           47.1           47.3	70.6 47.2	11.0 11.4 33.2 33.4	11.2 33.3	6.4 6.4 6.0 6.0	H 6.4 6.0	9 8 43 41	8.5 42.0
WM4-CA WM4-CB	13:52 14:05	0.19 0.22	20.3 20.3 20.9 20.9 20.9 21.6	20.3 20.9 21.6	DO (n           6.31           6.34           4.14           4.16           5.09	6.3 4.2	DO           70.5           70.7           47.1           47.3           58.7	70.6 47.2	Turblatt           11.0           11.4           33.2           33.4           20.1	33.3	p           6.4           6.0           6.0           6.0	н 6.4 6.0	9 8 43 41 26	8.5 42.0 26.5
WM4-CA WM4-CB WM4	13:52 14:05 13:40	0.19 0.22 0.27	20.3 20.3 20.9 20.9 20.9 21.6 21.6	20.3 20.9 21.6	DO (n           6.31           6.34           4.14           4.16           5.09           5.11	6.3 4.2 5.1	DO           70.5           70.7           47.1           47.3           58.7           58.8	70.6 47.2 58.8	Turblatt           11.0           11.4           33.2           33.4           20.1           20.9	y (NTU) 11.2 33.3 20.5	p           6.4           6.0           6.0           6.0           6.0           6.0	H 6.4 6.0 6.0	9 8 43 41 26 27	8.5 42.0 26.5
WM4-CA WM4-CB WM4	13:52 14:05 13:40 9-Mar-16	0.19 0.22 0.27	20.3 20.3 20.9 20.9 21.6 21.6	20.3 20.9 21.6	DO (n           6.31           6.34           4.14           4.16           5.09           5.11	6.3 4.2 5.1	DO       70.5       70.7       47.1       47.3       58.7       58.8	70.6 47.2 58.8	Turblatt           11.0           11.4           33.2           33.4           20.1           20.9	y (NTU) 11.2 33.3 20.5	p           6.4           6.0           6.0           6.0           6.0	H 6.4 6.0 6.0	9 8 43 41 26 27	8.5 42.0 26.5
WM4-CA WM4-CB WM4 Date Location	13:52 14:05 13:40 9-Mar-16 Time	0.19 0.22 0.27 Depth (m)	20.3 20.3 20.9 20.9 21.6 21.6 7	20.3 20.9 21.6	DO (n 6.31 6.34 4.14 4.16 5.09 5.11 DO (n	6.3 4.2 5.1	DO 70.5 70.7 47.1 47.3 58.7 58.8	70.6 47.2 58.8	Turbidit           11.0           11.4           33.2           33.4           20.1           20.9	y (NTU) 11.2 33.3 20.5 y (NTU)	<b>p</b> 6.4 6.0 6.0 6.0 6.0	H 6.4 6.0 6.0	SS(m           9           8           43           41           26           27	g/L) 8.5 42.0 26.5 g/L)
UCATION WM4-CA WM4-CB WM4 Date Location	13:52 14:05 13:40 9-Mar-16 Time 14:05	0.19 0.22 0.27 Depth (m)	20.3 20.3 20.9 20.9 21.6 21.6 <b>Temp</b> 22.9	20.3 20.9 21.6 (oC)	DO (n 6.31 6.34 4.14 4.16 5.09 5.11 DO (n 4.98	6.3 4.2 5.1 ng/L)	DO       70.5       70.7       47.1       47.3       58.7       58.8       DO       56.3	(%) 70.6 47.2 58.8 (%)	Turbidit           11.0           11.4           33.2           33.4           20.1           20.9           Turbidit           11.4	y (NTU) 11.2 33.3 20.5 y (NTU)	<b>p</b> 6.4 6.0 6.0 6.0 6.0 6.0 6.0	H 6.4 6.0 6.0 H	9 8 43 41 26 27 <b>SS(m</b> 8	<b>g/L)</b> 8.5 42.0 26.5 <b>g/L)</b>
UCATION WM4-CA WM4 Date Location WM4-CA	13:52 14:05 13:40 9-Mar-16 Time 14:05	Depth (m)         0.19         0.22         0.27         Depth (m)         0.15	20.3 20.9 20.9 21.6 21.6 21.6 <b>Temp</b> 22.9 22.9 22.9	20.3 20.9 21.6 (oC) 22.9	DO (n 6.31 6.34 4.14 4.16 5.09 5.11 DO (n 4.98 4.88	6.3 4.2 5.1 ng/L) 4.9	DO         70.5         70.7         47.1         47.3         58.7         58.8	(%) 70.6 47.2 58.8 (%) 56.1	Turbidit           11.0           11.4           33.2           33.4           20.1           20.9           Turbidit           11.4           11.5	y (NTU) 11.2 33.3 20.5 y (NTU) 11.5	p           6.4           6.0           6.0           6.0           6.0           6.0           6.0           6.2           6.2	H 6.4 6.0 6.0 H 6.2	SS(m           9           8           43           41           26           27           SS(m           8           10	g/L) 8.5 42.0 26.5 g/L) 9.0
UCATION WM4-CA WM4-CB WM4 Date Location WM4-CA	13:52 14:05 13:40 9-Mar-16 Time 14:05 14:21	Depth (m)         0.19         0.22         0.27         Depth (m)         0.15         0.27	20.3 20.9 20.9 21.6 21.6 21.6 <b>Temp</b> 22.9 22.9 22.9 22.1	20.3 20.9 21.6 22.9 22.9	DO (n 6.31 6.34 4.14 4.16 5.09 5.11 DO (n 4.98 4.88 4.09	6.3 4.2 5.1 ng/L) 4.9 4.1	DO         70.5         70.7         47.1         47.3         58.7         58.8         DO         56.3         55.8         46.8	(%) 70.6 47.2 58.8 (%) 56.1 46.4	Turbidit           11.0           11.4           33.2           33.4           20.1           20.9           Turbidit           11.4           11.5           45.1	y (NTU) 11.2 33.3 20.5 y (NTU) 11.5 45.2	p           6.4           6.0           6.0           6.0           6.0           6.0           6.2           6	H 6.4 6.0 6.0 H 6.2	SS(m           9           8           43           41           26           27           SS(m           8           10           33	<b>g/L)</b> 8.5 42.0 26.5 <b>g/L)</b> 9.0 33.0
LocationWM4-CAWM4-CBWM4DateLocationWM4-CAWM4-CB	13:52 14:05 13:40 9-Mar-16 Time 14:05 14:21	Depth (m)           0.19           0.22           0.27           Depth (m)           0.15           0.27	20.3 20.9 20.9 21.6 21.6 21.6 22.9 22.9 22.9 22.9 22.1 22.1	20.3 20.9 21.6 (oC) 22.9 22.1	DO (n 6.31 6.34 4.14 4.16 5.09 5.11 DO (n 4.98 4.88 4.09 4.03	6.3 4.2 5.1 ng/L) 4.9 4.1	DO         70.5         70.7         47.1         47.3         58.7         58.8         DO         56.3         55.8         46.8         46.0	70.6 47.2 58.8 (%) 56.1 46.4	Turbidit           11.0           11.4           33.2           33.4           20.1           20.9           Turbidit           11.4           11.5           45.1           45.3	y (NTU) 11.2 33.3 20.5 y (NTU) 11.5 45.2	p           6.4           6.0           6.0           6.0           6.0           6.0           6.2           6           6	H 6.4 6.0 6.0 H 6.2 6.0	SS(m           9           8           43           41           26           27           SS(m           8           10           33           33	<b>g/L)</b> 8.5 42.0 26.5 <b>g/L)</b> 9.0 33.0
UCATION WM4-CA WM4-CB WM4 Date Location WM4-CA WM4-CB	13:52 14:05 13:40 9-Mar-16 Time 14:05 14:21 13:53	Depth (m)           0.19           0.22           0.27           Depth (m)           0.15           0.27	20.3 20.9 20.9 21.6 21.6 21.6 22.9 22.9 22.9 22.9 22.1 22.1 22.1 22.2	20.3 20.9 21.6 22.9 22.9 22.1 22.2	DO (n 6.31 6.34 4.14 4.16 5.09 5.11 DO (n 4.98 4.88 4.09 4.03 4.75	6.3 4.2 5.1 ng/L) 4.9 4.1	DO         70.5         70.7         47.1         47.3         58.7         58.8         DO         56.3         55.8         46.8         46.0         55.3	(%) 70.6 47.2 58.8 (%) 56.1 46.4 55.4	Turbidit           11.0           11.4           33.2           33.4           20.1           20.9           Turbidit           11.4           11.5           45.1           45.3           20.7	y (NTU) 11.2 33.3 20.5 y (NTU) 11.5 45.2 20.7	p           6.4           6.0           6.0           6.0           6.0           6.0           6.0           6.0           6.0           6.0           6.0           6.0           6.2           6           6           6	H 6.4 6.0 6.0 H 6.2 6.0	SS(m           9           8           41           26           27           SS(m           8           10           33           20	<b>g/L)</b> 8.5 42.0 26.5 <b>g/L)</b> 9.0 33.0 19.5

Date	11-Mar-16													
Location	Time	Depth (m)	Temp	(0C)	DO (n	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(m	g/L)
	12.50	0.26	14.9	14.0	10.38	10.4	102.5	102.4	28.2	20.4	6.4	6.4	12	11 E
WWW4-CA	13:59	0.20	14.9	14.9	10.41	10.4	102.7	102.0	28.5	28.4	6.4	0.4	11	11.5
WM4-CB	14.15	0.31	16.2	16.2	7.54	75	77.3	77 1	21.8	22.0	6	6.0	20	20.0
WWW-CD	14.15	0.51	16.2	10.2	7.47	7.5	76.8	77.1	22.1	22.0	6	0.0	20	20.0
\\/\/\/	13.46	0.29	14.9	14 9	9.63	97	96.0	96.4	27.7	27.8	6.5	65	18	18 5
00101-	13.40	0.27	14.9	14.7	9.7	7.1	96.7	70.4	27.8	27.0	6.5	0.5	19	10.5
Date	14-Mar-16								-				-	
Location	Time	Depth (m)	Temp	) (oC)	DO (n	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	12.25	0.10	16.7	14 7	9.5	0.5	97.1	07.0	14.4	116	6.1	6 1	6	4 F
WWW4-CA	15.55	0.19	16.7	10.7	9.52	9.0	97.3	91.2	14.8	14.0	6.1	0.1	7	0.0
WM4_CB	13.51	0.24	17.3	17 3	6.52	65	68.2	68.3	20.3	20.6	5.9	50	29	20 0
VVIVI4-CD	15.54	0.24	17.3	17.5	6.53	0.5	68.4	00.5	20.8	20.0	5.9	5.7	29	27.0
\M/M4	13·25	0.28	17.3	17 3	8.29	83	86.2	86.0	22.3	21.8	6	6.0	17	17.0
	10.20	0.20	17.3		8.25		85.7		21.2	2110	6	0.0	17	
Date	16-Mar-16													
Location	Time	Depth (m)	Temp	(oC)	DO (n	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(m	ig/L)
	14.25	0.20	17.4	17 /	8.92	0.4	93.0	02.2	OVERRANGE		6.1	4.1	52	FOF
WWW4-CA	14:35	0.28	17.4	17.4	9.94	9.4	93.3	93.Z	OVERRANGE	OVERRANGE	6.1	0.1	49	50.5
	14.55	0.20	17.4	17 /	6.03	6.0	62.9	62.0	37.1	27.6	5.8	5.9	51	51.0
VVIVI4-CD	14.55	0.27	17.4	17.4	6.01	0.0	62.8	02.7	38.0	57.0	5.8	5.0	51	51.0
\\/\/\/	14.23	0.27	17.4	17 4	7.45	74	77.8	77.8	34.6	34 7	5.9	59	29	29.0
	14.25	0.27	17.4	17.4	7.44	7.7	77.7	77.0	34.8	34.7	5.9	5.7	29	27.0
	r	<u> </u>							-			-	-	
Date	18-Mar-16	· · · ·		-	r		r		r			-	r	
Location	Time	Depth (m)	Temp	(oC)	DO (n	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ig/L)
WM4-CA	14:11	0.19	22	22.0	7.78	7.8	89.1	89.3	28.6	29.0	6.7	6.7	14	14.5

89.5

66.0

66.3

81.5

81.8

66.2

81.7

29.3

29.6

30.1

23.1

23.3

6.7

6.4

6.4

6.6

6.6

6.4

6.6

29.9

23.2

15

25

26

21

22

25.5

21.5

0.27

0.30

14:28

14:03

WM4-CB

WM4

22

22.3

22.3

22.4

22.4

7.8

5.74

5.76

7.05

7.07

5.8

7.1

22.3

22.4

Date	21-Mar-16													
Location	Time	Depth (m)	Temp	(0C)	D0 (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(m	ng/L)
	10.01	0.24	18.9	10.0	8.59	0 /	92.7	02 (	25.5		6	( )	20	20 F
WWW	13:31	0.24	18.9	18.9	8.61	8.0	92.5	92.0	25.9	25.7	6	6.0	21	20.5
	12.50	0.27	19.2	10.0	7.3	7 0	78.9	70.0	48.9	40.1	5.8	ΕO	36	2E E
	13:50	0.37	19.2	19.2	7.34	7.3	79.4	19.2	49.2	49.1	5.8	5.8	35	35.5
	10.00	0.41	18.6	10 (	7.57	7 /	80.9	01 1	88.8	00.1	5.9	ГО	72	70 5
VVIVI4	13:00	0.41	18.6	18.6	7.6	7.6	81.3	81.1	89.4	89.1	5. <b>9</b>	5.9	69	/0.5

Date	22-Mar-16					-	-	-	-		-	-	-
Location	Time	Depth (m)	Temp (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	11.02	0.27						20.4	20.4			9	0.0
WWW4-CA	11:03	0.27						20.3	20.4			9	9.0
	11.00	0.27						30.4	20 F			18	10.0
VVIVI4-CB	11:20	0.37						30.6	30.5			18	18.0
	10.40	0.20						34.9	25.1			20	20.0
VVIVI4	10:49	0.39						35.2	35.1			20	20.0

Date	23-Mar-16	-				-	•	-		-		-		-
Location	Time	Depth (m)	Temp	(0C)	D0 (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(m	ng/L)
	11.05	0.01	19	10.0	8.24	0.2	88.8	00.0	18.4	10.4	5.6	E 4	8	7 5
WWW4-CA	11:35	0.21	19	19.0	8.27	0.3	89.1	89.0	18.7	18.0	5.6	0.C	7	7.5
	11.54	0.27	19.6	10.4	5.85	FO	63.7	42.0	28.0	20.4	5.5		25	24.0
VVIVI4-CB	11:00	0.37	19.6	19.0	5.87	5.9	63.9	03.8	29.1	28.0	5.5	5.5	27	20.0
	11.05	0.24	19.7	107	7.42	7.4	80.7	00.0	32.7	22.1	5.5		24	24.0
VVIVI4	11:25	0.36	19.7	19.7	7.46	7.4	81.1	80.9	33.4	33. I	5.5	5.5	24	24.0

Date	25-Mar-16													
Location	Time	Depth (m)	Temp	) (oC)	D0 (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(n	ng/L)
	0.50	0.01	15.4	1E /	9.63	0.0	97.0	07.4	8.4	0.0	7.3	7 0	4	2 5
WWW4-CA	9:50	0.21	15.4	15.4	6.72	ð.Z	97.7	97.4	7.9	0.2	7.3	7.3	3	3.5
	10.10	0.27	16.8	14.0	8.66	0 5	88.5	07.4	17.6	14.0	6.5	4 F	16	155
VVIVI4-CB	10:10	0.37	16.8	10.8	8.37	0.0	86.3	87.4	15.9	10.8	6.5	0.0	15	15.5
	0.20	0.24	15.2	15.0	9.66	0.4	95.5	02.4	16.2	14 E	7.2	7 0	11	12.0
VVIVI4	9:30	0.30	15.2	15.2	9.07	9.4	91.3	93.4	16.7	10.5	7.2	1.2	13	12.0

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Date	29-Mar-16													
Location	Time	Depth (m)	Temp	(OC)	DO (n	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	14.15	0.27	20.8	20.0	8.86	0.0	99.0	00.2	125.0	107.0	9.3	0.2	89	04 E
	14:15	0.27	20.8	20.8	8.87	8.9	99.3	99.Z	129.0	127.0	9.3	9.3	84	80.0
	11.10	0.21	21.5	21 E	7.14	71	80.9	01 1	44.3	117	8.7	07	26	25.0
VVIVI4-CD	14.43	0.51	21.5	21.5	7.15	7.1	81.2	01.1	45.1	44.7	8.7	0.7	24	25.0
	14.05	0.07	21.8	21.0	8.26	0.2	94.1	04.4	39.2	20.0	8.9	0.0	28	20.0
VVIVI4	14:05	0.37	21.8	21.8	8.3	8.3	94.7	94.4	38.8	39.0	8.9	8.9	30	29.0

**AUES** 

Date	31-Mar-16					-				-		-		-
Location	Time	Depth (m)	Temp	(OC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	0,51	0.10	19.8	10.0	9.23	0.2	101.0	101 4	6.8	4.0	9.5	0.5	7	7 5
	9.51	0.19	19.8	19.0	9.27	9.5	101.7	101.4	6.8	0.0	9.5	9.0	8	7.5
	10,17	0.20	21.4	01 <i>I</i>	6.8	4.0	76.9	77 1	19.0	10.2	8.7	07	42	40 E
	10.17	0.29	21.4	21.4	6.84	0.0	77.3	//.1	19.6	19.5	8.7	0.7	43	42.0
	0.25	0.00	20.6	20 (	7.87	7.0	87.5	07.7	15.1	15.7	8.9	0.0	28	20.0
vviVI4	9:35	0.23	20.6	20.6	7.9	7.9	87.9	ŏ/./	16.3	15.7	8.9	0.9	28	28.0

#### Water Quality Monitoring Data for Contract 6

Date	2-Mar-16						-	-	-		-			
Location	Time	Depth (m)	Temp	(OC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	11.00	0.00	17.5	17 5	8.6	0.(	90.1	00.0	9.6	0.4	9.50	0.5	<2	.1
WWIZA-C	11:20	0.23	17.5	17.5	8.61	8.0	90.3	90.2	9.2	9.4	9.50	9.5	<2	<2
	11.50	0.11	19.2	10.0	9.71	0.7	104.0	104.0	9.5	0.0	6.90	( )	6	<b>.</b>
VVIVIZA	11:50	0.11	19.2	19.2	9.63	9.7	103.9	104.0	10.1	9.8	6.90	0.9	5	5.5

Date	4-Mar-16	-							-		-		-	
Location	Time	Depth (m)	Temp	) (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	н	SS(n	ng/L)
	12.00	0.05	19.5	10 Г	8.01	0.0	88.7	00.0	21.5	21.0	6.30	( )	11	10.0
WWZA-C	12:00	0.25	19.5	19.5	8.04	8.0	88.8	88.8	22.0	21.8	6.30	0.3	13	12.0
	10.50	0.12	20.6	20 (	9.03	0.0	102.2	102.4	4.9	4.0	6.30	( )	<2	2.0
VVIVIZA	10:59	0.13	20.6	20.6	9.02	9.0	102.6	102.4	4.9	4.9	6.30	0.3	2	2.0

Date	7-Mar-16	-					-	-	-				-	
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	p	н	SS(m	ng/L)
	11.15	0.01	19.9	10.0	6.17	( )	68.2	(0.2	7.8	7.0	5.70	F 7	6	ГО
WWZA-C	11:15	0.21	19.9	19.9	6.19	0.2	68.3	08.3	7.8	7.8	5.70	5.7	4	5.0
	11.05	0.12	21	21.0	6.31	( )	71.8	71.0	13.2	10.4	5.60	Γ /	6	<b>.</b> .
VVIVIZA	11:35	0.13	21	21.0	6.32	0.3	71.8	/1.8	13.6	13.4	5.60	0.0	5	5.5

