JOB NO.: TCS00864/16

CEDD SERVICE CONTRACT NO. NTE/07/2016 ENVIRONMENTAL TEAM FOR DEVELOPMENT OF ANDERSON ROAD QUARRY SITE – SITE FORMATION AND ASSOCIATED INFRASTRUCTURE WORKS

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT REPORT (JUNE 2019)

PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	Reference No.	Prepared By	Certified By
22 July 2019	TCS00864/16/600/R0284v4	Nicola Hon (Environmental Consultant)	Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	12 July 2019	First Submission
2	15 July 2019	Amended according to IEC's comments on 15 July 2019
3	18 July 2019	Amended according to IEC's comments on 17 July 2019
4	22 July 2019	Amended according to IEC's comments on 22 July 2019

ANEWR

Civil Engineering and Development Department
New Territories East Development Office
Suite 1213 Chinachem Golden Plaza
77 Mody Road
Tsim Sha Tsui East
Kowloon

Your reference:

Our reference: HKCEDD10/50/105903

Date: 22 July 2019

Attention: Mr Leung Siu Kau, Kelvin

BY POST

Dear Sirs

Agreement No.: NTE 08/2016
Independent Environmental Checker for Development of Anderson Road Quarry Site – Site Formation and Associated Infrastructure Works
Monthly Environmental Monitoring and Audit Report (June 2019)

We refer to the emails of 12, 16, 19 and 22 July 2019 from Action-United Environmental Services and Consulting attaching a Monthly Environmental Monitoring and Audit Report (June 2019) for the captioned project.

We have no further comment and hereby verify the captioned report.

Should you have any queries, please do not hesitate to contact the undersigned or our Ms Hazel Chan on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

Adi Lee
Independent Environmental Checker

LYMA/CYYH/lhmh

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EXECUTIVE SUMMARY

ES01 Action-United Environmental Services & Consulting (AUES) has been awarded the Civil Engineering and Development Department (CEDD) Service Contract No. NTE/07/2016 Environmental Team for Development of Anderson Road Quarry Site – Site Formation and Associated Infrastructure Works (hereinafter called "the Service Contract") on 15 December 2016. The commencement date of the Service Contract is from December 2016 and the Contract Period is 70 months.

ES02 The Services under the Service Contract is to provide environmental monitoring and audit (EM&A) services for the Works Contracts pursuant to the requirement of Environmental Team (ET) under the EM&A manual to ensure that the environmental performance of the Works Contracts comply with the requirement specified in the EM&A Manual and EIA Report of Development of Anderson Road Quarry and other relevant statutory requirements.

ES03 To facilitate the project management and implementation, the Service Contract is divided to three CEDD contracts including Contract 1 (NE/2016/01), Contract 2 (NE/2016/05) and Contract 3 (NE/2017/03). As advised by the RE, the date for commencement of Contract 1 was on 21 December 2016 and the major construction works has been commenced on 12 April 2017. The date for commencement of Contract 2 was 31 March 2017 and the major construction activities have been commenced on 2 May 2017. Furthermore, Contract 3 was commenced on 31 May 2018 and the major construction activities works was commenced in November 2018. The EM&A programme under the Project was commenced on 12 April 2017 pursuant to the requirement under the EM&A manual.

ES04 This is the **27th** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1 to 30 June 2019** (hereinafter 'the Reporting Period').

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES05 Environmental monitoring activities under the EM&A programme in the Reporting Period are summarized in the following table.

Environmental Aspect	Environmental Monitoring Parameters / Inspection	Reporting Period	
		Number of Active Monitoring Locations	Total Occasions
Air Quality	1-hour TSP	**5**	**90**
	24-hour TSP	**4**	**18**
Construction Noise	$L_{eq(30min)}$ Daytime	**5**	**20**
	$L_{eq(30min)}$ Daytime for Contract NE/2017/03	**3**	**12**

BREACH OF ACTION AND LIMIT (A/L) LEVELS

No exceedance of air quality was recorded in the Reporting Period. For construction noise monitoring, no Limit Level exceedance was recorded nor noise complaint (which triggered Action Level) were received in the reporting period. The environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation	Corrective Actions
Air Quality	1-hour TSP	0	0	0	NA	NA
	24-hour TSP	0	0	0	NA	NA
Construction Noise	$L_{eq(30min)}$ Daytime	**1**	0	0	Not project related	NA

ENVIRONMENTAL COMPLAINT

ES06 EPD referred a case to CEDD on 17 June 2019 regarding the construction noise heard at On Tat Estate on Sunday. The Contractor explained that general cleaning by water jet was carried out in the construction site on the concerned day. Since the work did not involve the use of Powered Mechanical Equipment (PME), it would not violate the noise control ordinance. The Investigation report is underway by ET.

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES07 No environmental summons or successful prosecutions for the Project were recorded in the Reporting Period.

REPORTING CHANGE

ES08 A Work Instruction was issued from AECOM to AUES in November 2018 for installing three additional noise monitoring stations under Contract 3. Impact noise monitoring was performed at these three additional noise monitoring locations since December 2018.