Date	9-Mar-16	-									-		-	
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	н	SS(n	ng/L)
	11.40	0.00	21.2	21.2	5.7	F 7	65.1	(5.2	30.1	20.2	5.60	F /	14	15.0
WWZA-C	11:40	0.23	21.2	21.2	5.73	5.7	65.4	65.3	30.4	30.3	5.60	5.6	16	15.0
	11 04	0.10	22.2	22.2	6.32	( )	73.3	70 (	14.3	145	5.70		10	10.0
VVIVIZA	11:24	0.19	22.2	22.2	6.37	6.3	73.8	/3.6	14.7	14.5	5.70	5.7	10	10.0

Date	11-Mar-16													
Location	Time	Depth (m)	Temp	(oC)	D0 (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	10.50	0.24	14.4	14.4	8.78	0.0	86.3	0( )	15.9	1/ 1	6.00	<b>(</b> 0	8	7.0
WWIZA-C	10:50	0.24	14.4	14.4	8.74	8.8	86.3	80.3	16.3	10.1	6.00	6.0	6	7.0
	10.00	0.07	14.5	14 5	9.32	0.4	91.5	01.0	194.0	100 5	6.40		165	
WW/ZA	10:30	0.27	14.5	14.5	9.41	9.4	92.1	91.8	203.0	198.5	6.40	6.4	164	164.5

Date	12-Mar-16				-		-		-		-		-	
Location	Time	Depth (m)	Temp	(oC)	D0 (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	11.00	0.07							10.1	10.4			6	( 0
WWZA-C	11:00	0.37							10.6	10.4			6	6.0
14/14/04	11.10	0.17							12.5	10.0			11	11.0
WW2A	11:13	0.17							13.1	12.8			11	11.0

Date	14-Mar-16	-					-	-	-				-	
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	11.05	0.33	16.9	1( 0	8.44	0.4	87.2	07.1	18.9	10.0	6.10	( 1	6	( )
WWZA-C	11:35	0.33	16.9	10.9	8.43	8.4	86.9	87.1	19.5	19.2	6.10	0.1	6	6.0
14/14/04	11.10	0.1/	16.1		10.07	10.1	102.1	100.4	12.8	10.0	6.40		2	0.5
VVIVI2A	11:18	0.16	16.1	16.1	10.09	10.1	102.6	102.4	13.2	13.0	6.40	6.4	3	2.5

Date	16-Mar-16													
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(n	ng/L)
	10.20	0.00	16.8	1/ 0	8.39	0.4	86.5	0/ 0	8.6	0 (	5.60	Γ.(	<2	. 2
WWIZA-C	10:30	0.23	16.8	16.8	8.43	8.4	87.1	86.8	8.6	8.6	5.60	5.6	<2	<2
14/14/04	10.40	0.01	16.2	1/ 0	8.39	0.4	92.5	00.4	14.7	110	5.60	F (	12	10 5
WW2A	10:48	0.21	16.2	16.2	8.43	8.4	92.3	92.4	15.0	14.9	5.60	5.6	13	12.5

Date	18-Mar-16								-		-		-	
Location	Time	Depth (m)	Temp	(oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	11.05	0.07	20.9	20.0	7.8	7.0	87.3	07.4	19.3	10.7	6.00	( )	10	0.5
WWZA-C	11:25	0.26	20.9	20.9	7.82	7.8	87.5	87.4	20.1	19.7	6.00	6.0	9	9.5
14/14/04	11.00	0.00	22.1	00.1	8.65	o (	98.8	00.7	23.2	<u> </u>	6.20	( )	11	11 5
VVIVI2A	11:02	0.23	22.1	22.1	8.63	ö.6	98.6	98.7	23.9	23.6	6.20	6.2	12	11.5

Date	21-Mar-16													
Location	Time	Depth (m)	Temp	(OC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	н	SS(m	ng/L)
	11 10	0.04	18.3	10.0	8.31	0.0	99.5	00.4	41.2	41 (	5.80	F 0	17	10.0
WWZA-C	11:10	0.34	18.3	18.3	8.34	8.3	99.3	99.4	41.9	41.6	5.80	5.8	19	18.0
	10.00	0.10	19.1	10.1	8.59	0 (	93.1	00.0	23.9	22.4	6.00	( )	10	0.5
VVIVIZA	10:32	0.19	19.1	19.1	8.63	8.6	93.4	93.3	23.3	23.6	6.00	6.0	9	9.5

Date	23-Mar-16	-				-	-	-	-				-	
Location	Time	Depth (m)	Temp	(OC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(n	ng/L)
	10.50	0.01	20.1	20.1	7.77	7.0	85.7	05.0	26.6	27.2	5.80	ГО	5	ГО
WWZA-C	10:50	0.31	20.1	20.1	7.79	7.8	85.9	85.8	27.9	27.3	5.80	5.8	5	5.0
	10.20	0.10	20.1	20.1	7.81	7.0	86.3	0/ 5	29.6	20.7	5.90	ГО	10	10 г
VVIVIZA	10:30	0.19	20.1	20. I	7.84	7.8	86.6	80.5	29.8	29.7	5.90	5.9	11	10.5

Date	29-Mar-16													
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	11.07	0.01	18.5	10 F	8.74	0.0	93.5	02 (	8.2	0.4	8.20	0.4	<2	2.0
WWZA-C	11:36	0.21	18.5	18.5	8.77	8.8	93.7	93.6	8.5	8.4	8.50	8.4	<2	2.0
	11.07	0.10	19.3	10.0	9.47	0.5	102.5	100 7	11.6	11.0	11.60	11.0	5	4.5
VVIVIZA	11:07	0.18	19.3	19.3	9.48	9.5	102.9	102.7	12.0	11.8	12.00	11.8	4	4.5

Date	31-Mar-16							-	-					-
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(n	ng/L)
	10.41	0.07	21.2	21.2	8.27	0.0	93.2	02 (	5.0	Г 1	9.20	0.0	2	2.0
WWZA-C	12:41	0.27	21.2	21.2	8.31	8.3	93.9	93.0	5.2	5.1	9.20	9.2	<2	2.0
	10.05	0.17	23.3	22.2	9.3	0.0	109.3	100.4	8.7		8.90	0.0	4	ГО
VVIVIZA	13:05	0.17	23.3	23.3	9.32	9.3	109.5	109.4	9.0	8.9	8.90	8.9	6	5.0

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Date	1-Mar-16													
Location	Time	Depth (m)	Temp	(OC)	DO (r	ng/L)	DO (	(%)	Turbidit	ty (NTU)	р	H	SS(m	ng/L)
	0.15	0.02							2.8	2.4			8	0.0
WWIZB-C	9:15	0.03							2.5	2.6			8	8.0
	0.00	0.0/							10.8	10 (			11	11.0
VVIVI2B	9:30	0.06						-	10.4	10.6			11	11.0

Date	2-Mar-16													
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	н	SS(m	ng/L)
	10 57	0.00	19.4	10.4	6.37		69.6	(0.F	3.5	2.5	6.40	( )	<2	2.0
WWZB-C	10:57	0.02	19.4	19.4	6.34	6.4	69.3	69.5	3.6	3.5	6.40	6.4	2	2.0
	11.10	0.00	19.8	10.0	6.34	7.0	104.1	104.2	overrange		6.00	( )	1380	1055.0
WW2B	11:10	0.02	19.8	19.8	9.35	7.8	104.5	104.3	overrange	overange	6.00	6.0	1330	1355.0

Date	3-Mar-16		•			-			•	-		•	•	
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	p	Н	SS(m	ng/L)
	0.20	0.02							4.0	2.0			3	2.0
WINZB-C	9:20	0.02							3.8	3.9				3.0
	0.00								20.8	~~ -			21	
WM2B	9:30	0.04							20.5	20.7		]		21.0

Date	4-Mar-16				-	-			-	-			-	
Location	Time	Depth (m)	Temp	(OC)	DO (r	ng/L)	DO	(%)	Turbidi	ty (NTU)	р	Н	SS(n	ıg/L)
	12.10	0.01	21.6	21 (	7.52	7.5	85.1	05.0	9.8	0.5	6.30	( )	<2	.2
WIMZR-C	12:10	0.01	21.6	21.6	7.54	7.5	85.3	85.2	9.3	9.5	6.30	6.3	<2	<2
	10.01	0.01	22.6	22.4	8.02	0.1	101.4	101 F	24.0	24.4	6.40		10	10 5
VVIVIZB	10:21	0.01	22.6	22.0	8.11	8.1	101.6	101.5	24.1	24.1	6.40	0.4	11	10.5

Date	5-Mar-16	•			_	-		-	-	-	•		-	•
Location	Time	Depth (m)	Temp	(OC)	DO (r	ng/L)	DO	(%)	Turbidi	y (NTU)	р	Н	SS(m	ng/L)
	11.04	0.01							2.6	2.4			<2	. 2
WINZB-C	11:04	0.01							2.6	2.0			<2	<2
	10 55	0.01							40.4	40.0			10	10.0
VVIVI2B	10:55	0.01							40.0	40.2			10	10.0

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Date	7-Mar-16													
Location	Time	Depth (m)	Temp	(OC)	D0 (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	Н	SS(m	ng/L)
	10.47	0.01	20.9	20.0	6.31	( )	70.9	70.0	3.9	4.0	6.50		<2	.0
MINISB-C	10:47	0.01	20.9	20.9	6.3	0.3	70.7	70.8	4.0	4.0	6.50	0.5	<2	<2
	11.00	0.01	21.4	01.4	6.28	( )	71.7	71.0	7.7		6.00	( )	7	
VVIVI2B	11:03	0.01	21.4	21.4	6.3	6.3	71.9	/1.8	7.7	1.1	6.00	6.0	6	6.5

Date	8-Mar-16				-			_				-	•
Location	Time	Depth (m)	Temp (o	DC)	DO (mg/L)	DO	(%)	Turbidit	y (NTU)	р	Η	SS(m	ng/L)
	11.00	0.01						3.9	4.0			4	4.0
WINZB-C	11:00	0.01						4.0	4.0				4.0
11/1 400	11.10	0.00						220.0				138	100.0
WM2B	11:10	0.02						223.0	221.5				138.0

Date	9-Mar-16					-	-	-	-	-	-	-	-	
Location	Time	Depth (m)	Temp	(oC)	DO (n	ng/L)	DO	(%)	Turbidi	ty (NTU)	р	Η	SS(n	ng/L)
	12.02	0.01	23.2	22.2	5.92	( )	69.4	( 0 F	5.0	ГО	6.00	( )	6	с с
MMN2B-C	12:03	0.01	23.2	23.2	6	6.0	69.5	69.5	5.0	5.0	6.00	0.0	5	5.5
	11.50	0.00	22.7	22.7	6.29	( )	73.9	74.0	14.9	14.0	5.80	F 0	11	12.0
VVIVI2B	11:52	0.02	22.7	22.1	6.3	0.3	74.0	74.0	14.9	14.9	5.80	5.8	13	12.0

Date	10-Mar-16					-			-	-			-	
Location	Time	Depth (m)	Temp	(OC)	1) OD	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	Н	SS(m	ng/L)
	14.00	0.00							5.2	ГÓ			6	( )
WWZB-C	14:00	0.02							5.2	5.2				6.0
	11.10	0.00							27.5	07.0			16	44.0
WW2B	14:19	0.02							27.1	27.3				16.0

Date	11-Mar-16								-	-			-	-
Location	Time	Depth (m)	Temp	(oC)	DO (n	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	н	SS(m	ng/L)
	11.1/	0.01	19.7	10.7	8.4	0.4	91.9	00.1	5.1	Γ 1	6.10	( 1	2	2.0
MMN2B-C	11:10	0.01	19.7	19.7	8.41	8.4	92.3	92.1	5.1	5.1	6.10	0.1	<2	2.0
	11.04	0.02	14.7	147	9.96	10.0	98.4	00.0	87.3	07 (	5.70	F 7	71	70.0
VVIVIZB	11:04	0.02	14.7	14.7	10.01	10.0	99.4	98.9	87.8	87.0	5.70	5.7	69	70.0



Date	12-Mar-16													
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidi	ty (NTU)	р	н	SS(m	ng/L)
	10.40	0.01							9.5	0.4			12	12.0
VVIVIZD-C	10.49	0.01							9.3	7.4				12.0
	10.20	0.01							10.4	10.4			6	4.0
VVIVIZB	10:38	0.01							10.8	10.6				0.0

Date	14-Mar-16													
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	11.55	0.01	19.8	10.0	8.7	0.7	94.7	04.0	15.6	15.7	6.20	4.0	<2	.2
WIVIZB-C	11:55	0.01	19.8	19.8	8.71	8.7	94.9	94.8	15.7	15.7	6.20	0.2	<2	<2
	11.45	0.02	17.2	17.0	9.84	0.0	101.9	102.1	44.6	AE 1	5.70	E 7	68	60.0
VVIVI2B	11:45	0.02	17.2	17.2	9.88	9.9	102.3	102.1	45.5	45.1	5.70	5.7	70	69.0

Date	15-Mar-16					-			-	-			-	
Location	Time	Depth (m)	Temp	(oC)	DO (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	н	SS(m	ng/L)
	11.27	0.01							5.6	E 4			<2	-2
VVIVIZD-C	11.37	0.01							5.6	5.0			<2	<2
	11.05	0.01							18.7	10.0			10	10.0
VVIVIZB	11:25	0.01							19.2	19.0			10	10.0

Date	16-Mar-16	-				-	-		-	-			-	
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	н	SS(m	ng/L)
	10.10	0.01	20.9	20.0	7.62	7 /	85.2	05 1	5.7	ГО	6.50	( [	3	2.0
WINZB-C	10:10	0.01	20.9	20.9	7.6	7.0	85.0	85.1	6.2	5.9	6.50	0.5	3	3.0
	10.00	0.00	17.2	17.0	9.57	0 (	99.6	00.7	106.0	100.0	5.60	Γ.(	47	40 F
VVIVI2B	10:20	0.02	17.2	17.2	9.58	9.6	99.7	99.7	110.0	0.801	5.60	5.6	50	48.5

Date	17-Mar-16													
Location	Time	Depth (m)	Temp	(oC)	DO (n	ng/L)	DO (	(%)	Turbidi	ty (NTU)	р	н	SS(m	ng/L)
	11 14	0.01							7.8	7.0			9	0.0
WIMZB-C	11:14	0.01							7.8	7.8			9	9.0
	11.02	0.01							9.1	0.1			9	0.0
VVIVI2B	11:03	0.01							9.2	9.1			9	9.0

Date	18-Mar-16					-			-	•			-	
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidi	ty (NTU)	р	н	SS(m	ng/L)
	11.40	0.01	22.1	22.1	7.26	7.0	83.4	02.4	6.2	( )	7.10	7 1	3	2.5
WINZB-C	11:48	0.01	22.1	22.1	7.29	1.3	83.7	83.0	6.3	0.3	7.10	7.1	4	3.5
	11.05	0.01	22.3	22.2	8.33	0.0	96.0		9.4	0.4	7.20	7.0	4	4.0
VVIVIZB	11:35	0.01	22.3	22.3	8.29	8.3	95.7	95.9	9.3	9.4	7.20	1.2	4	4.0

Date	21-Mar-16								-					
Location	Time	Depth (m)	Temp	(OC)	DO (r	ng/L)	DO	(%)	Turbidi	y (NTU)	р	Н	SS(m	ng/L)
	11.45	0.01	20.1	20.1	8.04	0.1	96.1	0/ 4	6.7	/ 7	6.20	( )	5	ГО
MMN2B-C	11:45	0.01	20.1	20.1	8.07	8. I	96.7	90.4	6.7	0.7	6.20	0.2	5	5.0
	11.00	0.00	18.4	10.4	9.36	0.4	88.8	00.0	281.0	204.0	5.80	ГО	92	170.0
VVIVI2B	11:35	0.02	18.4	18.4	9.35	9.4	89.0	88.9	287.0	284.0	5.80	5.8	266	179.0

Date	22-Mar-16			-		-			-	-	•	-	-	
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidi	ty (NTU)	р	H	SS(m	ng/L)
	10.24	0.00							6.3	( )			3	2.0
WWZB-C	10:24	0.02							6.3	0.3				3.0
	10.11	0.00							50.3	50.0			52	50.0
VVIVI2B	10:11	0.02							49.7	50.0			52	52.0

Date	23-Mar-16					-	•		-	-	-	•	-	
Location	Time	Depth (m)	Temp	(oC)	DO (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	р	Н	SS(n	ng/L)
	10.1/	0.00	20.5	20 F	8.01	0.0	89.4	00 (	49.5	40.0	6.60		36	25.5
WINZB-C	13:10	0.02	20.4	20.5	8.05	8.0	89.7	89.0	50.1	49.8	6.60	0.0	35	35.5
	12.05	0.00	20.3	20.2	8.36	0.4	92.6	02.0	448.0	452.0	6.30	( )	290	201 5
VVIVIZB	13:05	0.02	20.3	20.3	8.38	8.4	92.9	92.8	456.0	452.0	6.30	0.3	313	301.5

 $Z: \label{eq:loss_2013} TCS00694 \\ 600 \\ EM\&A \ Report \\ Monthly \ EM\&A \ Report \\ 32th \ (Mar \ 2016) \\ R0227v2. docx \\ Routher \\ Rou$ 

Date	24-Mar-16													
Location	Time	Depth (m)	Temp	) (oC)	DO (r	ng/L)	DO	(%)	Turbidi	ty (NTU)	р	н	SS(m	ng/L)
	11.11	0.02							21.3	20.0			9	0.0
MMN2B-C	11:11	0.02							20.2	20.8			9	9.0
	11.04	0.00							123.0	1010			160	1/00
VVIVI2B	11:24	0.02							125.0	124.0			160	160.0

Date	29-Mar-16													
Location	Time	Depth (m)	Temp	(OC)	DO (r	ng/L)	DO	(%)	Turbidi	y (NTU)	р	Н	SS(m	ng/L)
	12.05	0.01	21.6	21.4	7.6	7.4	86.2	04.4	6.0	6.0	9.50	0.5	<2	.2
VVIVIZB-C	12:05	0.01	21.6	21.0	7.63	7.0	86.9	80.0	6.0	0.0	9.50	9.5	<2	<2
	11.57	0.02	19.7	10.7	9.06	0.1	102.2	102.4	11.1	11.0	9.30	0.2	5	ΕO
VVIVIZB	11:57	0.02	19.7	19.7	9.09	9.1	102.5	102.4	11.2	11.2	9.30	9.3	5	5.0

Date	31-Mar-16					-				-				
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidi	ty (NTU)	р	Н	SS(m	ng/L)
	12.20	0.01	22.3	22.2	7.68		88.4	00.4	3.3	2.2	9.40	0.4	<2	.2
VVIVIZB-C	12:29	0.01	22.3	22.3	7.71	1.1	88.7	88.0	3.2	3.2	9.40	9.4	<2	<2
	10.15	0.01	24.8	24.0	8.97	0.0	108.1	100.0	9.2	0.0	9.10	0 1	10	10 F
VVIVI2B	12:15	0.01	24.8	24.8	8.94	9.0	107.8	108.0	9.2	9.2	9.10	9. I	11	10.5

# Water Quality Monitoring Data for Contract 2 and 6

Date	2-Mar-16													
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	10.00	0.02	20.7	20.7	6.92	( )	76.8	74.4	8.1	0.0	6.20	( )	7	
WWI3-C	10:30	0.03	20.7	20.7	6.9	6.9	76.0	/6.4	8.5	8.3	6.30	6.3	6	6.5
14/14/0	10.1/	0.00	17.9	47.0	7.28	7.0	77.2	77.4	11.7	10.0	6.20		12	10 5
VVIVI3	10:16	0.23	17.9	17.9	7.2	1.2	77.0	//.1	12.2	12.0	6.10	6.2	13	12.5