SITE INSPECTION

ES09 In this Reporting Period, joint site inspection to evaluate the site environmental performance for ***Contract 1*** was carried out by the RE, ET and Contractor on **6th, 11th, 18th and 25th June 2019** in which IEC joined the site inspection with SSEMC on **6th June 2019**. No non-compliance was noted during the site inspection.

ES10 In this Reporting Period, joint site inspection to evaluate the site environmental performance for ***Contract 2*** was carried out by the RE, ET and Contractor on **5th, 12th, 19th and 26th June 2019** in which IEC joined the site inspection with SSEMC on **19th June 2019**. No non-compliance was noted during the site inspection.

ES11 In this Reporting Period, joint site inspection to evaluate the site environmental performance for ***Contract 3*** was carried out by the RE, ET and Contractor on **6th, 14th, 21st and 28th June 2019** in which IEC joined the site inspection with SSEMC on **14th June 2019.** No non-compliance was noted during the site inspection.

FUTURE KEY ISSUES

ES12 As wet season is approaching, preventive measures for muddy water or other water pollutants from site surface overflow to public area should be properly maintained. The Contractors should paid special attention on water quality mitigation measures and fully implement according ISEMM of the EM&A Manual.

ES13 Since construction site is highly visible to the resident at nearby estates, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission.

ES14 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.

ES15 In addition, all effluent discharge shall be ensure to fulfill Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or discharge permits stipulation.

Table of Contents

LIST OF TABLES

LIST OF APPENDICES

1. INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 Action-United Environmental Services & Consulting (hereinafter referred as "AUES") has been awarded the CEDD Service Contract No. NTE/07/2016 Environmental Team for Development of Anderson Road Quarry Site – Site Formation and Associated Infrastructure Works (hereinafter called "the Service Contract") on 15 December 2016. The commencement date of the Service Contract was December 2016 and the Contract Period is 70 months. The Services under the Service Contract is to provide environmental monitoring and audit (EM&A) services for the Works Contracts pursuant to the requirement of Environmental Team (ET) under the EM&A manual to ensure that the environmental performance of the Works Contracts comply with the requirement specified in the EM&A Manual and EIA Report of Development of Anderson Road Quarry and other relevant statutory requirements.

1.1.2 Development of Anderson Road Quarry is to provide land and the associated infrastructures for the proposed land used at the existing Anderson Road Quarry Site at the North-eastern of East Kowloon according to the final Recommended Outline Development Plan (hereinafter named as the Project Works).

1.1.3 To facilitate the project management and implementation, the Service Contract is divided to three CEDD contracts including Contract 1 (NE/2016/01), Contract 2 (NE/2016/05) and Contract 3 (NE/2017/03). The date for commencement of Contract 1 was on 21 December 2016 and the major construction works commenced on 12 April 2017. The date for commencement of Contract 2 was 31 March 2017 and the major construction activities commenced on 2 May 2017. Contract 3 was commenced on 31 May 2018 but the major construction activities works have not yet commenced in this reporting period. The EM&A programme under the Project was commenced on 12 April 2017 pursuant to the requirement under the EM&A manual.

1.1.4 According to the Approved EM&A Manual, air quality and construction noise are required to be monitored during the construction phase of the Project. As part of the EM&A program, baseline monitoring to determine the ambient environmental conditions is required to be carried out before construction work of the Project commencement. Hence, baseline air quality and background noise monitoring were conducted on ***17th January 2017*** to ***30th January 2017***, ***16th February 2017*** to ***2nd March 2017 and 26th March 2017 to 8th April 2017***. Furthermore, Baseline Monitoring Report, which certified by Environmental Team Leader (ETL) and verified by the Independent Environmental Checker (IEC) has been submitted to Environmental Protection Department (EPD) on ***9 May 2017*** for endorsement.

1.1.5 This is the **27th** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1 to 30 June 2019**.

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 3 contracts as described in following. The details of each contract are summarized below and the delineation of each contract is shown in ***Appendix A***.

Contract 1 (Contract No. NE/2016/01)

2.1.2 Commencement date of Contract 1 was in late December 2016 and the major scope of work of Contract 1 is listed below:

- Formation of about 40 hectares (ha) of land platforms at the ARQ site and the associated geotechnical works;
- Road works including construction of approximately 3-kilometer long vehicular roads, footpaths, cycle tracks, an approximately 130-meter long underpass at the southern end an a public transport terminus at the northern end at the ARQ site;
- Provision of and improvement to water supply, drainage and sewerage systems as well as landscaping works; and
- Construction of proposed subway structures and lift tower structures of pedestrian connectivity facilities.

Contract 2 (Contract No. NE/2016/05)

2.1.3 Commencement date of Contract 2 was 31 March 2017 and the major Scope of Work of the Contract 2 is listed below:

(i) Construction of the following pedestrian connectivity facilities with covered elevated walkways, covered at grad walkways, escalators, life towers with associate staircase and lifts:-
  (a) Linking Hiu Kwong street with Hiu Ming Street (E1)
  (b) Linking the proposed "Footbridge Link at Sau Ming Road" with Hiu Ming Street (E2, C1 and E3)
  (c) Linking the proposed bus-to-bus interchange at Tseung Kwan O Tunnel Toll Plaza with Lin Tak Road (E12)

(ii) Construction of bus-to-bus interchange (BBI) at Tseung Kwan O Tunnel Toll Plaza;

(iii) Associated landscape works;

(iv) Construction of green routes connecting to Jordan Valley Park and Choi Wing Road; and

(v) Slope improvement works in the vicinity of Po Lam Road South and other associated works.

Contract 3 (Contract No. NE/2017/03)

2.1.4 The commencement date of Contract 3 is on 31 May 2018 and the major Scope of Work of the Contract 3 is listed below:

(i) Site formation and road works in the following sections:-
  (a) at junction of Clear Water Bay Road (CWBR) and On Sau Road constructed under the Development at Anderson Road (DAR) project including the provision of U-turn facility and noise mitigation measures (RIW1);
  (b) at New Clear Water Bay Road (NCWBR) near Shun Lee Tsuen Road including the road widening works at NCWBR, modification of existing subway structure and provision of noise mitigation measures (RIW2); and
  (c) at the junction of Lin Tak Road and Sau Mau Ping Road, construction of flyover above Tseung Kwan O Road, provision of loading and unloading bays along Lin Tak Road and noise mitigation measures (RIW3).

(ii) construction of the following pedestrian connectivity facilities with covered elevated walkways, escalators and lift towers with associated staircases and lifts:-

(a) linking Anderson Road Quarry site with the DAR Site (except the works covered under Contract 1) (System A and System B);
(b) linking Hiu Ming Street with Hiu Yuk Path (E8); and
(c) linking the proposed bus-bus interchange at Tseung Kwan O Tunnel Toll Plaza with Sau Mau Ping Road (E11).

(iii) Associated landscape works.

2.2 PROJECT ORGANIZATION

2.2.1 The project organization structure for Contracts 1 and 2 is shown in ***Appendix B***.

2.3 CONSTRUCTION PROGRESS

2.3.1 The three-months rolling construction program for Contracts 1 and 2 are enclosed in ***Appendix C*** while the construction program for Contract 3 has not yet provided by the Contractor in this Reporting Period. As provided by the Contractors, the major construction activities conducted in the Reporting Period are summarized in below.

Contract 1 (NE/2016/01)

1. Implementation of Temporary Traffic Arrangement at the junction between On Sau Road and Road L4, Po Lam Road near Po Tat Estate and Po Lam Road near Ma Yau tong Village;
2. Construction of the footings at South and North Towers of Pedestrian Connectivity System B (PCSB);
3. Excavation works for Subway of PCSB;
4. Construction of drainage pipe 1350mm dia. from M/H S310 to M/H X3A near North Tower of PCSB;
5. Construction of drainage works near the box culvert BC1 and BC2;
6. Construction of drainage works at Road L1 between Road L3 and Road 5;
7. Excavation works from Bay 1 to Bay 10 of BC1 and constructions of bay 11 and 12 of BC01
8. Construction of box culvert BC2 of Bay 5, 6, 7 and 11;
9. Construction of water mains at Road L5;
10. Construction of pile cap and strap beams and steel post erection of Public Transport Terminus;
11. Road Improvement Works at Po Lam Road
12. Tunneling works at West Portal
13. Site formation works at slope A1 of East Portal and slope A3 West Portal
14. Excavation works for Water Pumping Station area;
15. Backfilling works for Retaining Wall RWA 13 and RWA 14;
16. Base slabs and walls at Salt and Fresh Water Reservoir;
17. Retaining walls of Artificial Flood Attenuation Lake;
18. Construction of U channels for the area of Portal B8 and KW Asphalt Plant;
19. Construction of walls and columns works for Underground Stromwater Retention Tank (USRT)
20. Noise Barrier walls, Retaining Walls RWA12 and RWA18 for internet road L4; and
21. Rock Slope Survey and Slope Stabilization at Portion B1 and B5

Contract 2 (NE/2016/05)

1. Portion 1: Excavation and shoring works for E1 – PC3 & E1 –PC5; piling works for Pile Cap E1 – PC3 and construction of Pier E1-P1
2. Portion 2: Continue rock slope excavation for E3-ST1; rock excavation for E3-F1; existing lighting removal and installation of rock dowel
3. Portion 3: Relocation of existing pedestrian crossing
4. Portion 4: Rectification of defects
5. Portion 5: - Excavation and Shoring works for covered walkway footing BBI-NB-F2, F1a,F1b; footing Construction for Northern and Southern High Mast; Relocation of

High Masts and drainage Works

6. Portion 6: Rock breaking for rock cut slope and BBI Footing; fixing formwork, rein forcement and place concrete for RWE12

Contract 3 (NE/2017/03)

Works in Road Improvement Works 1 (RIW1)
- Piling platform 2 concrete block laying in progress;
- Civil works for gasmain diversion under new Slip Road 2;
- Preparation works for pre-drill work of CT5 are in-progress.