Date	4-Mar-16	-				•				-		-		-
Location	Time	Depth (m)	Temp	o (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	10.55	0.01	22.6	22.4	9.98	10.0	115.2	115.0	19.3	10.0	6.40	<i>L</i> A	12	11 E
VVIVI3-C	12:55	0.01	22.6	22.0	10	10.0	115.3	115.3	18.7	19.0	6.40	0.4	11	11.5
14/14/2	10.00	0.10	20.6	20 (	9.27	0.0	102.7	102.0	16.5	1( 0	5.90	БО	10	11.0
VVIVI3	12:30	0.10	20.6	20.6	9.31	9.3	102.9	102.8	17.1	10.8	5.90	5.9	12	11.0

Date	7-Mar-16	•										-		-
Location	Time	Depth (m)	Temp	o (oC)	D0 (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Η	SS(m	ng/L)
	10.05	0.07	22.1	22.1	5.66	Γ.	64.8		12.9	10.0	6.00	( )	21	21.0
WIVI3-C	10:25	0.06	22.1	22.1	5.62	0.0	64.2	04.5	12.7	12.8	6.00	6.0	21	21.0
14/140	10.10	0.01	20.9	00.0	6.64		74.2	74.4	7.3	7.4	6.10		11	44.5
VVIVI3	10:12	0.21	20.9	20.9	6.6	0.6	74.0	/4.1	7.6	7.4	6.20	6.2	12	11.5

Date	9-Mar-16	-											- 	
Location	Time	Depth (m)	Temp (oC)		DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ig/L)
	10.00	0.00	21.9	21.0	4.71	47	54.5		11.6	11.0	5.70	F 7	16	1/г
WM3-C	12:23	0.02	21.9	21.9	4.74	4.7	54.7	54.0	12.0	11.8	5.70	5.7	17	10.5
WM3	10.00	0.1/	20.9	20.0	5.19	F 0	59.2	50.0	13.0	10.1	5.80	го	15	4 F F
	12:33	0.16	20.9	20.9	5.21	5.2	59.3	59.3	13.1	13.1	5.80	5.8	16	15.5

Date	11-Mar-16						•			-	-	-		-
Location	Time	Depth (m)	Temp	Temp (oC)		ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	11.00	0.0/	15.8	15.0	10.31	10.2	103.9	104.0	15.7	1( )	6.00	( )	27	р/ Г
WM3-C	11:32	0.06	15.8	15.8	10.34	10.3	104.0	104.0	16.7	10.2	6.00	6.0	26	20.5
WM3	12.00	0.17	16.3	1/ 0	8.73	0.7	89.1	00.2	16.7	1/ 0	6.30	( )	25	
	12:00	0.17	16.3	10.3	8.75	δ./	89.4	89.3	16.9	10.8	6.30	0.3	26	25.5

Date	14-Mar-16													
Location	Time	Depth (m)	Temp	) (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	н	SS(m	ig/L)
	10.10	0.00	17.3	17.0	8.33	0.0	86.7	0/ 7	39.8	40.1	5.80	E O	52	F1 F
WW3-C	12:10	0.23	17.3	17.3	8.3	8.3	86.6	86.7	40.3	40. I	5.80	5.8	51	51.5
WM3	10.05	0.17	19.2	10.0	8.79	0.0	95.1	05.0	19.3	10 5	5.70	F 7	13	10 F
	12:25	U. 16	19.2	19.2	8.77	۵.۵	94.9	95.0	19.6	19.5	5.70	5.7	14	13.5

**AUES** 

Date	16-Mar-16	·			_					-	-	-		-
Location	Time	Depth (m) Temp (oC)			DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	10.00	0.01	18.6	10.4	8.81	0.0	84.1	04.1	35.7	26.1	6.40	6.4	12	12.0
WM3-C	10:00	0.21	18.6	18.0	8.8	8.8	84.0	84.1	36.4	30.1	6.40	0.4	14	13.0
WM3	0.44	0.10	16.5	1/ 5	8.21	0.0	94.3	04.1	12.8	12.2	6.20	( )	15	15.5
	9:44	0.19	16.5	10.5	8.2	8.2	93.9	94.1	13.6	13.2	6.20	0.2	16	15.5

Date	18-Mar-16													
Location	Time	Depth (m)	Temp	(oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	H	SS(m	ng/L)
WM3-C	12.22	0.00	22.6	22.4	8.07	0.1	93.3	02.2	6.4		6.50		8	0.0
	13:32	0.09	22.6	22.0	8.06	8.1	93.2	93.3	6.6	0.5	6.50	0.5	8	8.0
WM3	10.10	0.01	20.7	20.7	7.59	7 /	84.4	04.0	13.1	10.0	6.60		12	10.0
	13:13	0.21	20.7	20.7	7.56	7.6	84.1	84.3	13.3	13.2	6.60	6.6	12	12.0

Date	21-Mar-16	<u>.</u>							-				-	-
Location	Time	Depth (m)	epth (m) Temp (oC)			ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	11.50	0.24	19.8	10.0	8.81	0.0	80.7	00.0	28.2	20.0	5.60	Γ./	40	41 F
WM3-C	11:58	0.24	19.8	19.8	8.83	8.8	81.0	80.9	29.5	28.9	5.60	5.0	43	41.5
WM3	10.10	0.10	18.4	10.4	7.56	7/	80.7	00.0	31.9	22.0	5.70	F 7	21	21.0
	12:10	0.19	18.4	18.4	7.58	7.0	81.1	80.9	32.0	32.0	5.70	5.7	21	21.0

Date	23-Mar-16													
Location	Time	Depth (m)	Depth (m) Temp (oC)			ng/L)	DO	(%)	Turbidit	y (NTU)	p	Н	SS(m	ng/L)
WM3-C	10.00	0.00	20.2	20.2	7.81	7.0	86.4	0/ 0	36.1	247	6.00	( )	45	47.0
WWI3-C	WM3-C 13:32	0.09	20.2	20.2	7.91	7.9	87.3	86.9	33.2	34.7	6.00	6.0	49	47.0
WM3	14.00	0.00	19.7	10.7	7.94	0.0	86.7	07.0	38.1	20 F	6.10	( 1	25	
	14:00	0.20	19.7	19.7	7.98	8.0	87.3	87.0	38.9	38.5	6.10	6. I	26	25.5

Date	29-Mar-16	-							-	-		-		-
Location	Time	Depth (m)	epth (m) Temp (oC)		DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(n	ng/L)
	10.0E	0.02	21.2	21.2	8.32	0.2	90.8	01.0	5.3	4.0	9.10	0.1	7	7.0
WM3-C	12:25	0.02	21.2	21.2	8.35	8.3	91.1	91.0	4.6	4.9	9.10	9.1	7	7.0
WM3	10.41	0.07	19.7	10.7	7.99	0.0	89.7	00.0	71.9	70.4	8.90		109	100.0
	12:41	0.07	19.7	19.7	7.98	δ.0	89.8	89.8	72.3	72.1	8.90	8.9	109	109.0

Date	30-Mar-16													
Location	Time	Depth (m)	Temp	) (oC)	DO (r	ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	10.40	0.00							5.5	ГО			6	( [
WWI3-C	NM3-C 12:43	0.09							4.9	5.2			7	0.5
14/14/2	10.05	0.00							125.0	101 5			56	<b>F</b> 4 <b>F</b>
WM3	12:35	0.20							118.0	121.5			53	54.5

Date	31-Mar-16	-						-	-	-	-			-
Location	Time	Depth (m)	Depth (m) Temp (oC)			ng/L)	DO	(%)	Turbidit	y (NTU)	р	Н	SS(m	ng/L)
	10.50	0.01	23.7	<b>22 T</b>	8.2	0.0	97.0	07.0	2.8	2.4	8.50	0 5	14	14.0
WM3-C	10:58	0.01	23.7	23.7	8.22	ð.Z	96.9	97.0	2.4	2.0	8.50	8.0	14	14.0
WM3	10.40	0.01	21.1	01.1	8.41	0.4	94.5	04.0	34.3		8.90	0.0	16	1/ 0
	10:43	0.21	21.1	21.1	8.47	8.4	95.0	94.8	36.2	35.3	8.90	8.9	16	16.0



Appendix J

# **Graphical Plots for Monitoring Result**



## <u>Air Quality – 1-hour TSP</u>















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## <u>Air Quality – 24-hour TSP</u>

























#### **Noise**







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**AUES** 



#### Water Quality







































Appendix K

**Meteorological Data** 



				Ta Kwu Ling Station				
Date		Weather	Total Rainfall (mm)	Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Directio n	
1-Mar-16	Tue	Mainly fine.Moderate easterly winds.	0	17.6	10.5	63.5	E/SE	
2-Mar-16	Wed	Mainly fine.Moderate easterly winds.	0	17.1	9.1	55.5	E/SE	
3-Mar-16	Thu	Fine. Dry in the afternoon. Light to moderate easterly winds.	0	18.2	7.2	71	Е	
4-Mar-16	Fri	Mainly cloudy. Sunny intervals during the day. Light to moderate easterly winds.	0	19.6	6	77	Е	
5-Mar-16	Sat	Mainly cloudy with a few fog and light rain patches.	Trace	21.4	13.3	79	Е	
6-Mar-16	Sun	Mainly cloudy with a few fog and light rain patches.	0	21.8	4.5	75	S/SW	
7-Mar-16	Mon	Mainly cloudy with a few fog and light rain patches.	0.2	18.3	8	88.2	Е	
8-Mar-16	Tue	Fresh northerly winds, occasionally strong offshore and on high ground at first.	0	20.7	8.7	85.7	E/SE	
9-Mar-16	Wed	Mainly cloudy with a few fog and light rain patches.	15.5	20.4	6.4	89.7	E/SE	
10-Mar-16	Thu	Mainly cloudy with a few fog and light rain patches.	16.8	12.9	12	81.2	N	
11-Mar-16	Fri	Moderate to fresh easterly winds	0.1	10.1	25	77	NE	
12-Mar-16	Sat	Cloudy to overcast with occasional rain	0.1	12.2	36	87	Е	
13-Mar-16	Sun	Mainly fine. Moderate easterly winds.	6.8	16.2	6	90.5	N/NW	
14-Mar-16	Mon	Fine. Dry in the afternoon. Light to moderate easterly winds.	0.8	14.3	6.2	75.5	Ν	
15-Mar-16	Tue	Mainly cloudy. Sunny intervals during the day. Light to moderate easterly winds.	Trace	14.4	3.2	75	Е	
16-Mar-16	Wed	Moderate to fresh easterly winds	1.1	15.2	10.6	83.3	E/SE	
17-Mar-16	Thu	Cloudy to overcast with occasional rain	2.2	17.3	14	90.5	Е	
18-Mar-16	Fri	Fine. Dry in the afternoon. Light to moderate easterly winds.	Trace	21.3	9	85.5	E/SE	
19-Mar-16	Sat	Mainly cloudy with a few fog and light rain patches.	Trace	23.5	12.5	94	Е	
20-Mar-16	Sun	Moderate to fresh easterly winds	0.3	20.4	15.5	76	E/SE	
21-Mar-16	Mon	Moderate to fresh easterly winds	59.6	18	15	85.7	E/SE	
22-Mar-16	Tue	Cloudy to overcast with occasional rain	1.7	17.3	16.3	90	E/SE	
23-Mar-16	Wed	Cloudy to overcast with occasional rain	8.7	19.9	8.9	90	E/SE	
24-Mar-16	Thu	Cloudy to overcast with occasional rain	33.4	15	6.5	90	E/NE	
25-Mar-16	Fri	Moderate to fresh easterly winds	1.4	13	19.4	75	NE	
26-Mar-16	Sat	Moderate to fresh easterly winds	0	13.9	13.4	68	E	
27-Mar-16	Sun	Moderate to fresh easterly winds	0	16.1	14.6	58	NE	
28-Mar-16	Mon	Mainly cloudy with coastal fog.	0	15.7	7.4	58	E/SE	
29-Mar-16	Tue	Light to moderate southeasterly winds.	Trace	17.5	6.5	59.5	SE	
30-Mar-16	Wed	Light to moderate southeasterly winds.	Trace	21.1	6.5	70	E	
31-Mar-16	Thu	Mainly cloudy with coastal fog.	0	22.5	6	74.5	SW	



Appendix L

Waste Flow Table



Name of Department : CEDD

Contract No./ Work Order No. :

CV/2012/08

#### Appendix I - Monthly Summary Waste Flow Table for 2016

#### (All quantities shall be rounded off to 3 decimal places)

		Actual Quantitie	es of Inert C&D Materi	ials Generated / Importe	ed (in '000 m3)		Actual Quantities of Other C&D Materials / Wastes Generated				
Month	Total Quantities Generated	Broken Concrete (including rock for recycling into aggregates)	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported C&D Material	Metal	Paper/ Cardboard Packaging	Plastic (bottles/containers, plastic sheets/ foams from package material)	Chemical Waste	Others (e.g. General Refuse etc.)
	[a+b+c+d)	(a)	(b)	(c)	(d)		(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)
January	72.2029	0.0000	0.6482	31.8061	39.7486	0.7684	26.2000	0.0000	0.0000	1.2320	0.1247
February	55.6715	0.0000	1.0145	38.3484	16.3085	0.9343	8.3800	0.9800	0.0000	1.4080	0.1089
March	34.1616	0.0000	0.3100	29.3514	4.5003	0.9272	0.0000	0.0000	0.0000	11.7920	0.0682
April	0.0000										
May	0.0000										
June	0.0000										
Half-year total	162.0360	0.0000	1.9727	99.5059	60.5574	2.6299	34.5800	0.9800	0.0000	14.4320	0.3018
July	0.0000										
August	0.0000										
September	0.0000										
October	0.0000										
November	0.0000										
December	0.0000										
Yearly Total	162.0360	0.0000	1.9727	99.5059	60.5574	2.6299	34.5800	0.9800	0.0000	14.4320	0.3018

#### (All quantities shall be rounded off to 3 decimal places)

		Actual Quantitie	es of Inert C&D Mater	ials Generated / Importe	ed (in '000 m3)		Actual Quantities of Other C&D Materials / Wastes Generated				
Year	Total Quantities Generated	Broken Concrete (including rock for recycling into aggregates)	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported C&D Material	Metal	Paper/ Cardboard Packaging	Plastic (bottles/containers, plastic sheets/ foams from package material)	Chemical Waste	Others (e.g. General Refuse etc.)
	[a+b+c+d)	(a)	(b)	(c)	(d)		(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)
2013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2014	425.4406	0.0000	2.7362	376.3945	46.3099	5.6245	3.2100	0.4390	0.0070	10.8800	2.2609
2015	570.9459	0.0000	20.8159	543.2162	6.9138	4.5492	14.1300	3.9220	1.5000	16.1920	1.1696
2016	162.0360	0.0000	1.9727	99.5059	60.5574	2.6299	34.5800	0.9800	0.0000	14.4320	0.3018
2017											
2018											
Total	1158.4225	0.0000	25.5248	1019.1167	113.7810	12.8036	51.9200	5.3410	1.5070	41.5040	3.7323

Remark:

Density of C&D material to be
 Density of General Refuse to be

2.2 metric ton/m3 1.6 metric ton/m3 3) Density of Spent Oil to be

0.88 metric ton/m3

### Monthly Summary Waste Flow Table for 2016 (year)

	Actua	<b> </b> Quantities	of Inert C&D	Materials G	enerated Mo	onthly	Actual Quantities of C&D Wastes Generated Monthly				
		Hard Rock									
	Total	and Large	Reused in	<b>Reused</b> in	Disposed			Paper/			Others, e.g.
Month	Quantity	Broken	the	other	as Public	Imported		cardboard		Chemical	general
	Generated	Concrete	Contract	Projects	Fill	Fill	Metals	packaging	Plastics	Waste	refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in m <sup>3</sup> )	(in '000m <sup>3</sup> )
Jan	2.430	0.253	0.030	0.000	2.400	0.799	0.001	0.000	0.000	0.000	0.115
Feb	1.225	0.651	0.020	0.000	1.205	1.141	0.000	0.000	0.000	0.000	0.110
Mar	1.084	0.417	0.000	0.000	1.084	0.831	0.000	0.000	0.001	0.000	0.090
Apr											
May											
Jun											
Sub-total	4.739	1.321	0.050	0.000	4.689	2.772	0.001	0.000	0.001	0.000	0.315
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	4.739	1.321	0.050	0.000	4.689	2.772	0.001	0.000	0.001	0.000	0.315

**Note:** 1. Assume the density of soil fill is 2 ton/m<sup>3</sup>.

2. Assume the density of rock and broken concrete is  $2.5 \text{ ton/m}^3$ .

3. Assume each truck of C&D wastes is 5m<sup>3</sup>.

4. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38.

5. The slurry and bentonite are disposed at Tseung Kwun O 137.

6. The non-inert C&D wastes are disposed at NENT.

7. Assume the density of metal is  $7,850 \text{ kg/m}^3$ .

Contract No. CV/2013/03 Particular Specification Appendix 1.27 Liantang/Heung Yuen Wai Boundary Control Point Site Formation and infrastructure Works -Contract 5

Name of Department: CEDD

Monthly	Summary	Waste	Flow	Table	for	2016

	А	ctual Quantities	of Inert C&D M	Iaterials Gener	ated Monthly	у	Actual Quantities of C&D Wastes Generated Monthly				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	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
JAN	0	0	0	0	0	0.235	0	0	0	0	0.06
FEB	0	0	0	0	0	0.141	0	0	0	0	0.045
MAR	0	0	0	0	0	0.1785	0	0	0	0	0.055
APRIL											
MAY											
JUN											
Sub Total	0	0	0	0	0	0.5545	0	0	0	0	0.16
JUL											
AUG											
SEP											
OCT											
NOV											
DEC											
Total	0	0	0	0	0	0.55	0	0	0	0	0.16

Notes:

#### Name of Department: CEDD

	Forecast of Total Quantities of C&D Materials to be Generated from the Contract (see Note 4)												
Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported Fill	Metal	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse			
(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )			
0	0	0	0	0	350	30	4	2	1	4			

#### Notes:

(1) The performance targets are given in PS clause 6(14) above.

(2) The waste flow table shall also include C&D materials that are specified in the Contractor to be imported for use at the Site.

(3) Plastic refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature

- Hard Rocks and Large Broken Concrete = Cannot be defined at this stage

- Imported Fill = Estimated by the Contractor = 1 loading = 8m 3

- Metal = Estimated by the Contractor

- Paper/cardboard packaging = Estimated by the Contractor

- Plastics = Estimated by the Contractor

- Chemical Waste = Estimated by the Contractor (Spent lubricating oil, assume density 0.9kg/L)

- Other, e.g. general refuse = Estimated by the Contractor

### Monthly Summary Waste Flow Table for <u>2016</u> (year)

Name of Person completing the record: KM LUI (EO)

Project : Liangtang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - Contract 6

Contract No.: CV/2013/08

		Actual Quantiti	ies of Inert C&l	D Materials Gen	nerated Monthly		Actual Quantities of C&D Wastes Generated Monthly				
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m <sup>3</sup> )
Jan	58.943	0	3.811	12.131	43.001	31.248	0	0	0	0	0.695
Feb	74.418	0	8.785	39.85	25.783	6.552	0	0.097	0	0	0.339
Mar	43.764	0	6.438	12.034	25.292	3.288	0	0	0.007	0	0.042
Apr											
May											
Jun											
Sub-total	177.125	0	19.034	64.015	94.076	41.088	0	0.097	0.007	0	1.076
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	346.348	0	37.568	80.799	227.981	48.337	0	0.391	0.007	32.28	4.152

Notes:

(1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(2) Plastics refer to plastic bottles/containers, plastic sheets/ foam from packaging materials.

(3) Broken concrete for recycling into aggregates.

#### Appendix I

#### MONTHLY SUMMARY WASTE FLOW TABLE

NE/2014/03

Name of Department: CEDD

Contract Title:Liantang/ Heung Yuen Wai Boundary Control Point<br/>Site Formation and Infrastructure Works – Contract 7Contract No.:

		Actual Quan	tities of Inert C&I	O Materials Genera	ted Monthly		A	ctual Quantities of	Inert C&D Waste	s Generated Month	ly
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	Plastic (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0.16	0	0	0	0	0	0
Mar	0	0	0	0	0.135	0	0	0	0	0	0.005
Apr											
May											
June											
Sub-total	0	0	0	0	0.295	0	0	0	0	0	0.005
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0	0	0	0	0.295	0	0	0	0	0	0.005

#### Monthly Summary Waste Flow Table for <u>2016</u> (year)

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site. (2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

#### **Architectural Services Department**

Form No. D/OI.03/09.002

Contract No. / Works Order No.: - SSC505

### Monthly Summary Waste Flow Table for <u>2016</u> [year] [to be submitted not later than the 15<sup>th</sup> day of each month following reporting month]

(All quantities shall be rounded off to 3 decimal places.)

		Actual Quantities of Ine	ert Construction Waste Ge	enerated Monthly	
Month	(a)=(b)+(c)+(d)+(e) Total Quantity Generated	(b) Broken Concrete (see Note 4)	(c) Reused in the Contract	(d) Reused in other Projects	(e) Disposed of as Public Fill
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )
Jan	0.800	0	0	0	0.800
Feb	0.858	0	0	0	0.858
Mar	0.793	0	0	0	0.793
Apr					
May					
Jun					
Sub-total	2.451	0	0	0	2.451
Jul					
Aug					
Sep					
Oct					
Nov					
Dec					
Total	2.451	0	0	0	2.451

#### Architectural Services Department

Form No. D/OI.03/09.002

					Actual Qua	ntities of Nor	-inert Constr	uction Waste	Generated M	onthly			
Month	Tin	ıber	Ме	Metals		Paper/ cardboard packaging		Plastics (see Note 3)		Chemical Waste		ecyclable erials	General Refuse disposed of at
											(see P	age 3)	Landini
	(in '0	00kg)	(in '0	00kg)	(in '0	00kg)	(in '0	00kg)	(in '0	00kg)	(in '0	00kg)	(in '000m <sup>3</sup> )
	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated
Jan	0.000	0.000	4.73	4.73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.072
Feb	0.000	0.000	0.0004	0.0004	0.0186	0.0186	0.000	0.000	0.000	0.000	0.021	0.021	0.065
Mar	0	0	52.752	52.752	0.044	0.044	0	0	0	0	0.05	0.05	0.059
Apr													
May													
Jun													
Sub-total	0	0	57.4824	57.4824	0.0626	0.0626	0	0	0	0	0.071	0.071	0.195
Jul													
Aug													
Sep													
Oct													
Nov													
Dec													
Total	0	0	57.4824	57.4824	0.0626	0.0626	0	0	0	0	0.071	0.071	0.195

Description of mode and details of recycling if any for the month e.g. XX kg of used timber was sent to YY site for transformation into fertilizers										
50kg of glass bottles were sent to <i>Action</i> <i>Health</i> for recycling	2kg of cans and 44kg of papers were sent to <i>Wong</i> <i>Kei</i> for recycling	0	0	0	0					

Notes: (1) The performance targets are given in the Particular Specification on Environmental Management Plan.

(2) The waste flow table shall also include construction waste that are specified in the Contract to be imported for use at the site.

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(4) Broken concrete for recycling into aggregates.

(5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to  $6.5 \text{ m}^3$  by volume.



### Appendix M

Implementation Schedule for Environmental Mitigation Measures



EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
Air Qualit	y Impact (	Construction)					
3.6.1.1	2.1	<ul> <li>General Dust Control Measures</li> <li>The following dust suppression measures should be implemented:</li> <li>Frequent water spraying for active construction areas (4 times per day for active areas in Po Kak Tsai and 8 times per day for all other active areas), including areas with heavy construction and slope cutting activities</li> <li>80% of stockpile areas should be covered by impervious sheets</li> <li>Speed of trucks within the site should be controlled to about 10 km/hr</li> <li>All haul roads within the site should be paved to avoid dust</li> </ul>	To minimize adverse dust emission generated from various construction activities of the works sites	Contractor	Construction Works Sites	During Construction	EIA Recommendation and Air Pollution Control (Construction Dust) Regulation
		emission due to vehicular movement					
3.6.1.2	2.1	<b>Best Practice for Dust Control</b> The relevant best practices for dust control as stipulated in the Air Pollution Control (Construction Dust) Regulation should be adopted to further reduce the construction dust impacts of the Project. These best practices include: <i>Good site management</i>	To minimize adverse dust emission generated from various construction activities of the works sites	Contractor	Construction Works Sites	During Construction	EIA Recommendation and Air Pollution Control (Construction Dust) Regulation
		<ul> <li>The Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust.</li> </ul>					
		<ul> <li>Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimize the release of visible dust emission.</li> </ul>					
		<ul> <li>Any piles of materials accumulated on or around the work areas should be cleaned up regularly.</li> </ul>					
		<ul> <li>Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimizing generation of fugitive dust emissions.</li> </ul>					
		<ul> <li>The material should be handled properly to prevent fugitive dust emission before cleaning.</li> </ul>					
		Disturbed Parts of the Roads					
		• Each and every main temporary access should be paved with					



EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure	Who to implement the	Location of the measure	When to implement the	What requirements or standards for the measure to
			& Main Concerns to address	measure?		measure?	achieve?
		concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or					
		<ul> <li>Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.</li> </ul>					
		Exposed Earth					
		Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies.					
		Loading, Unloading or Transfer of Dusty Materials					
		<ul> <li>All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.</li> </ul>					
		Debris Handling					
		<ul> <li>Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides.</li> </ul>					
		<ul> <li>Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped.</li> </ul>					
		Transport of Dusty Materials					
		<ul> <li>Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards.</li> </ul>					
		Wheel washing					
		Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.					
		Use of vehicles					
		Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.					
		Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.					



EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
<u>Air Qual</u>	ity Impact (	<ul> <li>Site hoarding</li> <li>Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.</li> <li>Blasting</li> <li>The areas within 30m from the blasting area should be wetted with water prior to blasting.</li> <li>Operation)</li> </ul>					
3.5.2.2	2.2	<ul> <li>The following odour containment and control measures will be provided for the proposed sewage treatment work at the BCP site:</li> <li>The treatment work will be totally enclosed. Negative pressure ventilation will be provided within the enclosure to avoid any fugitive odorous emission from the treatment work.</li> <li>Further odour containment will be achieved by covering or confining the sewage channels, sewage tanks, and equipment with potential odour emission.</li> <li>Proper mixing will be provided at the equalization and sludge holding tanks to prevent sewage septicity.</li> <li>Chemical or biological deodorisation facilities with a minimum odour removal efficiency of 90% will be provided to treat potential odorous emissions from the treatment plant including sewage channels / tanks, filter press and screening facilities so as to minimize any potential odour impact to the nearby ASRs.</li> </ul>	To minimize potential odour impact from operation of the proposed sewage treatment work at BCP	DSD	BCP	Operation Phase	EIA recommendation
Noise Im	npact (Cons	truction)					
4.4.1.4	3.1	Adoption of Quieter PME Use of the recommended quieter PME such as those given in the BS5228: Part 1:2009 and presented in <b>Table 4.14</b> , which can be found in Hong Kong	To minimize the construction air- borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and Noise Control Ordinance (NCO)



EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
4.4.1.4	3.1	Use of Movable Noise Barrier The use of movable barrier for certain PME can further alleviate the construction noise impacts. In general, a 5 dB(A) reduction for movable PME and 10 dB(A) for stationary PME can be achieved depending on the actual design of the movable noise barrier. The Contractor shall be responsible for design of the movable noise barrier with due consideration given to the size of the PME and the requirement for intercepting the line of sight between the NSRs and PME. Barrier material with surface mass in excess of 7 kg/m <sup>2</sup> is recommended to achieve the predicted screening effect.	To minimize the construction air- borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO
4.4.1.4	3.1	Use of Noise Enclosure/ Acoustic Shed The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the GW-TM.	To minimize the construction air- borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO
4.4.1.4	3.1	<b>Use of Noise Insulating Fabric</b> Noise insulating fabric can be adopted for certain PME (e.g. drill rig, pilling auger etc). The insulating fabric should be lapped such that there are no openings or gaps on the joints. Technical data from manufacturers state that by using the Fabric, a noise reduction of over 10 dB(A) can be achieved on noise level.	To minimize the construction air- borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO



			Objectives of the				
EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
4.4.1.4	3.1	Good Site Practice	To minimize the	Contractors	Construction	During	EIA recommendation,
		The good site practices listed below should be followed during each phase of construction:	construction air- borne noise impact		Work Sites	Construction	EIAO and NCO
		• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;					
		• Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction programme;					
		• Mobile plant, if any, should be sited as far from NSRs as possible;					
		<ul> <li>Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> </ul>					
		• Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and					
		• Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.					
Noise Imp	bact (Operation	ation)					
		Road Traffic Noise					
Table           4.42           and           Figure           4.20.1           to           4.20.4	3.2	Erection of noise barrier/ enclosure along the viaduct section.	To minimize the road traffic noise along the connecting road of BCP	Contractor	Loi Tung and Fanling Highway Interchange	Before Operation	EIAO and NCO
		Fixed Plant Noise					
Table 4.46	3.2	Specification of the maximum allowable sound power levels of the proposed fixed plants during daytime and night-time.	To minimize the fixed plant noise impact	Managing Authority of the buildings / Contractor	BCP, Administration Building and all ventilation buildings	Before Operation	EIA recommendation, EIAO and NCO



	ental Mol						
EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
4.5.2.4	3.2	<ul> <li>The following noise reduction measures shall be considered as far as practicable during operation:</li> <li>Choose quieter plant such as those which have been effectively silenced;</li> <li>Include noise levels specification when ordering new plant (including chillier and E/M equipment);</li> <li>Locate fixed plant/louver away from any NSRs as far as practicable;</li> <li>Locate fixed plant in walled plant rooms or in specially designed enclosures;</li> <li>Locate noisy machines in a basement or a completely separate building;</li> <li>Install direct noise mitigation measures including silencers, acoustic louvers and acoustic enclosure where necessary; and</li> <li>Develop and implement a regularly scheduled plant maintenance programme so that equipment is properly operated and serviced in order to maintain a controlled level of noise.</li> </ul>	To minimize the fixed plant noise impact	Managing Authority of the buildings / Contractor	BCP, Administration Building and all ventilation buildings	Before Operation	EIAO and NCO
Water Qu	ality Impa	ct (Construction)					
5.6.1.1	4.1	<ul> <li>Construction site runoff and drainage</li> <li>The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts:</li> <li>At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system should be</li> </ul>	To control site runoff and drainage; prevent high sediment loading from reaching the nearby watercourses	Contractor	Construction Works Sites	Construction Phase	Practice Note for Professional Persons on Construction Site Drainage (ProPECC Note PN 1/94)

The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas.

construction.



What requirements or standards for the measure to achieve?
acineve?



EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns	Who to implement the	Location of the measure	When to implement the measure?	What requirements or standards for the measure to
			to address	measure ?			achieve?
		the erosive potential of surface water flows.					

All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.

- Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.
- Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers.
- Precautions should be taken at any time of the year when rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.
- Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.

5.6.1.1	4.1	Good site practices for works within water gathering grounds	To minimize water	Contractor	Construction	Construction	ProPECC Note PN
		The following conditions should be complied, if there is any works to be	quality impacts to		Works Sites	Phase	1/94
		carried out within the water gathering grounds:	the water gathering		within the water		
			grounds		gathering		

255228/ENL/ENL/61/C December 2010



Environme	ental Monii	loring and Audit Manual	Objectives of the				
EIA Ref.	EM&A	Recommended Mitigation Measures	Recommended Measure	Who to implement the measure?	Location of the	When to implement the	What requirements or standards for the
	nei.		& Main Concerns to address		measure	measure?	achieve?
		<ul> <li>Adequate measures should be implemented to ensure no pollution or siltation occurs to the catchwaters and catchments.</li> </ul>			grounds		
		<ul> <li>No earth, building materials, oil or fuel, soil, toxic materials or any materials that may possibly cause contamination to water gathering grounds are allowed to be stockpiled on site.</li> </ul>					
		<ul> <li>All surplus spoil should be removed from water gathering grounds as soon as possible.</li> </ul>					
		<ul> <li>Temporary drains with silt traps should be constructed at the site boundary before the commencement of any earthworks.</li> </ul>					
		<ul> <li>Regular cleaning of silt traps should be carried out to ensure proper operation at all time.</li> </ul>					
		<ul> <li>All excavated or filled surfaces which have the risk of erosion should always be protected form erosion.</li> </ul>					
		<ul> <li>Facilities for washing the wheels of vehicles before leaving the site should be provided.</li> </ul>					
		<ul> <li>Any construction plant which causes pollution to catchwaters or catchments due to the leakage of oil or fuel should be removed off site immediately.</li> </ul>					
		No maintenance activities which may generate chemical wastes should be undertaken in the water gathering grounds. Vehicle maintenance should be confined to designated paved areas only and any spillages should be cleared up immediately using absorbents and waste oils should be collected in designated tanks prior to disposal off site. All storm water run-off from these areas should be discharged via oil/petrol separators and sand/silt removal traps.					
		<ul> <li>Any soil contaminated with fuel leaked from plant should be removed off site and the voids arising from removal of contaminated soil should be replaced by suitable material approved by the Director of Water Supplies.</li> </ul>					
		<ul> <li>Provision of temporary toilet facilities and use of chemicals or insecticide of any kind are subject to the approval of the Director of Water Supplies.</li> </ul>					

Drainage plans should be submitted for approval by the Director of



EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		Water Supplies.					
		<ul> <li>An unimpeded access through the waterworks access road should always be maintained.</li> </ul>					
		<ul> <li>Earthworks near catchwaters or streamcourses should only be carried out in dry season between October and March,</li> </ul>					
		<ul> <li>Advance notice must be given before the commencement of works on site quoting WSD's approval letter reference.</li> </ul>					
5.6.1.2	4.1	Good site practices of general construction activities	To minimize water	Contractor	All construction	Construction phase	EIA Recommendation
		Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby stormwater drain. Stockpiles of cement and other construction materials should be kept covered when not being used.	quanty impacts				
		Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby stormwater drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.					
5.6.1.3	4.1	Sewage effluent from construction workforce	To minimize water	Contractor	All construction	Construction	EIA Recommendation
		Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	quality impacts		works sites with on-site sanitary facilities	phase	and Water Pollution Control Ordinance (WPCO)
5.6.1.4	4.1	Hydrogeological Impact	To minimize water	Contractor	Construction	Construction	EIA Recommendation
		Grout injection works would be conducted before blasting, for sealing a limited area around the tunnel with a grout of a suitable strength for controlling the potential groundwater inflows. The pre-injection grouting method would be supplemented by post-injection grouting where necessary to further enhance the groundwater inflow control. On-site treatment for the groundwater ingress pumped out would be required to remove any contamination by grouting materials before discharge off-site.	quality impacts		works sites of the drill and blast tunnel	phase	and WPCO
Water Qua	ality Impa	ct (Operation)					
		No mitigation measure is required.					



EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
Sewage a	nd Sewera	de Treatment Impact (Construction)	to address				
6.7	5	The sewage generated by the on-site workforce should be collected in chemical toilets and disposed of off-site by a licensed waste collector.	To minimize water quality impacts	Contractor	All construction works sites with on-site sanitary facilities	Construction phase	EIA recommendation and WPCO
<u>Sewage a</u>	nd Sewera	ge Treatment Impact (Operation)					
6.6.3	5	Sewage generated by the BCP and Chuk Yuen Village Resite will be collected and treated by the proposed on-site sewage treatment facility using Membrane Bioreactor treatment with a portion of the treated wastewater reused for irrigation and flushing within the BCP.	To minimize water quality impacts	DSD	BCP	Operation phase	EIA recommendation and WPCO
6.5.3	5	Sewage generated from the Administration Building will be discharged to the existing local sewerage system.	To minimize water quality impacts	DSD	Administration Building	Operation phase	EIA recommendation and WPCO
Waste Ma	nagement	Implication (Construction)					
7.6.1.1	6	<b>Good Site Practices</b> Adverse impacts related to waste management such as potential hazard, air, odour, noise, wastewater discharge and public transport as mentioned in section 3.4.7.2 (ii)(c) of the Study Brief are not expected to arise, provided that good site practices are strictly followed. Recommendations for good site practices during the construction activities include:	To minimize adverse environmental impact	Contractor	Construction works sites (general)	Construction Phase	EIA recommendation; Waste Disposal Ordinance; Waste Disposal (Chemical Wastes) (General) Regulation; and ETWB TC(W) No. 19/2005, Environmental Management on Construction Site
		Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site					
		<ul> <li>Training of site personnel in proper waste management and chemical handling procedures</li> </ul>					
		<ul> <li>Provision of sufficient waste disposal points and regular collection of waste</li> </ul>					
		<ul> <li>Dust suppression measures as required under the Air Pollution Control (Construction Dust) Regulation should be followed as far as practicable. Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by covering trucks or in enclosed containers</li> </ul>					
		<ul> <li>General refuse shall be removed away immediately for disposal. As</li> </ul>					



EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		such odour is not anticipated to be an issue to distant sensitive receivers					
		<ul> <li>Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction from public road</li> </ul>					
		<ul> <li>Covers and water spraying system should be provided for the stockpiled C&amp;D material to prevent dust impact or being washed away</li> </ul>					
		<ul> <li>Designate different locations for storage of C&amp;D material to enhance reuse</li> </ul>					
		Well planned programme for transportation of C&D material to lessen the off-site traffic impact. Well planned delivery programme for offsite disposal and imported filling material such that adverse noise impact from transporting of C&D material is not anticipated					
		<ul> <li>Site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be adopted as far as practicable, such as cleaning and maintenance of drainage systems regularly</li> </ul>					
		<ul> <li>Provision of cover for the stockpile material, sand bag or earth bund as barrier to prevent material from washing away and entering the drains</li> </ul>					
7.6.1.2	6	Waste Reduction Measures	To reduce the quantity of wastes	Contractor	Construction works sites (General)	Construction Phase	EIA recommendation and Waste Disposal Ordinance
		Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:					
		<ul> <li>Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal</li> </ul>					
		Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force					
		<ul> <li>Proper storage and site practices to minimise the potential for damage or contamination of construction materials</li> </ul>					
		Plan and stock construction materials carefully to minimise amount					



EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		of waste generated and avoid unnecessary generation of waste					
		<ul> <li>In addition to the above measures, specific mitigation measures are recommended below for the identified waste arising to minimise environmental impacts during handling, transportation and disposal of these wastes.</li> </ul>					
7.6.1.3	6	C&D Materials	To minimize impacts resulting from C&D material	Contractor	Construction Works Sites (General)	Construction Phase	EIA recommendation; Waste Disposal Ordinance; and ETWB TCW No. 31/2004
		In order to minimise impacts resulting from collection and transportation of C&D material for off-site disposal, the excavated materials should be reused on-site as backfilling material as far as practicable. The surplus rock and other inert C&D material would be disposed of at the Government's Public Fill Reception Facilities (PFRFs) at Tuen Mun Area 38 for beneficial use by other projects in the HKSAR as the last resort. C&D waste generated from general site clearance and tree felling works would require disposal to the designated landfill site. Other mitigation requirements are listed below:					
		<ul> <li>A Waste Management Plan should be prepared and implemented in accordance with ETWB TC(W) No. 19/2005 Environmental Management on Construction Site; and</li> </ul>					
		In order to monitor the disposal of C&D material and solid wastes at public filling facilities and landfills, and to control fly-tipping, a trip-ticket system (e.g. ETWB TCW No. 31/2004) should be included.					
7.6.1.4	6	General refuse	To minimize impacts resulting from collection and transportation of general refuse for off-site disposal	nize Contractor resulting lection and tation of refuse for lisposal	Construction works sites (General)	Construction phase	Waste Disposal Ordinance and Public Health and Municipal Services Ordinance - Public Cleansing and Prevention of Nuisances Regulation
		General refuse should be stored in enclosed bins or compaction units separated from other C&D material. A reputable waste collector is to be employed by the Contractor to remove general refuse from the site separately. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' litter.					
7.6.1.5	6	Chemical waste	To minimize impacts resulting from collection and transportation of chemical waste for off-site disposal	Contractor ng and of for I	Construction works sites (General)	Construction phase	Waste Disposal (Chemical Waste) (General) Regulation and Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
		If chemical wastes are produced at the construction site, the Contractor will be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the <i>Code of Practice on the</i> <i>Packaging, Labelling and Storage of Chemical Wastes.</i> Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical					



### Appendix N

### **Investigation Report for Exceedance**



То	Mr. Vincent Chan	Fax No	By e-ma	ail		
Company	CRBC-CEC-Kaden JV					
сс						
From	Nicola Hon	Date	16 March 2016			
Our Ref	TCS00694/13/300/ <b>F0180a</b>	No of Pages	9	(Incl. cover sheet)		
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM2B on 2 and 3 March 2016					

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref.: TCS00694/13/300/F0153 dated 2 March 2016, TCS00694/13/300/F0157 dated 3 March 2016 and TCS00694/13/300/F0173 dated 11 March 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c.