Works in Road Improvement Works 2 (RIW2)
- Formation works and soil nail works for Slope D3 works in progress;
- Relocation of existing highway lighting along Clear Water Bay Road (Portion C) was completed; Modification of existing central median along Clear Water Bay Road (Portion C) is working in-progress;
- Relocation of District Welcome Signboard in progress;

Works in Road Improvement Works 3 (RIW3)
- Form haul-road at slope D1 is in-progress;
- Rock excavation, form haul road and tree felling works at slope D3 are in-progr ess;
- Modification works to junction of Lin Tak Road and Sau Mau Ping Road for co nstruction of temporary safety fence.
- Construction of temporary safety fence along Lin Tak Road.
- Form the temporary access road to facilitate the rock cutting works at Slope D3;
- Form the haul road to implement the ELS works for Retaining Wall RWD2 at S lope D2;
- Construction of ELS works for construction of Retaining Wall RWD2 at Slope D 2;

Pedestrian Connectivity Facility E8 (PC-E8)
- Footing construction works at lower portion are in-progress;
- Preparation works, and temporary staircase construction at upper portion are in-pr ogress;

Pedestrian Connectivity Facility E11 (PC-E11)
- Socketed-H piles construction at PC-E11 are in-progress;

Pedestrian Connectivity Facilities Systems A (PC-SYA)
- Rock excavation for 2nd level and associated rock mapping in-progress;

Pedestrian Connectivity Facilities Systems B (PC-SYB)
- Socketed-H piles construction at PC-SYB are in-progress;
- Form haul road at upper portion is in-progress;

Tseung Kwan O Bus-Bus Interchange New Public Toilet (BBI-Toilet)
- Construction of R.C. works of public toilet;
- Shop-drawing for E&M works under preparation

2.3.2 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project of contracts 1 and 2 are presented in ***Tables 2-1, 2-2 and 2-3***.

Table 2-1 Status of Environmental Licenses and Permits of the Contract 1

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 411762	NA	NA	valid
	Form NB – Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 412730	NA	NA	valid
2	Chemical Waste Producer Registration	Registration no. WPN 5213-292-C4115-01	15 Feb 17	End of project	valid
3	Water Pollution Control Ordinance – Discharge License	WT00027252-2017	20 Mar 17	31 Mar 22	valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no. 7026925	20 Jan 17	End of project	valid
5	Construction Noise Permit	GW-RE0447-19	14 Jun 19	13 Sep 19	valid

Table 2-2 Status of Environmental Licenses and Permits of the Contract 2

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 312173	NA	NA	valid
2	Chemical Waste Producer Registration	Registration no. WPN 5213-294-K2890-08	3 Jul 17	End of Project	Valid
3	Water Pollution Control Ordinance – Discharge License	WT00028685-2017	02 Aug 17	31 Aug 22	Valid
		WT00028686-2017	02 Aug 17	31 Aug 22	Valid
		WT00028687-2017	02 Aug 17	31 Aug 22	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no.7027548	12 Apr 17	End of project	Valid
5	Construction Noise Permit	GW-RE0167-19	12 Mar 19	11 Jun 19	Valid

Table 2-3 Status of Environmental Licenses and Permits of the Contract 3

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air Pollution Control	Notification to EPD on 29 May 2018.			

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
	(Construction Dust) Regulation				
2	Chemical Waste Producer Registration	**For Area R1W3 (E11)** Registration no. WPN : 5213-294-C4239-04	6-Aug-18	End of Project	Valid
		For Area System A Registration no. WPN: 5213-293-C4239-05	6-Aug-18	End of Project	Valid
		For Area System B Registration no. WPN 5213-294-C4239-03	6-Aug-18	End of Project	Valid
		For Area E8 Registration no. WPN 5213-292-C4239-06	6-Aug-18	End of Project	Valid
3	Water Pollution Control Ordinance – Discharge License	**For Area R1W3 (E11)** WT00032742-2018	18-Jan-19	31-Jan-24	Valid
		For Area System A WT00033223-2019	31-Jan-19	31-Jan-24	Valid
		For Area System B	Pending approval from EPD		
		For Area E8 WT00033299-2019	5-Mar-19	5-Mar-24	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no.7031075	20 July 2018	End of project	Valid
5	CNP for Lifting Oscillators of Area RIW1 KS27	-	-	-	Refuse

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; and
- Construction noise

3.2.2 A summary of the monitoring parameters is presented in ***Table 3-1.***

Table 3-1 Summary of EM&A Requirements

Environmental Issue	Parameters
Air Quality	• 1-hour TSP by Real-Time Portable Dust Meter; and • 24-hour TSP by High Volume Air Sampler
Noise	• Leq(30min) in normal working days (Monday to Saturday) 07:00-19:00 except public holiday • Supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.

3.3 MONITORING LOCATIONS

3.3.1 According to the EM&A Manual Section 4.6, seven (7) most representative and affected air sensitive receivers (ASR) were selected as air monitoring stations (AQM). During site visit at the subject site before the baseline monitoring, it was noted that some planned ASRs identified in the EM&A Manual are still under construction/ has not yet constructed and there were no suitable location to set up the high volume sampler to carry out the baseline 24-hour TSP monitoring. Therefore, a proposed change for the baseline monitoring programme was submitted and agreed by EPD before the baseline monitoring.