Mr. David Chan (EPD)	Fax:	2685 1155
Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
Mr. Antony Wong (IEC, SMEC)		By email
# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works <u>Investigation Report on Action or Limit Level Non-compliance</u>



Prepared By :	Nicola Hon		
Designation :	Environmental Consultant		
Signature :			
Date :	16 March 2016		



### **Photo Record**



#### Photo 1

Muddy water was observed at WM2B and throughout the open channel on 2 March 2016.





Photo 2

The water samples collected at WM2B on 2 March 2016 was turbid.



#### Photo 3

A pipe carrying wastewater from bored piling to the nearest AquaSed was burst on 2 March 2016 morning and the untreated wastewater water were getting into the open channel accidently. Photo 4

The muddy water in the open channel was pumped back to the AquaSed for treatment and recirculated for bored piling.



#### Photo 5

Channel clearing was immediately carried out and muddy water in the open channel was pumped back to the AquaSed for treatment and recirculated for bored piling.



## Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control



# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works <u>Investigation Report on Action or Limit Level Non-compliance</u>

Duciest		CE 45/2009			
Project Doto		CE 45/2008			
Lacotion		3 Marc	3 March 2016		
Time	<u>9:30</u>				
Parameter		7.50 Turbidity (NTLI) Suspended Solids (mg/L)			
1 ur unieter		11 4 AND 120% of upstream	11.8 AND 120% of unstream		
Action Lev	el	control station of the same day	control station of the same day		
Limit Leve	l	12.3 AND 130% of upstream control station of the same day	12.4 AND 130% of upstream control station of the same day		
Measured	WM2B-C	3.9	3.0		
Levels	WM2B	20.7	21.0		
Exceedance	9	Limit Level	Limit Level		
Investigation Recommen Mitigation	on Kesults, dations & Measures	<ol> <li>According to the site information provided from the CCKJW construction activities carried out on 3 March 2016 at North Portal (upstream of WM2B) were bored piling and slope work. The monitoring locations and works area are shown in Figure 1.</li> <li>According to the site record from the monitoring team during monitoring on 3 March 2016, very shallow water wa measured at WM2B and the water depth was around 0.04m (Photo 1) Although cumulated silt was observed at the channel bed, the water flowing in the channel and the water flowing in the channel and the water flowing in the channel and the site flowing in the channel</li></ol>			
		<ol> <li>Since the water sampling was carried out at the bridge over the drainage channel at shallow water, the sampled water could not avoid inclusion of the loose sediment and debris.</li> <li>As advised by the CCKJV, the wastewater generated from the bored piling was recirculated and no discharge was made. As water mitigation measures, sump pits were constructed under the slopes to divert the site runoff for temporary storage and primarily desilting before divert to the AquaSed. Moreover, the slopes adjacent to channel were covered with tarpaulin sheet and hydro-seeding was carried out on the stabilized slope to minimize muddy runoff.</li> <li>There were no rains recorded on 3 March 2016, therefore,</li> </ol>			
		<ol> <li>There were no rains recorded on 3 March 2016, therefore, generation of muddy runoff from the site was not likely to occur. In our investigation, it is considered that the exceedances were due to the shallow water and the disturbance of sediment at river bed.</li> <li>According to the Event and Action, the monitoring frequency at WM2B has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. Additional monitoring was carried out on 4 March 2016 and turbidity exceedance was triggered too. Although the exceedance was concluded as not project related. CCK IV should continue fully implement the water</li> </ol>			



mitigation measures as recommended in the implementation schedule for environmental mitigation measures in the EM&A Manual.

Prepared By :	Nicola Hon		
Designation :	Environmental Consultant		
Signature :	Aul.		
Date :	16 March 2016		



## **Photo Record**









Mr. Vincent Chan	Fax No	By e-mail		
CRBC-CEC-Kaden JV				
Nicola Hon	Date	16 March 2016		
TCS00694/13/300/ <b>F0181a</b>	No of Pages	8	(Incl. cover sheet)	
Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM2B on 4 and 5 March 2016				
	Mr. Vincent Chan CRBC-CEC-Kaden JV Nicola Hon TCS00694/13/300/F0181a Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary C Investigation Report of Exceedance of W March 2016	Mr. Vincent ChanFax NoCRBC-CEC-Kaden JVImage: CRBC-CEC-Kaden JVNicola HonDateTCS00694/13/300/F0181aNo of PagesAgreement No. CE 45/2008No of PagesLiantang/ Heung Yuen Wai Boundary Control Point a Investigation Report of Exceedance of Water Quality a March 2016	Mr. Vincent ChanFax NoBy e-maCRBC-CEC-Kaden JVIINicola HonDateITCS00694/13/300/F0181aNo of Pages8Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associ Investigation Report of Exceedance of Water Quality at Location March 20168	

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref.: TCS00694/13/300/F0158 dated 4 March 2016 and TCS00694/13/300/F0163 dated 7 March 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c. Mr. David Chan (EPD) Fax: 2685 1155 Mr. Simon Leung (ER of C6/ AECOM) Fax: 2251 0698 Mr. Antony Wong (IEC, SMEC) By email

# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works <u>Investigation Report on Action or Limit Level Non-compliance</u>

Project		CE 45/2008			
Date		4 March 2016			
Location		WM2B			
Time		10:21			
Parameter		Turbidity (NTU)			
Action Leve	el	11.4 AND 120% of upstream control station of the same day			
Limit Leve		12.3 AND 130% of upstream control station of the same day			
Measured	WM2B-C	9.5			
Levels	WM2B	24.1			
Exceedance	9	Limit Level			
Measured       WM2B-C       9.5         Levels       WM2B       24.1         Exceedance       Limit Level         Investigation Results, Recommendations & Mitigation Measures       1. According to the site information provided from construction activities carried out on 4 March 2016 (upstream of WM2B) were bored piling and sk monitoring locations and works area are shown in Figu         2. According to the site record from the monitorin monitoring on 4 March 2016, very shallow water w WM2B and the water depth was around 0.01m. (Pho cumulated silt was observed at the channel bed, they the channel and the samples collected at WM2B was (Photo 2) Since the water sampling was carried on over the drainage channel at shallow water, the samp not avoid inclusion of the loose sediment and debris.         3. As advised by the Contractor, the wastewater geme bored pile works was recirculated to the AquaSed for discharge would be made when the effluent is ove AquaSed. Since discharge license was not yet g Contract, self-monitoring for the effluent quality wou by the Contractor if discharge is required to ensur effluent complied with the relevant requirements. A self-monitoring record by the Contractor on 4 March 1 water in the AquaSed was visually acceptable. (Photo 2 4. There were no rains recorded on 4 March 2016, there of muddy runoff from the site was not likely to investigation, it is considered that the exceedances v shallow water and the disturbance of sediment at river 5. According to the Event and Action, the monitorin WM2B has been increase to daily due to the limit le recorded until no exceedances were triggered in cc Additional monitoring was carried out on 5 March 20 exceedances were triggered. CCKJV should implement the water mitigation measures as recon		<ol> <li>According to the site information provided from the CCKJV, construction activities carried out on 4 March 2016 at North Portal (upstream of WM2B) were bored piling and slope work. The monitoring locations and works area are shown in Figure 1.</li> <li>According to the site record from the monitoring team during monitoring on 4 March 2016, very shallow water was measured at WM2B and the water depth was around 0.01m. (Photo 1) Although cumulated silt was observed at the channel bed, the water flowing in the channel and the samples collected at WM2B was visually clear. (Photo 2) Since the water sampling was carried out at the bridge over the drainage channel at shallow water, the sampled water could not avoid inclusion of the loose sediment and debris.</li> <li>As advised by the Contractor, the wastewater generated from the bored pile works was recirculated to the AquaSed for treatment and discharge would be made when the effluent is overflow from the AquaSed. Since discharge license was not yet granted for the Contract, self-monitoring for the effluent quality would be conducted by the Contractor if discharge is required to ensure the discharge effluent complied with the relevant requirements. According to the self-monitoring record by the Contractor on 4 March 2016 the treated water in the AquaSed was visually acceptable. (Photo 3)</li> <li>There were no rains recorded on 4 March 2016, therefore, generation of muddy runoff from the site was not likely to occur. In our investigation, it is considered that the exceedances were due to the shallow water and the disturbance of sediment at river bed.</li> <li>According to the Event and Action, the monitoring frequency at WM2B has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. Additional monitoring was carried out on 5 March 2016 and turbidity exceedances were triggered. CCKJV should continue fully implement the water mitigation measures as recommended in the implem</li></ol>			
		EM&A Manual.			
Prepared By	•	Nicola Hon			
Designation	: <u>E</u>	nvironmental Consultant			
Signature :		Au G			

Date :

16 March 2016



## **Photo Record**



### Photo 1

During water sampling on 4 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.



Photo 2

The water samples collected at WM2B on 4 March 2016 was visually clear.



**Photo 3** The treated water in the AquaSed was visually clear on 4 March 2016.







## Agreement No. CE 45/2008

# Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works

# Investigation Report on Action or Limit Level Non-compliance

Project		CE 45/2008	
Date		5 March 2016	
Location		WM2B	
Time		10:55	
Parameter		Turbidity (NTU)	
Action Lev	el	11.4 AND 120% of upstream control station of the same day	
Limit Leve	1	12.3 AND 130% of upstream control station of the same day	
Measured	WM2B-C	2.6	
Levels	WM2B	40.2	
Exceedance	e	Limit Level	
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 5 March 2016 at North Portal (upstream of WM2B) were bored piling and slope work. The monitoring locations and works area are shown in Figure 1.	
		2. According to the site record from the monitoring team during monitoring on 5 March 2016, very shallow water was measured at WM2B and the water depth was around 0.01m. (Photo 1) The water flowing in the channel and the samples collected at WM2B was slightly turbid. (Photo 2) Since the water sampling was carried out at the bridge over the drainage channel at shallow water, the sampled water could not avoid inclusion of the loose sediment and debris.	
		3. As advised by the CCKJV, channel clearing was carried out on 5 March 2016 to remove the silt cumulated at the channel bed. The turbid water in the open channel was pumped back to the AquaSed for treatment and recirculated for bored piling. However, the silt cumulated at the river bed was difficult to remove completely. During channel clearing, sand bag barrier was provided in the channel to prevent the turbid water flowing further downstream, however, part of the turbid water was flowing out of the site and detected at WM2B. (Photo 3)	
		4. In our investigation, it is considered that the exceedance was due to the channel cleaning. CCKJV should to ensure the turbid water at the adjacent open channel was entirely blocked by the sand bag barrier or other means to prevent it flowing further downstream before carry out the channel cleaning.	
		5. According to the Event and Action, the monitoring frequency at WM2B has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. Additional monitoring was carried out on 7 March 2016 no exceedances were triggered. However, CCKJV is reminded continue fully implement the water	



mitigation measures as recommended in the implementation
schedule for environmental mitigation measures in the
EM&A Manual.

Prepared By :	Nicola Hon		
Designation :	Environmental Consultant		
Signature :	Aul.		
Date :	16 March 2016		



## **Photo Record**





Photo 1	Photo 2		
During water sampling on 5 March 2016, shallow	The water samples collected at WM2B on 5 March		
quality at WM2B was slightly turbid.	2016 was slightly turbid.		
Photo 3			
Channel cleaning at the open channel was carried			
on 5 March 2016.			







То	Mr. Edwin Au	Fax No	2403 1	162
Company	Sang Hing Civil – Richwell Machinery	JV		
cc				
From	Nicola Hon	Date	23 March 2016	
Our Ref	TCS00694/13/300/ <b>F0183a</b>	No of Pages	6	(Incl. cover sheet)
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Investigation Report of Exceedance of March 2016 (Contract 5)	Control Point f Water Quality	and Asso y at Loca	ociated Works ntion WM1 on 4 and 9
If you do not	receive all pages or transmission is illegible please	contact the origina	tor on (852)	2959-6059 to re-send Show

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Dear Sir,

Further to the following Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0162 dated 7 March 2016 TCS00694/13/300/F0170 dated 9 March 2016 TCS00694/13/300/F0175 dated 11 March 2016.

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Kelvin Lee (ER, AECOM)	Fax:	2674 7732
	Mr. Antony Wong (IEC, SMEC)		By email



# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works <u>Investigation Report on Action or Limit Level Non-compliance</u>

Project		CE 45/2008				
Date		4 March 2016	9 March 2016	4 March 2016	9 March 2016	
Location			V	VM1		
Time		11:35	11:00	11:35	11:00	
Parameter		Turbidity	r (NTU)	Suspended	Solids (mg/L)	
Action Lev	el	51.3 AND 1209 control station of	% of upstream the same day	54.5 AND 120% station of the sam	54.5 AND 120% of upstream control station of the same day	
Limit Leve	1	67.6 AND 1309 control station of	% of upstream the same day	64.9 AND 130% station of the sam	of upstream control e day	
Measured	WM1-C	9.1	23.0	2.5	11.0	
Levels	WM1	146.0	82.7	185.5	51.0	
Exceedance	e	Limit Level	Limit Level	Limit Level	NO exceedance	
Results, Recommen & M Measures	dations Aitigation	<ol> <li>According to construction Road. (Figu abovemention at Boundary Q</li> <li>According to monitoring of whereas the v</li> <li>According to monitoring of whereas the v</li> <li>On 9 Ma WM1-C and V</li> <li>During site in March 2016, 7 &amp; 8) Mon carried out a investigation, to the Contract</li> <li>According to WM1 has be recorded unti Additional m which turbidi 2016. SRJV measures as environmenta</li> </ol>	<ol> <li>According to the site information provided from the construction activities carried out on 4 and 9 March 20 construction of u-channel and bituminous laying at Lin M Road. (Figure 1) No wastewater was generated fr abovementioned work and no construction activities were c at Boundary Control Point (BCP) which near Kong Yiu Kong 2. According to the site record from the monitoring team monitoring on 4 March 2016, turbid water was observed whereas the water quality at WM1-C was visually clear. (PI 3) On 9 March 2016, slightly turbid water was observed WM1-C and WM1. (Photo 4 to 6)</li> <li>During site inspection by the RE, IEC, SRJV and ET on March 2016, no adverse water quality impact was observed. 7 &amp; 8) Moreover, there were no wastewater generation carried out and no discharge made into the river course. investigation, it is considered that the exceedances were unlit to the Contract.</li> <li>According to the Event and Action, the monitoring freq WM1 has been increase to daily due to the limit level ex recorded until no exceedances were triggered in consecut Additional monitoring was carried out on 5 and 10 March which turbidity and SS exceedances were triggered on 1 2016. SRJV should continue fully implement the water no state.</li> </ol>		from the SRJV, March 2016 were g at Lin Ma Hang nerated from the ies were conducted g Yiu Kong. oring team during observed at WM1 y clear. (Photo 1 to s observed at both and ET on 1 and 8 observed. (Photo generation activities rer course. In our s were unlikely due oring frequency at it level exceedance a consecutive days. 10 March 2016 in gered on 10 March he water mitigation ation schedule for Manual.	



Prepared By :	Nicola Hon	
Designation :	Environmental Consultant	
Signature :	Aul	
Date :	23 March 2016	_



## **Photo Record**







**Photo 2** During water sampling on 4 March 2016, the water quality at WM1-C was visually clear



Photo 3 The water samples collected at WM1 on 4 March 2016 were slightly turbid.



**Photo 4** During water sampling on 9 March 2016, slightly turbid water was observed at WM1.





**Photo 5** During water sampling on 9 March 2016, the water quality at WM1-C was slightly turbid.



Photo 6 The water samples collected at both WM1-C and WM1 on 9 March 2016 were slightly turbid.





Photo 7 During site inspection on 1 March 2016, construction of u-channel was observed. No adverse water quality impact was noted. Photo 8 During site inspection on 8 March 2016, construction of u-channel was observed. No adverse water quality impact was noted.



Figure 1 Location Map

Z:\Jobs\2013\TCS00694\300\NOE\IR\F0183a.doc Action-United Environmental Services & Consulting



То	Mr. Vincent Chan	Fax No	By e-m	ail
Company	CRBC-CEC-Kaden JV			
сс				
From	Nicola Hon	Date	23 Marc	h 2016
Our Ref	TCS00694/13/300/ <b>F0184b</b>	No of Pages	5	(Incl. cover sheet)
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary ( Investigation Report of Exceedance of March 2016 (Contract 6)	Control Point a Water Quality	and Assoc at Locat	iated Works ion WM1 on 4 and 9
If you do not	receive all pages or transmission is illegible please of	contact the originat	or on (852) 2	2959-6059 to re-send Shoul

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Dear Sir,

Further to the following Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0161 dated 7 March 2016 TCS00694/13/300/F0171 dated 9 March 2016 TCS00694/13/300/F0174 dated 11 March 2016.

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
	Mr. Antony Wong (IEC, SMEC)		By email

# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works <u>Investigation Report on Action or Limit Level Non-compliance</u>

Prepared By :	Nicola Hon
<b>Designation</b> :	Environmental Consultant
Signature :	Auli
Date :	23 March 2016



### **Photo Record**



#### Photo 1

During water sampling on 4 March 2016, turbid water was observed at WM1.



#### Photo 3

The water samples collected at WM1 on 4 March 2016 were slightly turbid.



**Photo 2** During water sampling on 4 March 2016, the water quality at WM1-C was visually clear



## Photo 4

During water sampling on 9 March 2016, slightly turbid water was observed at WM1.



**Photo 5** During water sampling on 9 March 2016, the water quality at WM1-C was slightly turbid.



**Photo 6** The water samples collected at both WM1-C and WM1 on 9 March 2016 were slightly turbid.



## Photo 7

During water sampling on 4 March 2016, turbid water was observed at upstream of the works area of Contract 6. (works area of Contract 6 is after the Bridge)



### Photo 8

During water sampling on 9 March 2016, turbid water was observed at upstream of the works area of Contract 6. (works area of Contract 6 is after the Bridge)



### Photo 9

The wastewater generated from the bored pile works was recirculated to the AquaSed for treatment and discharge would be made when the effluent is overflow from the AquaSed.