3.3.2 The impact air quality monitoring locations are listed in ***Table 3-2*** and illustrated in ***Appendix D.***

Table 3-2 Impact Monitoring Stations – Air Quality

ID	ASR ID in EIA	Location in the EM&A Manual	Identified Location during Site Visit	Status
AMS-1	ACYC-01	Chi Yum Ching She	Ground of Chi Yum Ching facing the project site	Replaced by AMS-1a
AMS-1a (*)	ACYC-01	Tan Shan Village No. 5 - 6	Ground of Tan Shan Village No. 5 - 6 facing the project site	Active (*)
AMS-2 (#)	DARB-13	Block 8, Site B	Ground of Fung Tai House of On Tai Estate	Active
AMS-3	DARC-16	Planned Clinic and Community Centre, Site C2 Note 1	Ground of Planned Clinic and Community Centre facing Anderson Road	Not yet commenced
AMS-4	DARC-26	Planned School, Site C2 Note 2	Ground of Planned School facing Anderson Road	Not yet commenced
AMS-5	DARE-06	Block 5, DAR Site E	Main roof of Oi Tat House of On Tat Estate facing the project site	Active
AMS-6	DARE-17	Block 9, Site E	Main roof of Hau Tat House of On	Active

ID	ASR ID in EIA	Location in the EM&A Manual	Identified Location during Site Visit	Status
			Tat Estate facing the project site	
AMS-7	AMYT-04	Ma Yau Tong Village	Balcony at 2nd floor of Village House Anderson Road No. 1 facing the project site	Active

Note 1: The ASR is under construction and not yet in operation.
Note 2: The ASR is not yet constructed.
(#) AMS-2 was activated on 26 November 2018 since Fung Tai House became an air sensitive receiver. hour TSP monitoring was commenced on 26 November 2018 while installation of HVS for 24-hour TSP was pending approval from Housing Authority.
(*) 24-hour TSP monitoring at AMS1 was abandoned since May 2019 due to lack of power supply and the landlord was unreachable. The alternation location of AMS1a was activated on 15 June 2019 for 1-hour and 24-hour TSP monitoring. The proposal for relocation is under reviewed by IEC.

Construction Noise

3.3.3 According to the EM&A Manual Section 5.5, three (3) most representative and affected noise sensitive receivers (NSR) were selected as monitoring stations. As recommended by the RE and agreed by IEC, one (1) additional noise monitoring location is proposed to add in Oi Tat House of On Tat Estate (hereafter "NMS-4") to oversee the possible noise impact pose to the resident in On Tat Estate, which is an existing NSR close to the major works activities. Moreover, review of impact monitoring location was proposed to IEC in view of the current site condition and it was agreed by all parties. The details of noise monitoring location are listed in ***Table 3-3*** and illustrated in ***Appendix D***.

Table 3-3 Impact Monitoring Stations – Construction Noise

ID	NSR ID in EIA	Location	Status
NMS-1	Site C2 – School 05 Note 1	Ground of planned school at DAR facing the project site	Not yet commenced
NMS-2	Site E – School Note 1	Ground area between the planned school and Him Tat House facing the project site	Not yet commenced
NMS-3	Site C2 – R102 Note 1	Ground of Ancillary Facilities Building facing the project site	Not yet commenced
NMS-4*	Oi Tat House	1m from the exterior of ground floor façade of Oi Tat House of On Tat Estate facing the project site	Active
NMS-4a#	Oi Tat House	Rooftop of Oi Tat House where 1m from the exterior of Oi Tat House facing the project site	Active
NMS-5#	Hau Tat House	22/F, refuge floor of Hau Tat House where 1m from the exterior of Hau Tat House facing the project site.	Active
NMS-6˜	Yung Tai House of On Tai Estate	Rooftop of Yung Tai House where 1m from the exterior of the building facing the project site)	Active
NMS-7˜	Chi Tai House of On Tai Estate	Rooftop of Chi Tai House where 1m from the exterior of the building facing the project site	Active
NMS-8^	No. 3-4 Ma Yau Tong Village	1m from the exterior of the building façade and facing the construction site	Active

Note 1: The NSR is under construction and not yet in operation.
Remark:
(*) Additional noise monitoring location was recommended by RE and agreed by IEC. It was temporary suspended and the monitoring location is relocated to NMS4a with effective on 15 Nov 2017.
(#) Review of noise monitoring locations was proposed by ET and NMS-5 was effective on 15 November 2017.

(ˉ) *Review of noise monitoring locations was proposed by ET and NMS-6 and NMS-7 were effective on 28 Feb 2018.*

(ˆ) *Review of noise monitoring locations was proposed by ET and NMS-8 was effective on 18 April 2018. Noise monitoring at NMS-8 was started on 3 May 2018 upon commencement of construction at relevant section.*

Addition Construction Noise Monitoring Location

3.3.4 A Work Instruction was issued from AECOM to AUES in November 2018 for installing three additional noise monitoring stations under Contract 3. According to the Work Instruction, one noise monitoring station was proposed to install at System A Area and two station monitoring points were proposed to install at E8 Area. The noise monitoring locations are shown in ***Table 3-4*** below and illustrated in ***Appendix D***.