Figure 1 Location Map for Water Quality Monitoring Locations WM1 and WM1-C

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То	Mr. Jon Kitching	Fax No	2743 160	00
Company	Leighton Contractors (Asia) Limited			
сс				
From	Nicola Hon	Date	15 March	2016
Our Ref	TCS00769/15/300/ <b>F0066</b>	No of Pages	8	(Incl. cover sheet)
RE	Architectural Services Department (ArchSD) Contract No: SS C505 Construction of Liantang/Heung Yuen Wai Boundary Control Point (BCP) – BCP Buildings and Associated Facilities			
	Investigation Report for Exceedance of on 4 and 9 March 2016	Water Quality	Monitoria	ng at Location WM1

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:-

TCS00769/15/300/F0056 dated 7 March 2016 TCS00769/15/300/F0062 dated 9 March 2016 TCS00769/15/300/F0064 dated 11 March 2016

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

c.c.

Nicola Hon Environmental Consultant Encl.

Mr. David Chan (EPD)	Fax:	2685 1155
Mr. William WL Cheng (ASD)		By e-mail
Mr. Justin Cheung (Ronald Lu)		By e-mail
Mr. Antony Wong (IEC, SMEC)		By e-mail
Mr. Simon Leung (ER, AECOM)	Fax:	2674 7732

# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works

Project			CE 45/20	008		
Contract			<u>SS C50</u>	5		
Monitoring	Location			5		
Date	Location	4 March 2016	9 March 2016	4 March 2016	9 March 2016	
Time		11.35	11.00	11.35	11.00	
Parameter		Turbidity (	NTU)	Suspended S	Solids (mg/L)	
		51 3 AND 120% of u	pstream control	54 5 AND 120	% of unstream	
Action Leve	el	station of the s	ame day	control station	of the same day	
		67.6 AN	ID J	64.9	AND	
Limit Level		130% of upstream con	trol station of the	130% of upstream control station		
	1	same da	ay	of the s	ame day	
Measured	WM1-C	9.1	23.0	2.5	11.0	
levels	WM1	146.0	82.7	185.5	51.0	
Exceedance	:	Limit Level	Limit Level	Limit Level	NO exceedance	
Investigatio	n	1. According to the s	ite information pro	ovided by the Con	tractor, the major	
Results,		construction activi	ties carried out c	on 4 and 9 Marc	h 2016 included	
Recommend	dations &	excavation, formw	ork erection, soil	compaction, drive	en pile and bored	
Miligation	vieasures	piling which are il	llustrated in Figur	e 1. It is noted	that the majority	
		active construction	area were not clos	ed to Kong Yiu R	iver. (Figure 2)	
		2. According to the fi	eld data record by	ET on 4 and 9 Ma	arch 2016, cloudy	
		water was observe	d at WM1 wherea	s the water qualit	v at WM1-C was	
		visually clear (Pho	to $1$ to $6$ )		,	
		2 In view of the construction activities on 4 and 0 March 2016 and				
		5. In view of the C	Sistinction activit.	tes on 4 and 9	during the bored	
			onitiacion, wastewa	ater was generated	during the poled	
		pining work only	and the wastewat	er was recirculate	su for the pring	
		work used. If v	water discharge i	s required, they	will follow the	
		the nonimaton show	mage plan in which	in wastewater wot	lid be diverted to	
		the perimeter char	the fame discharge	(Eigener 2) It	ewater treatment	
		plant for treatmen	t before discharge	e. (Figure 3) It	is noted that the	
		discharge point co		anage was local	at the west of	
		the site and the	discharge water v	vould not flow t	o wivil and its	
		upstream. (Figure 2	5)			
		4. During site inspect	tion on 2 and 9 Ma	arch 2016, it was	observed that the	
		perimeter channel	and the wastewate	r treatment faciliti	es were in proper	
		function. (Photo 7	& 9) The effluer	nt from the Aqua	Sed on 2 March	
		2016 was visually	clear whereas no	discharge was n	hade on 9 March	
		2016. (Photo 8 & 1	10) Moreover, no	o major water imp	act was observed	
		during site inspecti	on on 2 and 9 Mar	ch 2016.		
		5. In view of the topo	graphy of the cons	struction site, the f	ormation level of	
		the site is lower t	han the roads bou	inding the site (a	round 2m height	
		difference), it is co	onsidered that the	wastewater genera	ted on-site is not	
		likely flowing out	of the site bounda	ry. (Photo 11) A	as advised by the	
		Contractor, around	90% of treated w	ater is reused on-s	site (water spread	
		for dust suppressi	on) whereas the	rest of the treat	ment wastewater	
		would be discharge	e off site at the app	roval discharge po	vint.	

## Investigation Report on Action or Limit Level Non-compliance



	6. There were no exceedances triggered in the subsequent monitoring		
	result after 5 and 7 March 2016 and 11 and 12 March 2016. According		
	to the above investigation, it is considered that the exceedances were not		
	likely related to the works under the Contract.		
Action to be taken	The Contractor is reminded to fully implement the water mitigation measures as recommended in the implementation schedule for environmental mitigation measures in the EM&A Manual.		

Prepared By :	Nicola Hon
Designation :	Environmental Consultant
Signature :	Anh
Date :	15 March 2016





### Photo 1

Cloudy water was observed at WM1 on 4 March 2016.



## Photo 3

The water collected at WM1 on 4 March 2016 was slightly cloudy.



# Photo 5 Clear water was observed at WM1-C on 9 March 2016.



**Photo 2** Clear water was observed at WM1-C on 4 March 2016.



# Photo 4

Cloudy water was observed at WM1 on 9 March 2016.



**Photo 6** The water collected at WM1 on 9 March 2016 was slightly cloudy.



### Photo 7

During site inspection on 2 March 2016, the perimeter channel was in proper function.



## Photo 8

During site inspection on 2 March 2016, it was observed that the effluent from the AquaSed was visually clear.



Photo 9

During site inspection on 9 March 2016, the perimeter channel was in proper function.



### Photo 10

During site inspection on 9 March 2016, there was no discharge observed from the wastewater treatment system.



### Photo 11

Temporary drainage channel has been constructing at the periphery of the site and the formation level of the site is lower than the roads bounding the site









Mr. Vincent Chan	Fax No	By e-ma	ail	
CRBC-CEC-Kaden JV				
Nicola Hon	Date	17 March 2016		
TCS00694/13/300/ <b>F0190</b>	No of Pages	6	(Incl. cover sheet)	
Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM2B on 8, 9 and 10 March 2016				
	Mr. Vincent Chan CRBC-CEC-Kaden JV Nicola Hon TCS00694/13/300/F0190 Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary O Investigation Report of Exceedance of W 10 March 2016	Mr. Vincent ChanFax NoCRBC-CEC-Kaden JVImage: CRBC-CEC-Kaden JVNicola HonDateTCS00694/13/300/F0190No of PagesAgreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point a Investigation Report of Exceedance of Water Quality a 10 March 2016	Mr. Vincent ChanFax NoBy e-mathematical stress of the stress of th	

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:

TCS00694/13/300/F0168 dated 9 March 2016 TCS00694/13/300/F0169 dated 10 March 2016 TCS00694/13/300/F0176 dated 11 March 2016. TCS00694/13/300/F0185 dated 16 March 2016. TCS00694/13/300/F0186 dated 16 March 2016.

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
	Mr. Antony Wong (IEC, SMEC)		By email


# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works

Project				CE 45/2	2008			
Date		8 March 2016	9 March 2016	10 March 2016	8 March 2016	9 March 2016	10 March 2016	
Location				WM2	2B			
Time		11:10	11:52	14:19	11:10	11:52	14:19	
Parameter		Τι	ırbidity (NTI	J)	Susp	ended Solid	s (mg/L)	
Action Level		11.4 AND 1 statio	20% of upstrong of the same	eam control e day	11.8 A control	11.8 AND 120% of upstream control station of the same day		
Limit Leve	1	12.3 AND 1 statio	30% of upstr n of the same	eam control e day	1 12.4 AND 130% of upstr control station of the sam		f upstream e same day	
Measured	WM2B-C	4.0	5.0	5.2	4.0	5.5	6.0	
Levels	WM2B	221.5	14.9	27.3	138.0	12.0	16.0	
Exceedance	e	Limit Level	Limit Level	Limit Level	Limit Level	Action Level	Limit Level	
Investigation Recommen Mitigation	on Results, dations & Measures	<ol> <li>Accordin construct Portal (u monitori</li> <li>Accordin</li> </ol>	ccording to the site information provided from the CCK. onstruction activities carried out on 8 to 10 March 2016 at No ortal (upstream of WM2B) were bored piling and slope work. The nonitoring locations and works area are shown in Figure 1.			the CCKJV, 016 at North pe work. The 1. team during		
		WM2B flowing slightly water wa and the (Photo 2 bridge o could no	and the wate in the chan turbid. (Phot as measured a water flow 3 to 5) Sin ver the drain of avoid inclu	ren 2010, ve r depth was a nel and the to 2) On 9 at WM2B and ring in the nee the water age channel a sion of the lo	around 0.0 samples of and 10 M d the water open char r sampling at shallow ose sedime	2 Water was 22m. (Photo collected at larch 2016, r depth was a nnel was v g was carrie water, the se ent and debr	1) The water WM2B was very shallow around 0.02m isually clear. ed out at the ampled water is.	
		3. As advised by the CCKJV, desilting of the open channel adjacent to the site was carried out during 8 to 10 March 2016 to remove the silt cumulated at the channel bed. (Photo 6) During the process of desilting, the turbid water inside in channel was blocked by the bar screen and sand bag barriers to prevent it flowing further downstream. Then, the turbid water in the open channel was pumped to the AquaSed for treatment and recirculated to the desilting works. The performance AquaSed was regularly checked by CCKJV to ensure it functioned properly. (Photo 7)						
		4. During desilting Althoug block th turbid w In our in the chan Contract desilting	site inspecti , of open of h stacks of s e turbid wate vater was flo nvestigation, nnel desiltin tor was advis g work and n	on on 10 M channel still and bag barr er, it only reta owing out of it is consider g. To enha sed to provide ninimize the	Aarch 201 carrying ier were p arded the f f the site red that th ance the r e more pow amount of	6, it was co out. (Pho rovided in the flow rate and and detected e exceedance mitigation mover pumps to turbid wate	observed that oto 8 & 9) he channel to d some of the d at WM2B. we was due to neasures, the o facilitate the r flowing out	

Investigation Report on Action or Limit Level Non-compliance



	of the site.
	5. According to the Event and Action, the monitoring frequency at
	WM2B has been increase to daily due to the limit level exceedance
	recorded until no exceedances were triggered in consecutive days.
	Additional monitoring was carried out on 11 March 2016 and
	turbidity and SS exceedances were triggered. CCKJV should
	continue fully implement the water mitigation measures as
	recommended in the implementation schedule for environmental
	mitigation measures in the EM&A Manual.

Prepared By :	Nicola Hon		
Designation :	Environmental Consultant		
Signature :	Aul.		
Date :	17 March 2016		



### **Photo Record**





#### Photo 2

The water samples collected at WM2B on 8 March 2016 was slightly turbid.



During water sampling on 8 March 2016, shallow water was observed at WM2B and the water

#### Photo 3

During water sampling on 9 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.



**Photo 5** During water sampling on 10 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.



### Photo 4

The water samples collected at WM2B on 9 March 2016 was visually clear.









#### Photo 9

During site inspection on 10 March 2016, it was observed desilting work at upstream portion was completed



Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control



То	Mr. Vincent Chan	Fax No	By e-ma	ail
Company	CRBC-CEC-Kaden JV			
сс				
From	Nicola Hon	Date	24 Marc	h 2016
Our Ref	TCS00694/13/300/ <b>F0192</b>	No of Pages	9	(Incl. cover sheet)
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary ( Investigation Report of Exceedance o WM2B on 11 March 2016	Control Point a f Water Qual	nd Associ ity at Lo	iated Works ocations WM2A and

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref.: TCS00694/13/300/F0179 dated 11 March 2016 and TCS00694/13/300/F0187 dated 16 March 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c. Mr. David Chan (EPD) Fax: 2685 1155 Mr. Simon Leung (ER of C6/ AECOM) Fax: 2251 0698 Mr. Antony Wong (IEC, SMEC) By email

# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works <u>Investigation Report on Action or Limit Level Non-compliance</u>

Project		CE 45/2008			
Date		11 March 2016			
Location		WM2B			
Time		11:04			
Parameter		Turbidity (NTU)	Suspended Solids (SS)		
		11 4 AND 120% of upstream control	11.8 AND 120% of upstream		
Action Level		station of the same day	control station of the same day		
		12.3 AND 130% of upstream control	12.4 AND 130% of upstream		
Limit Level		station of the same day	control station of the same day		
Measured V	WM2B-C	5.1	2.0		
Levels V	WM2B	87.6	70.0		
Exceedance		Limit Level	Limit Level		
Investigation Recommenda Mitigation M	Results, ations & [easures	<ol> <li>According to the site informatic construction activities carried out of (upstream of WM2B) were bord monitoring locations and works area</li> <li>According to the site record from monitoring on 11 March 2016, vere WM2B and the water depth was collected at WM2B was slightly turk</li> <li>As advised by the Contractor, desilt the site was carried out on 10 March remaining turbid water caused by channel was blocked by the bar so downstream. The turbid water wat treatment and recirculated to the bar water recirculation pump was accidentally and causing overflow screen to downstream. (Photo 3 an barrier was provided after the scr flowing to further downstream and of and water pipe and the function of the normal in the afternoon. It is conton single incident.</li> <li>According to the Event and Actif WM2B has been increase to daily recorded until no exceedances we Additional monitoring was carried exceedance was triggered. Never fully implement the water mitigation implementation schedule for environ EM&amp;A Manual.</li> </ol>	on provided from the CCKJV, on 11 March 2016 at North Portal ed piling and slope work. The a are shown in Figure 1. om the monitoring team during y shallow water was measured at around 0.02m and the samples bid. (Photo 1 & 2) ing of the open channel adjacent to ch 2016. On 11 March 2016, the to the desilting work in the open creen to prevent it flow to further s then pumped to the AquaSed for bored piling work. However, the detached from the water pipe of turbid water through the bar d 4) Although stack of sand bag reen bar, some turbid water was detected at WM2B. the detached recirculation pump the recirculation pump was back to cluded that the exceedances were a ton, the monitoring frequency at due to the limit level exceedance re triggered in consecutive days. I out on 12 March 2016 and no rtheless, CCKJV should continue n measures as recommended in the mental mitigation measures in the		
Prenared Rv •		Nicola Hon			
Designation .	E	wironmental Consultant			
Designation:	EI				
Signature :		Auh			
Date :		24 March 2016			



### **Photo Record**



#### Photo 1

During water sampling on 11 March 2016, shallow water was observed at WM2B and the water quality at WM2B was slightly turbid.



## Photo 2

The water samples collected at WM2Bon 11 March 2016 was slightly turbid.



### Photo 3

On 11 March 2016, the water recirculation pump was detached from the water pipe accidentally and causing overflow of turbid water through the bar screen to downstream.



**Photo 4** On 11 March 2016, the water recirculation pump was detached from the water pipe accidentally and causing overflow of turbid water through the bar screen to downstream.







# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report on Action or Limit Level Non-compliance

Project		CE 45/2008			
Date		11 March 2016			
Location		WM2A			
Time		10:30			
Parameter		Turbidity (NTU) Suspended Solids (mg/L)			
Action Lev	el	11.4 AND 120% of upstream control station of the same day11.6 AND 120% of upstream control station of the same day			
Limit Leve	1	12.3 AND 130% of upstream control station of the same day17.3 AND 130% of upstream control station of the same day			
Measured	WM2A-C	16.1 7.0			
Levels	WM2A	198.5 164.5			
Exceedance	ę	Limit Level Limit Level			
Investigatio Recommen Mitigation	on Results, dations & Measures	<ol> <li>According to the site information provided from the CCKJV, construction activities carried out on 11 March 2016 at Bridge D (upstream of WM2A) were mainly piling works. The monitoring locations and works area are shown in Figure 1.</li> <li>According to the site record from the monitoring team during monitoring on 11 March 2016, turbid water was observed at</li> </ol>			
		<ul> <li>3. As water mitigation measures, wastewater treatment facilities including one AquaSed and three series of sedimentation tank have been installed for piling work. (Photo 3 and 4) As advised by the Contractor, the wastewater generated from piling was recirculated and discharge could be made when water overflow from the AquaSed. Since discharge license was not yet granted for the Contract, self-monitoring for the effluent quality would be conducted by the Contractor if discharge is required to ensure the discharge effluent complied with the relevant requirements.</li> </ul>			
		<ol> <li>According to the photo record from the monitoring team on 11 March 2016, the condition of the water quality besides of Ping Yuen River of Bridge D was normal and no turbid water was observed. (Photo 5) Moreover, concrete block and sand bag act as a bund was provided at the area of the piling works besides of Ping Yuen River of Bridge D. (Photo 6) CCKJV advised that the construction of concrete bund will be continuously constructed along the piling area.</li> <li>Since there were no trails of turbid water discharge from the construction site, it is considered that exceedances were unlikely due to the Contract.</li> </ol>			
		6. According to the Event and Action, the monitoring frequency at WM2A has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. There were no exceedance triggered at WM2A for monitoring on 12 and 14 March 2016. Nevertheless, the Contractor should continue to fully			



	implement the water mit the implementation sch measures in the EM&A M	igation measures as recommended in edule for environmental mitigation Manual.
Prepared By :	Nicola Hon	-
<b>Designation</b> :	Environmental Consultant	_
Signature :	Aul	
Date :	24 March 2016	-



## **Photo Record**







## Photo 1

During water sampling on 11 March 2016, turbid water was observed at WM2A.



Wastewater treatment facilities was installed for piling work at Bridge D. Moreover, concrete block and sand bag act as a bund was provided at the area of the piling works besides of Ping Yuen River of Bridge D.



of Ping Yuen River of Bridge D.



Figure 1 Location Map for Water Quality Monitoring Locations WM2A and WM2A-Control

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То	Mr. Edwin Au	Fax No	<b>2403 1</b> 1	162	
Company	Sang Hing Civil – Richwell Machinery	JV			
сс					
From	Nicola Hon	Date	24 Marc	ch 2016	
Our Ref	TCS00694/13/300/ <b>F0197</b>	No of Pages	4	(Incl. cover sheet)	
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM1 on 10 March 2016 (Contract 5)				
If you do not i	receive all pages, or transmission is illegible, please	contact the original	tor on (852)	2959-6059 to re-send. Shou	

If you do not receive all pages, or transmission is illegible, please contact the originator on (852) 2959-6059 to re-send. Should this facsimile be sent to the wrong fax number, would receiver please destroy this copy and notify Action-United Environmental Services & Consulting immediately. Thank you.

Dear Sir,

Further to the following Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0162 dated 7 March 2016 TCS00694/13/300/F0170 dated 9 March 2016 TCS00694/13/300/F0175 dated 11 March 2016.