Table 3-4 Additional Impact Monitoring Stations – Construction Noise

ID	Location	Description
CN1	Holm Glad College	Ground floor of Holm Glad College, where 1m from the exterior of the building facing E8
CN2	Leung Shek Chee College	Ground floor of Leung Shek Chee College, where 1m from the exterior of the building facing E8
CN3	Oi Tat House of On Tat Estate	Ground floor of Oi Tat House of On Tat Estate, where 1m from the exterior of the building facing System A

3.4 MONITORING FREQUENCY AND PERIOD

3.4.1 The requirements of impact monitoring in the approved *EM&A Manual* and presented as follows.

Air Quality Monitoring

3.4.2 Frequency of impact air quality monitoring is as follows:

- 1-hour TSP 3 times every six days during course of works throughout the construction period
- 24-hour TSP Once every 6 days during course of works throughout the construction period

Noise Monitoring

3.4.3 Noise monitoring will be to conduct at the all available designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities are underway:

- one set of $Leq_{(30min)}$ measurements between 07:00 and 19:00 hours on normal weekdays

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 prove that the instrument is capable of achieving a comparable results to the HVS. The instrument should be calibrated regularly, and the 1-hour sampling shall be determined on yearly basis by the HVS to check the validity and accuracy of the results measured by direct reading method. The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.

3.5.2 All equipment to be used for air quality monitoring is listed in ***Table 3-5***.

Table 3-5 Air Quality Monitoring Equipment

Equipment	Model

Equipment		Model
24-hour 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 Meter	Sibata LD-3B Laser Dust Monitor

Noise Monitoring

3.5.3 Sound level meter in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. The sound level meter shall be checked using an acoustic calibrator. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in ms^{-1}.

3.5.4 Noise equipment as perform for construction phase monitoring is listed in ***Table 3-6***.

Table 3-6 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	B&K Type 2238
Calibrator	Rion NC-74
Portable Wind Speed Indicator	Anemometer AZ Instrument 8908

3.6 MONITORING METHODOLOGY

1-hour TSP

3.6.1 The 1-hour TSP monitor was a brand named "Sibata LD-3 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^{o} 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 to be used will be within the valid period, calibrated by the manufacturer prior to purchasing. Zero response of the instrument will be checked before and after each monitoring event.

24-hour TSP

3.6.3 The equipment used for 24-hour TSP measurement is Thermo Andersen Model GS2310 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 For HVS for 24-hour TSP monitoring, the HVS is mounted in a metallic cage with a top for protection and also it is sat on the existing ground or the roof of building. The flow rate of the HVS between $0.6m^3$/min and $1.7m^3$/min will be properly set in accordance with the

manufacturer's instruction to within the range recommended in *EPA Code of Federal Regulation, Appendix B to Part 50*. Glass Fiber Filter 8" x 10" of TE-653 will be used for 24-Hour TSP monitoring and would be supplied by laboratory. The general procedures of sampling are described as below:-

- A horizontal platform with appropriate support to secure the samples against gusty wind should be provided;
- No two samplers should be placed less than 2 meters apart;
- The distance between the sampler and an obstacle, such as building, must be at least twice the height that the obstacle protrudes above the sample;
- A minimum of 2 meters of separation from any supporting structure, measured horizontally is required;
- Before placing any filter media at the HVS, the power supply will be checked to ensure the sampler work properly;
- The filter paper will be set to align on the screen of HVS to ensure that the gasket formed an air tight seal on the outer edges of the filter. Then filter holder frame will be tightened to the filter hold with swing bolts. The holding pressure should be sufficient to avoid air leakage at the edge;
- The mechanical timer will be set for a sampling period of 24 hours (00:00 mid-night to 00:00 mid-night next day). Information will be recorded on the field data sheet, which would be included the sampling data, starting time, the weather condition at current and the filter paper ID with the initial weight;
- After sampling, the filter paper will be collected and transfer from the filter holder of the HVS to a sealed envelope and sent to a local HOKLAS accredited laboratory for quantifying.

3.6.5 All the sampled 24-hour TSP filters will be kept in normal air conditioned room conditions, i.e. 70% HR (Relative Humidity) and 25^{o}C, for six months prior to disposal.

3.6.6 The HVS used for 24-hour TSP monitoring will be calibrated before the commencement for sampling, and after in two months interval for 1 point checking of maintenance and six months interval for five points calibrate in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A) to establish a relationship between the follow recorder meter reading in cfm (cubic feet per minute) and the standard flow rate, Qstd, in m^3/min. Motor brushes of HVS will be regularly replaced of about five hundred hours per time. 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 E***.

Noise Monitoring

3.6.7 As referred to in the Technical Memorandum (TM) issued under the NCO, sound level meters 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. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

3.6.8 All noise measurements will be performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq). $Leq_{(30\ min)}$ in six consecutive $Leq_{(5\ min)}$ measurements will be used as the monitoring parameter for the time period between 07:00-19:00 hours on weekdays throughout the construction period.

3.6.9 The sound level meter will be mounted on a tripod at a height of 1.2 m and placed at the assessment point and oriented such that the microphone is pointed to the site with the microphone facing perpendicular to the line of sight. The windshield will be fitted for all

measurements. Where a measurement is to be carried out at a building, the assessment point would normally be at a position 1 m from the exterior of the building façade. Where a measurement is to be made for noise being received at a place other than a building, the assessment point would be at a position 1.2 m above the ground in a free-field situation, i.e. at least 3.5 m away from reflective surfaces such as adjacent buildings or walls.