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Kelvin Lee (ER, AECOM)	Fax:	2674 7732
	Mr. Antony Wong (IEC, SMEC)		By email



# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report on Action or Limit Level Non-compliance

Project		CE 45/2008			
Date		10 March 2016			
Location		WMI 12.02			
Time		13:03			
Parameter		Turbidity (NTU)	Suspended Solids (mg/L)		
Action Leve	el	51.3 AND 120% of upstream control station of the same day	54.5 AND 120% of upstream control station of the same day		
Limit Level	l	67.6 AND 130% of upstream control station of the same day	64.9 AND 130% of upstream control station of the same day		
Measured	WM1-C	47.2	35.0		
Levels	WM1	352.0	196.0		
Exceedance	•	Limit Level	Limit Level		
Investigatio Results, Recommen & M Measures	on dations litigation	<ol> <li>According to the site infor- construction activities carrie construction of u-channel and Road. (Figure 1) No was abovementioned work and no at Boundary Control Point (BC.</li> <li>According to the site record monitoring on 10 March 2016 abd the water quality at WM1-C</li> <li>During site inspection by the March 2016, no adverse water 7 &amp; 8) Moreover, there were carried out and no discharge investigation, it is considered th to the Contract.</li> <li>According to the Event and WM1 has been increase to da recorded until no exceedances Additional monitoring was carr no exceedance was recorded. implement the water mitigatio implementation schedule for e the EM&amp;A Manual.</li> </ol>	rmation provided from the SRJV, d out on 10 March 2016 were bituminous laying at Lin Ma Hang stewater was generated from the construction activities were conducted P) which near Kong Yiu Kong. I from the monitoring team during , turbid water was observed at WM1 C was slightly turbid. (Photo 1 & 2) RE, IEC, SRJV and ET on 8 and 15 quality impact was observed. (Photo e no wastewater generation activities made into the river course. In our hat the exceedances were unlikely due Action, the monitoring frequency at ily due to the limit level exceedance were triggered in consecutive days. tied out on 11 and 12 March 2016 and However, SRJV should continue fully on measures as recommended in the environmental mitigation measures in		
Prenared	Bv :	Nicola Hon			

Nicola Hon	
Environmental Consultant	
Aul.	
24 March 2016	



## **Photo Record**



Photo 1PIDuring water sampling on 10 March 2016, turbidDwater was observed at WM1.water



Photo 2 During water sampling on 10 March 2016, the water quality at WM1-C was slightly turbid.



No

Photo 3 During site inspection on 8 March 2016, construction of u-channel was observed. adverse water quality impact was noted.



Photo 4 During site inspection on 15 March 2016, construction of u-channel was observed. No adverse water quality impact was noted.



Figure 1 Location Map

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То	Mr. Vincent Chan	Fax No	By e-ma	ail		
Company	CRBC-CEC-Kaden JV					
сс						
From	Nicola Hon	Date	24 March 2016			
Our Ref	TCS00694/13/300/ <b>F0198</b>	No of Pages	4	(Incl. cover sheet)		
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM1 on 10 March 2016 (Contract 6)					
If you do not	receive all pages or transmission is illegible please of	contact the originat	or on (852) 2	959-6059 to re-send Shoul		

If you do not receive all pages, or transmission is illegible, please contact the originator on (852) 2959-6059 to re-send. Should this facsimile be sent to the wrong fax number, would receiver please destroy this copy and notify Action-United Environmental Services & Consulting immediately. Thank you.

Dear Sir,

Further to the following Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0161 dated 7 March 2016 TCS00694/13/300/F0171 dated 9 March 2016 TCS00694/13/300/F0174 dated 11 March 2016.

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
	Mr. Antony Wong (IEC, SMEC)		By email

# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works <u>Investigation Report on Action or Limit Level Non-compliance</u>

Project		CF 45/2008				
Date		10 March 2016				
Location		WM1				
Time		13:03				
Parameter		Turbidity (NTU)	Suspended Solids (mg/L)			
Action I or	al	51.3 AND 120% of upstream control	54.5 AND 120% of upstream			
Action Lev	el	station of the same day	control station of the same day			
I imit I ava	1	67.6 AND 130% of upstream control	64.9 AND 130% of upstream			
		station of the same day	control station of the same day			
Measured	WM1-C	47.2	35.0			
Levels	WM1	352.0	196.0			
Exceedance	e	Limit Level	Limit Level			
Investigatio	on Results,	1. According to the site informat	ion provided from the CCKJV,			
Recommen	dations &	construction activities carried out	on 10 March 2016 at Boundary			
Mitigation	Measures	Control Point (BCP) which upstream	am of WM1 was bored piling. The			
		monitoring locations and works area	a are shown in Figure 1.			
		2. According to the site record fi	rom the monitoring team during			
		monitoring on 10 March 2016, tu	urbid water was observed at WM1			
		whereas the water quality at WM1-	C was slightly turbid clear. (Photo 1			
		& 2) Moreover, during the cours	se of sampling on 10 March 2016,			
		turbid water was observed at upstre	eam of the works area of Contract 6.			
		(Photo 3)				
		3. As advised by the Contractor, the v	vastewater generated from the bored			
		pile works was recirculated to the A	AquaSed for treatment and discharge			
		would be made when the effluent is	s overflow from the AquaSed. Since			
		discharge license was not yet grant	ed for the Contract, self-monitoring			
		for the effluent quality would b	e conducted by the Contractor if			
		discharge is required to ensure the	discharge effluent complied with the			
		relevant requirements.				
		4. During site inspection by the RE, I	EC, Contractor and ET on 10 March			
		2016, the effluent of the AquaSed w	as inspected and the effluent quality			
		is visually clear. (Photo 4) More	over, turbid water was observed at			
		upstream of the works area of Contr	ract 6 as well. In our investigation, it			
		is considered that the exceedances w	vere unlikely due to the Contract.			
		5. According to the Event and Action	, the monitoring frequency at WM1			
		has been increase to daily due to	the limit level exceedance recorded			
		until no exceedances were trigger	ed in consecutive days. Additional			
		monitoring was carried out on	11 and 12 March 2016 and no			
		exceedance was recorded. Howe	ver, CCKJV should continue fully			
		implement the water mitigation	measures as recommended in the			
		implementation schedule for enviro	onmental mitigation measures in the			
		EM&A Manual.				
n 15		NF 1 H				
Prenared R	v ·	Nicola Hon				

Prepared By :	Nicola Hon
<b>Designation</b> :	Environmental Consultant
Signature :	Anh
Date :	24 March 2016



## **Photo Record**



#### Photo 1

During water sampling on 10 March 2016, turbid water was observed at WM1.



### Photo 3

During water sampling on 10 March 2016, turbid water was observed at upstream of the works area of Contract 6. (works area of Contract 6 is after the Bridge)



#### Photo 2

During water sampling on 10 March 2016, the water quality at WM1-C was slightly turbid.



## Photo 4

During site inspection by the RE, IEC, Contractor and ET on 10 March 2016, the effluent of the AquaSed was inspected and the effluent quality is visually clear.





Figure 1 Location Map for Water Quality Monitoring Locations WM1 and WM1-C

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То	Mr. Jon Kitching	Fax No	2743 160	00	
Company	Leighton Contractors (Asia) Limited				
сс					
From	Nicola Hon	Date	29 March	2016	
Our Ref	TCS00769/15/300/ <b>F0073</b>	No of Pages	7	(Incl. cover sheet)	
RE	Architectural Services Department (ArchSD) Contract No: SS C505 Construction of Liantang/Heung Yuen Wai Boundary Control Point (BCP) – BCP Buildings and Associated Facilities				
	on10 March 2016	Water Quality			

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:-

TCS00769/15/300/F0065 dated 11 March 2016 TCS00769/15/300/F0072 dated 29 March 2016

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. William WL Cheng (ASD)		By e-mail
	Mr. Justin Cheung (Ronald Lu)		By e-mail
	Mr. Antony Wong (IEC, SMEC)		By e-mail
	Mr. Simon Leung (ER, AECOM)	Fax:	2674 7732

# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works

Project		CE 45/20	08			
Contract		SS C505				
Monitoring	Location	WM1				
Date		10 March 2016				
Time		13:03				
Parameter		Turbidity (NTLI)	Suspended Solids (mg/L)			
		51.3 AND 120% of unstream control	54.5 AND 120% of unstream			
Action Leve	el	station of the same day	control station of the same day			
		67.6 AND	64.9 A ND			
Limit Level		130% of upstream control station of the	130% of unstream control station			
		same day	of the same day			
Measured	WM1-C	47.2	35.0			
levels	WM1	325.0	196.0			
Evendonco	VV 1V11	J imit L ovol	Limit Loval			
Exceedance						
Investigatio	n	1. According to the site information pro	vided by the Contractor, the major			
Results,	lations P	construction activities carried out	on 10 March 2016 included			
Mitigation N		excavation, formwork erection, soil	compaction, driven pile and bored			
Miligation	vieasures	piling and site investigation which	are illustrated in Figure 1. It is			
		noted that the majority active constru	ction area were not closed to Kong			
		Yiu River (Figure 2)				
		2 According to the field data record i	by ET on 10 March 2016 turbid			
		2. According to the field data fecold	by ET on To March 2010, turbid			
		water was observed at WMI whereas	s the water quality at WMI-C was			
		slightly turbid clear. (Photo 1 & 2)				
		3. In view of the construction activities	on 10 March 2016 and confirmed			
		by the Contractor, wastewater was	generated during the bored piling			
		work only and the wastewater was re-	circulated for the piling work used.			
		If water discharge is required the	will follow the temporary site			
		drainage plan in which wastewater y	yould be diverted to the perimeter			
		channel and then collected to the	wastawatar treatment plant for			
		treatment haften discharge (Discourse	wastewater treatment plant for			
		treatment before discharge. (Figure	3) It is noted that the discharge			
		point connecting public drainage was	located at the west of the site and			
		the discharge water would not flow to	WM1 and its upstream. (Figure 3)			
		4. During site inspection on 9 March	2016, it was observed that the			
		perimeter channel and the wastewater	treatment facilities were in proper			
		function and there were no dischar	ge was made on 9 March 2016.			
		(Photo 3 & 4) Moreover no major	water impact was observed during			
		site inspection on 9 March 2016				
		5. In view of the topography of the cons	truction site, the formation level of			
		the site is lower than the roads bou	inding the site (around 2m height			
		difference), it is considered that the v	vastewater generated on-site is not			
		likely flowing out of the site bounda	ary. (Photo 5) As advised by the			
		Contractor, around 90% of treated wa	ater is reused on-site (water spread			
		for dust suppression) whereas the	rest of the treatment wastewater			
		would be discharge off site at the appr	roval discharge point.			
		6 According to the shows investig	tion it is considered that the			
		overaged and a word not likely related to	the works under the Contract			
		exceedances were not likely related to	o me works under the Contract.			

## Investigation Report on Action or Limit Level Non-compliance



	7. According to the Event and Action, the monitoring frequency at WM1 has been increase to daily due to the limit level exceedance recorded
	until no exceedances were triggered in consecutive days. Additional monitoring was carried out on 11 and 12 March 2016 and no exceedance was recorded. However, the Contractor should continue fully implement the water mitigation measures as recommended in the implementation schedule for environmental mitigation measures in the
	EM&A Manual.
Action to be taken	The Contractor is reminded to fully implement the water mitigation measures as recommended in the implementation schedule for environmental mitigation measures in the EM&A Manual.

Prepared By :	Nicola Hon
<b>Designation</b> :	Environmental Consultant
Signature :	Anh
Date :	29 March 2016





## Photo 1

During water sampling on 10 March 2016, turbid water was observed at WM1.



### Photo 3

During site inspection on 9 March 2016, the perimeter channel was in proper function.



### Photo 2

During water sampling on 10 March 2016, the water quality at WM1-C was slightly turbid.





During site inspection on 9 March 2016, there was no discharge observed from the wastewater treatment system.



### Photo 5

Temporary drainage channel has been constructing at the periphery of the site and the formation level of the site is lower than the roads bounding the site









То	Mr. Vincent Chan	Fax No	By e-m	ail
Company	CRBC-CEC-Kaden JV			
сс				
From	Nicola Hon	Date	31 Marc	h 2016
Our Ref	TCS00694/13/300/ <b>F0207</b>	No of Pages	6	(Incl. cover sheet)
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Investigation Report of Exceedance of and 16 March 2016	Control Point a Water Quality	and Assoc / at Locat	tiated Works ion WM2B on 14, 15
If you do not	receive all pages or transmission is illegible please	contact the originat	or on (852)	2959-6059 to re-send Shoul

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:

TCS00694/13/300/F0182 dated 15 March 2016 TCS00694/13/300/F0191 dated 17 March 2016 TCS00694/13/300/F0203 dated 31 March 2016.

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

c.c.

Nicola Hon Environmental Consultant Encl.

Mr. David Chan (EPD)	Fax:	2685 1155
Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
Mr. Antony Wong (IEC, SMEC)		By email



# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works <u>Investigation Report on Action or Limit Level Non-compliance</u>

Project				CE	45/2008		
Date		14 March 2016	15 March 2016	16 March 2016	14 March 2016	15 March 2016	16 March 2016
Location				V	VM2B		
Time		11:45	11:25	10:20	11:45	11:25	10:20
Parameter		Τι	urbidity (NT)	U)	Susp	pended Solids (1	ng/L)
Action Lev	el	11.4 AN control st	D 120% of u ation of the	ıpstream same day	11.8 AND sta	120% of upstream tion of the same	eam control day
Limit Leve	1	12.3 AN control st	D 130% of u ation of the	ipstream same day	12.4 AND stat	130% of upstream 130% of upstream tion of the same	eam control day
Measured	WM2B-C	15.7	5.6	5.9	<2	<2	3.0
Levels	WM2B	45.1	19.0	108.0	69.0	10.0	48.5
Exceedance	e	Limit Level	Limit Level	Limit Level	Limit Level	NO exceedance	Limit Level
Measured     WM2B       Levels     WM2B       Exceedance       Investigation Results, Recommendations & Mitigation Measures		<ol> <li>Accord constru (upstrea location</li> <li>Accord March depth v water f was vis out at t sample 16 Mar was ob turbid c 6)</li> <li>As advi wastew clear. (I channel tempora Moreov sheet of</li> <li>Accord has bee no exc monitor exceeda fully in implem EM&amp;A</li> </ol>	ing to the ction activiti am of WM21 as and works ing to the s 2016, very s vas around ( lowing in the ually clear. ( the bridge of could not av ch 2016, the served that lue to stir up ased by the C ater treatment Photo 7) As I were const ary storage a ver, the slop thard paved ing to the Ev n increase to ceedances were aplement the entation sch Manual.	e site infor es carried ou B) were bore area are sho ite record fi hallow wate 0.01-0.02m. (e e channel an (Photo 2 & 4 ver the drain void inclusio e water samp the water file of sedimen Contractor, se nt facilities water mitiga ructed under and primarily es adjacent to minimise vent and Acto o daily due to were trigge arried out triggered. e water mitig	rmation pro at on 14 to 16 ed piling and own in Figure rom the mon r was measur (Photo 1 & 3 ed the water s and the water s (Photo 1 & 3 ed th	yvided from t March 2016 at slope work. Th 1. intoring team or red at WM2B a B) It was obse samples collected water sampling at shallow wat be sediment and nducted after si e open channel bed during rain g for the treated ed and effluent es, sump pits wi to divert the si effore divert to t were covered w ff during frequence el exceedance r secutive days. 18 March 20 s, CCKJV show mitigation mea	he CCKJV, North Portal e monitoring n 14 and 15 nd the water rved that the ed at WM2B g was carried er, the water debris. On hower and it was slightly the (Photo 5 & water in the was visually th temporary te runoff for he AquaSed. vith tarpaulin cy at WM2B ecorded until Additional 016 and no uld continue ended in the asures in the



Prepared By :	Nicola Hon				
Designation :	Environmental Consultant	_			
Signature :	Auli				
Date :	31 March 2016	_			



### **Photo Record**





During water sampling on 14 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.

**Photo 2** The water samples collected at WM2B on 14 March 2016 was visually clear.



#### Photo 3

During water sampling on 15 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.



**Photo 5** During water sampling on 16 March 2016, shallow water was observed at WM2B and the water quality at WM2B was slightly turbid.



#### Photo 4

The water samples collected at WM2B on 15 March 2016 was visually clear.





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**Photo 7** The effluent of the AquaSed was visually clear.







То	Mr. Daniel Ho	Fax No	2638 70	77		
Company	Chun Wo Construction Ltd					
сс						
From	Nicola Hon	Date	1 April 2016			
Our Ref	TCS00670/13/300/ <b>F0211</b>	No of Pages	4	(Incl. cover sheet)		
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM4 on 21 March 2016 (Contract 3)					

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Dear Mr. Ho,

Further to the Notification of Exceedance (NOE) ref.: TCS00670/13/300/F0195 dated 22 March 2016 and TCS00670/13/300/F0205 dated 31 March 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Alan Lee (ER of C3, AECOM)	Fax:	2171 3498
	Mr. Antony Wong (IEC, SMEC)		By e-mail
# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works

### Investigation Report on Action or Limit Level Non-compliance

Project		CE 45/2008		
Date		21 March 2016		
Location		WN	/14	
Time		13:0	00	
Parameter		Turbidity (NTU)	Suspended Solids (mg/L)	
Action Leve	1	35.2 AND 120% of upstream control station of the same day	39.4 AND 120% of upstream control station of the same day	
Limit Level		38.4 AND 130% of upstream control station of the same day	45.5 AND 130% of upstream control station of the same day	
	WM4-CA	25.7	20.5	
Measured Level	WM4-CB	49.1	35.5	
	WM4	89.1	70.5	
Exceedance		Limit Level	Limit Level	
Exceedance Investigation Results, Recommendations & Mitigation Measures		<ol> <li>According to the site diary provi works carried out on 21 March wastewater was generated. So diverted to the wastewater treatm discharge.</li> <li>According to the site record from 2016, turbid water was observed WM4, WM4-CA and WM4-CB 1 to 4 and Figure 1)</li> <li>As advised by the Contractor, upstream location which was no was observed on 21 March 201 that the exceedances were due to and external muddy water from works under the Contract.</li> <li>According to the Event and Ac exceed station shall be increase exceedance recorded until no consecutive days. In view of th exceedances were triggered at However, the Contractor sho environmental mitigation implementation schedule in the F</li> </ol>	ded by the Contractor, construction 2016 included pre-drilling and no urface runoff of the site was all nent facilities for de-silting prior to a the monitoring team on 21 March 4 at both impact and control station under the influence of rain (Photo muddy water flowed from other of under monitored by the Contract 6. (Photo 5 &6) It is considered of the stir up of sediment during rain n upstream and not related to the ction, the monitoring frequency at ed to daily due to the limit level of exceedances were triggered in the subsequent monitoring result, no WM4 on 22 and 23 March 2016. ould continue to implement the measures recommended in EM&A Manual.	

Prepared By :	Nicola Hon
Designation :	Environmental Consultant
Signature :	Auli
Date :	1 April 2016





Photo 1 Turbid water was observed at WM4 on 21 March 2016.



Photo 2 Turbid water was observed at WM4-CA on 21 March 2016.





Photo 3

Turbid water was observed at WM4-CB on 21 March 2016.



Turbid water flowed from upstream was observed on 21 March 2016. The water samples collected at WM4, WM4-CA and WM4-C were turbid.



**Photo 6** Turbid water flowed from upstream affecting the water quality throughout the river course as observed on 21 March 2016.



Figure 1. Location of Water Quality Monitoring Location



То	Mr. Roger Lee	Fax No	2717 32	299
Company	Dragages Hong Kong Limited			
сс				
From	Nicola Hon	Date	1 April 2	2016
Our Ref	TCS00697/13/300/ <b>F0212</b>	No of Pages	4	(Incl. cover sheet)
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary ( Investigation Report of Exceedance of 2016 (Contract 2)	Control Point and Water Quality at	d Associa Locatio	ated Works n WM4 on 21 March

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Dear Mr. Lee,

Further to the Notification of Exceedance (NOE) ref.: TCS00670/13/300/F0196 dated 22 March 2016 and TCS00670/13/300/F0206 dated 31 March 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Gregory Lo (ER, AECOM)	Fax:	2171 3498
	Mr. Antony Wong (IEC, SMEC)		By e-mail

### Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works <u>Investigation Report on Action or Limit Level Non-compliance</u>

Project		CE 45/2008		
Date		21 March 2016		
Location		WM4	4	
Time		13:00	0	
Parameter		Turbidity (NTU)	Suspended Solids (mg/L)	
Action Level		35.2 AND 120% of upstream control	39.4 AND 120% of upstream	
		station of the same day	control station of the same day	
Limit Level		38.4 AND 130% of upstream control	45.5 AND 130% of upstream	
	WM4-CA	25.7	20.5	
Measured		40.1	20.5	
Level		49.1	55.5	
	WM4	89.1	70.5	
Exceedance		Limit Level	Limit Level	
Recommenda Mitigation M	ations & leasures	<ol> <li>2 (DHK), construction activities carn 2016 included tunnel excavation and The construction activities were car and no discharge was made on 21 M</li> <li>2. According to the site record from 2016, turbid water was observed WM4, WM4-CA and WM4-CB und and Figure 1)</li> <li>3. As advised by the Contractor of C upstream location which was not un observed on 21 March 2016. (Phote exceedances were due to the stir up muddy water from upstream and n Contract.</li> <li>4. According to the Event and Action, station shall be increased to daily recorded until no exceedances were view of the subsequent monitoring re at WM4 on 22 and 23 March 2016 continue to implement the en recommended in implementation sch</li> </ol>	ried out at South Portal on 21 March 4 ventilation building superstructure. ried out away from the river course arch 2016. the monitoring team on 21 March at both impact and control station er the influence of rain (Photo 1 to 4 3, muddy water flowed from other nder monitored by the Contract was to 5 &6) It is considered that the of sediment during rain and external not related to the works under the the monitoring frequency at exceed due to the limit level exceedance e triggered in consecutive days. In esult, no exceedances were triggered 5. However, the Contractor should vironmental mitigation measures nedule in the EM&A Manual.	

Prepared By :	Nicola Hon	
Designation :	Environmental Consultant	
Signature :	Anh	
Date :	1 April 2016	





Turbid water was observed at WM4 on 21 March 2016.



Photo 2

Turbid water was observed at WM4-CA on 21 March 2016.





#### Photo 3

Turbid water was observed at WM4-CB on 21 March 2016.



## Photo 5

Turbid water flowed from upstream was observed on 21 March 2016.

Photo 4

The water samples collected at WM4, WM4-CA and WM4-C were turbid.



**Photo 6** Turbid water flowed from upstream affecting the water quality throughout the river course as observed on 21 March 2016.



Mr. Vincent Chan	Fax No	By e-n	nail	
CRBC-CEC-Kaden JV				
Nicola Hon	Date	7 April	2016	
TCS00694/13/300/ <b>F0220</b>	No of Pages	6	(Incl. cover sheet)	
Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM2B on 21 and 22 March 2016				
	Mr. Vincent Chan CRBC-CEC-Kaden JV Nicola Hon TCS00694/13/300/F0220 Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary O Investigation Report of Exceedance of V 22 March 2016	Mr. Vincent ChanFax NoCRBC-CEC-Kaden JVImage: CRBC-CEC-Kaden JVNicola HonDateNicola HonDateTCS00694/13/300/F0220No of PagesAgreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point a Investigation Report of Exceedance of Water Quality 22 March 2016	Mr. Vincent ChanFax NoBy endCRBC-CEC-Kaden JVImage: State S	

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:

TCS00694/13/300/F0194 dated 22 March 2016 TCS00694/13/300/F0204 dated 31 March 2016

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
	Mr. Antony Wong (IEC, SMEC)		By email



# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report on Action or Limit Level Non-compliance

Project		CE 45/2008			
Date		21 March 2016	22 March 2016	21 March 2016	22 March 2016
Location			WN	M2B	
Time		11:35	10:11	11:35	10:11
Parameter		Turbidity	(NTU)	Suspended So	olids (mg/L)
Action Lev	el	11.4 AND 120% of station of th	f upstream control e same day	11.8 AND 120% of station of the	f upstream control e same day
Limit Leve	1	12.3 AND 130% of station of th	f upstream control e same day	12.4 AND 130% of upstream control station of the same day	
Measured	WM2B-C	6.7	6.3	5.0	3.0
Levels	WM2B	284.0	179.0	50.0	232.0
Exceedance	e	Limit Level	Limit Level	Limit Level	Limit Level
Investigatio Recommen Mitigation	on Results, dations & Measures	1. According to construction ad Portal (upstrea monitoring loc	the site inform ctivities carried ou im of WM2B) was ations and works ar	nation provided fro t on 21 and 22 Mar s pile cap installatio ea are shown in Figu	om the CCKJV, rch 2016 at North n work only. The re 1.
		2. According to the site record from the monitoring team on 21 and 22 March 2016, very shallow water was measured at WM2B and the water depth was around 0.02m. (Photo 1&3) The water sampling was conducted during rain and it was observed that the water flowing in the open channel was slightly turbid due to stir up of sediment and cumulated silt at the river bed during rain. (Photo 2 & 4)			
		3. As advised by wastewater tre clear. (Photo constructed ne wastewater gen proper treatm applied on the to minimise mu	the Contractor, self atment facilities wa 5 & 6) As wate ear the pile cap ar nerated from the w ent. Moreover, stabilized slopes w uddy runoff during	-monitoring for the tass conducted and eff r mitigation measure rea to collect the po- rorks before divert to hydro-seeding and which adjacent to exis- rain. (Photo 7 & 8)	reated water in the luent was visually es, sump pit was ossible runoff and the AquaSed for shotcreting were sting open channel
		4. Apart from the it was observed the existing c considered that the river bed and	e disturbance of cum d trails of muddy re hannel due to rain t the exceedances we ad muddy runoff from	nulated silt at the rive unoff from the public n. (Photo 1 & 3 & were likely related to om the public road su	er bed during rain, c road surface into Figure 1) It is c cumulated silt at rface.
		<ol> <li>According to t has been increa no exceedanc monitoring was turbidity and implement the implementation EM&amp;A Manua</li> </ol>	he Event and Action ase to daily due to the ess were triggere s carried out on 23 and SS were triggere e water mitigation n schedule for env l.	on, the monitoring free he limit level exceeds d in consecutive and 24 March 2016 a ed. CCKJV shoul n measures as reco ironmental mitigation	equency at WM2B ance recorded until days. Additional and exceedances of ld continue fully ommended in the n measures in the



Prepared By :	Nicola Hon
Designation :	Environmental Consultant
Signature :	Aul
Date :	7 April 2016







#### Photo 1

During water sampling on 21 March 2016, shallow water was observed at WM2B and the water quality at WM2B was turbid.

Photo 2 The water samples collected at WM2B on 21 March 2016 was turbid.





#### Photo 3

During water sampling on 22 March 2016, shallow water was observed at WM2B and the water quality at WM2B was slightly turbid.

The water samples collected at WM2B on 21 March 2016 was slightly turbid.



**Photo 5** The effluent of the AquaSed was visually clear.



Photo 4

Photo 6 The effluent of the AquaSed was visually clear.





Sump pit was constructed near the pile cap area to collect the possible runoff and wastewater generated from the works before divert to the AquaSed for proper treatment.

Hydro-seeding and shotcreting were applied on the stabilized slopes which adjacent to existing open channel to minimise muddy runoff during rain.







Figure 1. Location of Water Quality Monitoring Location



Mr. Vincent Chan	Fax No	By e-m	ail	
CRBC-CEC-Kaden JV				
Nicola Hon	Date	7 April 2	2016	
TCS00694/13/300/ <b>F0221</b>	No of Pages	6	(Incl. cover sheet)	
Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM2B on 23 and 24 March 2016				
	Mr. Vincent Chan CRBC-CEC-Kaden JV Nicola Hon TCS00694/13/300/F0221 Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary O Investigation Report of Exceedance of V 24 March 2016	Mr. Vincent ChanFax NoCRBC-CEC-Kaden JVImage: CRBC-CEC-Kaden JVNicola HonDateNicola HonDateTCS00694/13/300/F0221No of PagesAgreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point a Investigation Report of Exceedance of Water Quality 24 March 2016	Mr. Vincent ChanFax NoBy e-mCRBC-CEC-Kaden JVImage: Strate S	

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:

TCS00694/13/300/F0199 dated 24 March 2016 TCS00694/13/300/F0219 dated 6 April 2016

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
	Mr. Antony Wong (IEC, SMEC)		By email



# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report on Action or Limit Level Non-compliance

Project		CE 45/2008				
Date		23 March 2016	24 March 2016	23 March 2016	24 March 2016	
Location			WN	M2B		
Time		13:05	11:24	13:05	11:24	
Parameter		Turbidity	(NTU)	Suspended So	olids (mg/L)	
Action Lev	el	11.4 AND 120% of station of th	f upstream control e same day	11.8 AND 120% of station of th	f upstream control e same day	
Limit Level		12.3 AND 130% of station of th	f upstream control e same day	12.4 AND 130% of station of th	12.4 AND 130% of upstream control station of the same day	
Measured	WM2B-C	49.8	20.8	35.5	9.0	
Levels	WM2B	452.0	301.5	124.0	160.0	
Exceedance	e	Limit Level	Limit Level	Limit Level	Limit Level	
Investigatio Recommen Mitigation	on Results, dations & Measures	1. According to construction ad Portal (upstrea monitoring loc	the site inform ctivities carried ou um of WM2B) was ations and works ar	nation provided front t on 23 and 24 Mar s pile cap installation rea are shown in Figu	om the CCKJV, rch 2016 at North n work only. The re 1.	
		2. According to the site record from the monitoring team on 23 and 24 March 2016, very shallow water was measured at WM2B and the water depth was around 0.02m. (Photo 1&3) The water sampling was conducted during rain and it was observed that the water flowing in the open channel was slightly turbid due to stir up of sediment and cumulated silt at the river bed during rain. (Photo 2 & 4)				
		<ol> <li>As advised by the Contractor, self-monitoring for the treated water in the wastewater treatment facilities was conducted and effluent was visually clear. As water mitigation measures, sump pit was constructed near the pile cap area to collect the possible runoff and wastewater generated from the works before divert to the AquaSed for proper treatment. Moreover, hydro-seeding and shotcreting were applied on the stabilized slopes which adjacent to existing open channel to minimise muddy runoff during rain. (Photo 6 &amp; 7)</li> <li>Apart from the disturbance of cumulated silt at the river bed during rain, it was observed trails of muddy runoff from the public road surface into the existing channel due to rain. (Photo 1 &amp; 3 &amp; Figure 1) It is considered that the exceedances were likely related to cumulated silt at the river bed and muddy runoff from the public road surface.</li> <li>According to the Event and Action, the monitoring frequency at WM2B has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. Additional monitoring was carried out on 29 and 30 March 2016 and no exceedances were triggered. Nevertheless, CCKJV should continue fully implement the water mitigation measures as recommended in the implementation schedule for environmental mitigation measures in the EM&amp;A Manual.</li> </ol>				



Prepared By :	Nicola Hon	
Designation :	Environmental Consultant	
Signature :	Aul	
Date :	7 April 2016	







#### Photo 2

The water samples collected at WM2B on 23 March 2016 was turbid.





Photo 3

Photo 1

During water sampling on 24 March 2016, shallow water was observed at WM2B and the water quality at WM2B was slightly turbid.

Photo 4 The water samples collected at WM2B on 24 March 2016 was slightly turbid.





Sump pit was constructed near the pile cap area to collect the possible runoff and wastewater generated from the works before divert to the AquaSed for proper treatment.

Hydro-seeding and shotcreting were applied on the stabilized slopes which adjacent to existing open channel to minimise muddy runoff during rain.







То	Mr. Vincent Chan	Fax No	By e-ma	ail
Company	CRBC-CEC-Kaden JV			
сс				
From	Nicola Hon	Date	13 April	2016
Our Ref	TCS00694/13/300/ <b>F0229a</b>	No of Pages	6	(Incl. cover sheet)
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary O Investigation Report of Exceedance of and 31 March 2016	Control Point a Water Quality	nd Assoc 7 at Loca	iated Works tion WM3 on 29, 30

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0201 dated 29 March 2016 TCS00694/13/300/F0208 dated 31 March 2016. TCS00694/13/300/F0224 dated 7 April 2016.

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
	Mr. Antony Wong (IEC, SMEC)		By email



# Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report on Action or Limit Level Non-compliance

Project		CE 45/2008						
Date		29 Mar 16	30 Mar 16	31 Mar 16	29 Mar 16	30 Mar 16	31 Mar 16	
Location		WM3						
Time		12:41	12:35	10:43	12:41	12:35	10:43	
Parameter		Ti	urbidity (NTU)	)	Suspe	nded Solids (n	ng/L)	
Action Leve	1	13.4 AND 120% of upstream control station of the same day		12.6 AND 1 static	20% of upstre	am control day		
Limit Level		14.0 AND 1 static	30% of upstre on of the same	am control day	12.9 AND 1 static	12.9 AND 130% of upstream control station of the same day		
Measured	WM3-C	4.9	5.2	2.6	7.0	6.5	14.0	
Level	WM3	72.1	121.5	35.3	109.0	54.5	16.0	
Exceedance	e	Limit Level	Limit Level	Limit Level	Limit Level	Limit Level	Limit Level	
Investigation Results, Recomment & M Measures	<ul> <li>Investigation</li> <li>Results,</li> <li>Recommendations</li> <li>Mitigation</li> <li>Measures</li> <li>1. According to the site information provided from the Contractor of (CCKJV), the main construction activities carried out on 29 to 31 N 2016 at upstream of WM3 was bored pile works. The monitoring loca and works area are shown in Figure 1.</li> <li>2. According to the site record from the monitoring team during monitorin 29 to 31 March 2016, the water quality at WM3 was slightly turbid. (Ph to 3)</li> <li>3. As water mitigation measures, CCKJV has been set up a temporary dra channel to divert wastewater from bored pile work and wheel washing to the wastewater treatment facilities was mainly recirculat the wheel washing basin and bored pile work and the excess water would ischarged to the nullah which connected to Ng Tung River. CC would check the performance of discharge water every day to enst complied with the relevant standard. No adverse water impact recorded during site inspection in late March 2016, the ET has been li with CCKJV to investigate the possible source of turbid water. CC and ET has inspected the treated effluent discharged into nullah v connected to Ng Tung River on 29, 30 March 2016, it was observed th effluent quality was visually clear. Though some silt cumulated at r bed was observed from an unknown outfall which located at between the works of C6 and WM3. (Photo 7 to 9) There were no exceedances trigger the additional monitoring result on 1 April 2016 when turbid discharge the unknown outfall was not observed. It is considered that the functional monitoring result on 1 April 2016 when turbid discharge from water detected at WM3 was related to the turbid discharge from water detected at WM3 was related to the turbid discharge from water detected at WM3 was related to the turbid discharge from water detected at WM3 was related to the turbid discharge from water detected at WM3 was related to the turbid discharge from water detected at WM3 was related to the turbid discharge from</li></ul>		tetor of C6 o 31 March ng locations onitoring on id. (Photo 1 ary drainage vashing bay d operation. circulated in er would be r. CCKJV to ensure it impact was been liaison r. CCKJV allah which ved that the ed at nullah nullah was ted silt was ted silt was ted silt was to works area triggered in charge from t the turbid e from the					
Action to be taken		The Contractor is reminded to fully implement the water mitigation measures as recommended in the implementation schedule for environmental mitigation measures in the EM&A Manual.						



Prepared By :	Nicola Hon
Designation :	Environmental Consultant
Signature :	Auch.
Date :	12 April 2016





### Photo 1

Muddy water was observed at WM3 on 29 March 2016



**Photo 2** Muddy water was observed at WM3 on 29 March 2016





#### Photo 3

Muddy water was observed at WM3 on 31 March 2016



#### Photo 5

The effluent in the temporary channel which connected to the discharge nullah and Ng Tung River was visually clear on 30 March 2016. **Photo 4** The effluent in the nullah which connected to Ng Tung River was visually clear on 29 March 2016.



#### Photo 6

Though some silt cumulated at nullah bed was observed on 31 March 2016, the water flowing in the nullah was visually clear.



Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 29 March 2016.





Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 31 March 2016.



### Photo 8

Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 30 March 2016.





Figure 1 Location Map for Works Area under Contract 6 and Water Quality Monitoring Location



# **Fax Cover Sheet**

То	Mr. Roger Lee	Fax No	2717 32	99
Company	Dragages Hong Kong Limited			
сс				
From	Nicola Hon	Date	12 April	2016
Our Ref	TCS00697/13/300/ <b>F0230</b>	No of Pages	5	(Incl. cover sheet)
RE	Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary ( Investigation Report of Exceedance of 31 March 2016 (Contract 2)	Control Point and Water Quality at	d Associa Location	ted Works WM3 on 29, 30 and

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Dear Mr. Lee,

Further to the Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0200 dated 29 March 2016 TCS00694/13/300/F0209 dated 31 March 2016. TCS00694/13/300/F0225 dated 7 April 2016.

Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours Faithfully, For and on Behalf of **Action-United Environmental Services & Consulting** 

Nicola Hon Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Gregory Lo (ER, AECOM)	Fax:	2171 3498
	Mr. Antony Wong (IEC, SMEC)		By e-mail

### Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report on Action or Limit Level Non-compliance

Project		CE 45/2008						
Date		29 Mar 16	30 Mar 16	31 Mar 16	29 Mar 16	30 Mar 16	31 Mar 16	
Location		WM3						
Time		12:41	12:35	10:43	12:41	12:35	10:43	
Parameter		Turbidity (NTU)		Susper	Suspended Solids (mg/L)			
Action Level	l	13.4 AND 120% of upstream control		12.6 AND 1	12.6 AND 120% of upstream control			
		14.0 AND 130% of upstream control			station of the same day			
Limit Level		sta	tion of the same	day	station of the same day			
Measured	WM3-C	4.9	5.2	2.6	7.0	6.5	14.0	
Level	WM3	72.1	121.5	35.3	109.0	54.5	16.0	
Exceedance		Limit Level	Limit Level	Limit Level	Limit Level	Limit Level	Limit Level	
Results, Recommen & M Measures	dations Iitigation	<ol> <li>According discharg location</li> <li>According 29 to 31 to 3)</li> <li>During foundat mostly treatment the disc was obs</li> <li>As adv accumu between no exce when the conside discharg Contract</li> </ol>	construction act g was building fo ge was made. The WM3C and WM ing to the site reco March 2016, the weekly site inspec- ion works was c hard paved. (Photo 5 rised by the Co- lated silt was of the works area edances triggered arbid discharge for red that the turbing from the unkt t 2.	site information provided from the Contractor of C2 n activities carried out on 29 to 31 March 2016 at admin ng foundation works (rebar fixing and concreting) and no e. The works area under C2 and the water monitoring d WM3 are shown in Figure 1. te record from the monitoring team during monitoring on 6, the water quality at WM3 was slightly turbid. (Photo 1 inspection on 1 April 2016, it was observed that building vas carried out at Admin Building and the site area was d. (Photo 4) Temporary drainage system and water ras properly implemented. Inspection was carried out at h outside the site boundary and no adverse water impact oto 5) e Contractor of C6, discharge of turbid water and ras observed from an unknown outfall which located at area of C2/ C6 and WM3. (Photo 6 to 8) There were agered in the additional monitoring result on 1 April 2016 arge from the unknown outfall was not observed. It is turbid water detected at WM3 was related to the turbid e unknown outfall and unlikely due to the works under				
Action to be taken		recommend measures in	ed in the imple the EM&A Man	ementation so ual.	chedule for e	nvironmental	mitigation	
Prepared By	:	Nicola	Hon	_				
Designation :	: <u> </u>	Environmenta	I Consultant	_				
Signature :		An	h.	_				

Date :

12 April 2016





Muddy water was observed at WM3 on 29 March 2016



Photo 2 Muddy water was observed at WM3 on 29 March 2016



Photo 3 Muddy water was observed at WM3 on 31 March 2016



#### Photo 4

During weekly site inspection on 1 April 2016, it was observed that building foundation works was carried out at Admin Building and the site area was mostly hard paved.



#### Photo 5

Inspection was carried out at the discharge nullah outside the site boundary and no adverse water impact was observed



#### **Photo 6** Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 29 March 2016.



Photo 7

Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 30 March 2016.



### Photo 8

Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 31 March 2016.



Figure 1 Location Map for Works Area under Contract 2 and Water Quality Monitoring Location