3.6.10 Immediately prior to and following each noise measurement the accuracy of the sound level meter will be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements will be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0 dB.

3.6.11 Noise measurements will not be made in fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed will be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

3.6.12 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. The calibration certificates of all monitoring equipment used for the impact monitoring program in the Reporting Period is attached in ***Appendix E***.

Meteorological Information

3.6.13 The meteorological information including wind direction, wind speed, humidity, rainfall, air pressure and temperature etc. during baseline monitoring is extracted from the closest Hong Kong Observatory Station. To obtain the most appropriate meteorological information where available, the data of temperature is extracted from the Kwun Tong Observatory Station; the data of wind speed and wind direction are extracted from Kai Tak Observatory Station and the data of humidity is extracted from King's Park Station.

3.7 DERIVATION OF ACTION/LIMIT (A/L) LEVELS

3.7.1 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 were set up, namely Action and Limit levels are listed in ***Tables 3-7 and 3-8***.

Table 3-7 Action and Limit Levels for Air Quality Monitoring

Monitoring Station	Action Level (μg /m^3)		Limit Level (μg/m^3)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
AMS-1	313	154	500	260
AMS-2	319	165	500	260
AMS-3	319	165	500	260
AMS-4	315	165	500	260
AMS-5	299	166	500	260
AMS-6	303	168	500	260
AMS-7	307	156	500	260

Table 3-8 Action and Limit Levels for Construction Noise

Monitoring Location	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
NMS-1	When one or more documented complaints are received	***75*** dB(A) [Note 1] / ***70*** dB(A) [Note 2] / ***65*** dB(A) [Note 2]
NMS-2		
NMS-3		***75*** dB(A)
NMS-4*		***75*** dB(A)
NMS-4a#		***75*** dB(A)
NMS-5#		***75*** dB(A)

Monitoring Location	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
NMS-6~		***75*** dB(A)
NMS-7~		***75*** dB(A)
NMS-8^		***75*** dB(A)
CN1+		***70*** dB(A)[Note 2] / ***65*** dB(A)[Note 2]
CN2+		***70*** dB(A)[Note 2] / ***65*** dB(A)[Note 2]
CN3+		***75*** dB(A)

Note 1: Locations NMS-1 and NMS-2 are planned school as NSRs which are still under construction/ not yet constructed; hence the Limit Levels of 75dB(A) is adopted for NMS-1 and NMS-2 until the school is occupied and in operation.

Note 2: Noise Limit Levels for school is 70dB(A) and should be reduced to 65dB(A) during examination period.

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

Remark: (*) Additional noise monitoring location was recommended by RE and agreed by IEC. It was temporary suspended and the monitoring location is relocated to NMS4a with effective on 15 Nov 2017.
(#) Review of noise monitoring locations was proposed by ET and NMS-5 was effective on 15 Nov 2017.
(~) Review of noise monitoring locations was proposed by ET and NMS-6 and NMS-7 were effective on 28 Feb 2018.
(^) Review of noise monitoring locations was proposed by ET and NMS-8 was effective on 18 April 2018. Noise monitoring at NMS-8 was started on 3 May 2018 upon commencement of construction at relevant section.
(+) Additional noise monitoring locations as instructed by AECOM which effective in Dec 18.

3.7.2 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 F.***

3.8 DATA MANAGEMENT AND DATA QA/QC CONTROL

3.8.1 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 properly 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.

3.8.2 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, air quality monitoring was performed at the active designated monitoring locations AMS-1, AMS-2, AMS-5, AMS-6 and AMS-7. Since installation of HVS for 24-hour TSP at AMS-2 was pending approval from Housing Authority, only 1-hour TSP monitoring was conducted at AMS-2. No monitoring was conducted at AMS-3 and AMS-4 since they are planned ASR which are still under construction/ not yet constructed.

4.1.2 The air quality monitoring schedule is presented in ***Appendix G*** and the monitoring results are summarized in the following sub-sections.

4.2 RESULTS OF AIR QUALITY MONITORING

4.2.1 In the Reporting Period, a total of ***90*** events of 1-hour TSP monitoring and ***18*** events of 24-hours TSP were carried out and the monitoring results are summarized in ***Tables 4-1 to 4-5***. The detailed 24-hour TSP monitoring data are presented in ***Appendix H*** and the relevant graphical plots are shown in ***Appendix I***.

Table 4-1 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-1&AMS-1a)

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
4-Jun-19	(*)	1-Jun-19	14:25	62	60	62
10-Jun-19	(*)	6-Jun-19	9:21	44	46	49
15-Jun-19 (#)	37	12-Jun-19	9:11	31	41	44
21-Jun-19 (#)	25	18-Jun-19 (#)	8:51	40	43	47
27-Jun-19 (#)	23	24-Jun-19 (#)	9:26	43	47	50
-	-	29-Jun-19 (#)	9:43	44	46	47
Average (Range)	**28 (23 - 37)**	Average (Range)		**47 (31 - 62)**		

(*) Due to power failure, no data was obtained.
(#) 24-hour TSP monitoring at AMS1 was abandoned since May 2019 due to lack of power supply and the landlord was unreachable. The alternation location of AMS1a was activated on 15 June 2019 for 1-hour and 24-hour TSP monitoring. The proposal for relocation is under reviewed by IEC.

Table 4-2 Summary of 1-hour TSP Monitoring Results (AMS-2)

1-hour TSP (μg/m³)				
Date	Start Time	1st reading	2nd reading	3rd reading
1-Jun-19	9:59	65	65	64
6-Jun-19	9:44	44	46	52
12-Jun-19	9:47	57	66	53
18-Jun-19	9:14	43	46	50
24-Jun-19	9:50	43	45	49
29-Jun-19	13:48	47	48	48
Average (Range)		**52 (43 – 66)**		

Table 4-3 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-5)

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
4-Jun-19	17	1-Jun-19	13:42	72	70	71
10-Jun-19	12	6-Jun-19	13:18	52	59	62

15-Jun-19	23	12-Jun-19	13:01	56	63	71
21-Jun-19	19	18-Jun-19	9:27	44	48	51
27-Jun-19	26	24-Jun-19	13:17	42	43	48
-	-	29-Jun-19	9:14	47	49	50
Average (Range)	**19 (12 – 26)**	Average (Range)		**55 (42 - 72)**		

Table 4-4 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-6)

Date	**24-hour TSP (μg/m³)**	**1-hour TSP (μg/m³)**				
		Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
4-Jun-19	21	1-Jun-19	10:21	72	73	73
10-Jun-19	18	6-Jun-19	13:29	57	60	63
15-Jun-19	24	12-Jun-19	13:02	48	53	42
21-Jun-19	18	18-Jun-19	9:37	43	47	49
27-Jun-19	29	24-Jun-19	13:30	44	47	50
-	-	29-Jun-19	12:51	49	48	50
Average (Range)	**22 (18 – 29)**	Average (Range)		**54 (42 – 73)**		

Table 4-5 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-7)

Date	**24-hour TSP (μg/m³)**	**1-hour TSP (μg/m³)**				
		Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
4-Jun-19	28	1-Jun-19	14:05	61	60	61
10-Jun-19	51	6-Jun-19	13:12	75	79	78
15-Jun-19	125	12-Jun-19	9:45	40	58	50
21-Jun-19	38	18-Jun-19	14:21	48	52	55
27-Jun-19	47	24-Jun-19	9:43	51	53	62
-	-	29-Jun-19	16:09	51	52	51
Average (Range)	**58 (28 – 125**	Average (Range)		**58 (40 – 79)**		

4.2.2 As shown in ***Tables 4-1 to 4-5***, all the 1-hour TSP and 24-hour TSP monitoring results in the Reporting Period were below the Action and 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 J***.

5. CONSTRUCTION NOISE MONITORING

5.1 GENERAL

5.1.1 In the Reporting Period, noise monitoring was only performed at the additional monitoring locations NMS4a, NMS5, NMS6, NMS7 and NMS8. No monitoring was conducted at the designated monitoring locations NMS1, NMS2 and NMS3 since they are the planned NSR and still under the construction or not yet constructed.

5.1.2 In addition, a Work Instruction was issued from AECOM to AUES in November 2018 for installing three additional noise monitoring stations, i.e., CN1, CN2 and CN3 for Contract 3. Impact noise monitoring was performed at the three additional noise monitoring locations since December 2018.

5.1.3 The noise monitoring schedule is presented in ***Appendix G*** 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 **20** events noise measurements were carried out at the designated locations under Contract 1. The noise monitoring results at the designated locations are summarized in ***Tables 5-1.*** The detailed noise monitoring data are presented in ***Appendix H*** and the relevant graphical plots are shown in ***Appendix I***.

Table 5-1 Summary of Construction Noise Monitoring Results for Contract 1

Construction Noise Level ($L_{eq30min}$), dB(A)					
Date	**NMS4a**	**NMS5**	**NMS6**	**NMS7**	**NMS8**
6-Jun-19	68	60	58	61	67
13-Jun-19	66	67	59	63	62
18-Jun-19	69	61	59	60	71
24-Jun-19	62	61	60	54	67
Limit Level	**75 dB(A)**				

5.2.2 For the additional noise monitoring under Contract 3, a total of **12** events noise measurements were performed for the Contract. The noise monitoring results are summarized in ***Tables 5-2.*** The detailed noise monitoring data are presented in ***Appendix H*** and the relevant graphical plots are shown in ***Appendix I***.

Table 5-2 Summary of Construction Noise Monitoring Results for Contract 3

Construction Noise Level ($L_{eq30min}$), dB(A)			
Date	**CN1** *(~)*	**CN2** *(#)*	**CN3**
6-Jun-19	63	62	69
12-Jun-19	58	56	66
18-Jun-19	57	57	69
24-Jun-19	64	64	65
Limit Level	***70*** dB(A)[Note 1] / ***65*** dB(A)[Note 1]	***70*** dB(A)[Note 1] / ***65*** dB(A)[Note 1]	**75 dB(A)**

Note 1: Noise Limit Levels for school is 70dB(A) and should be reduced to 65dB(A) during examination period.

(~) There was examination period on 6 to 22 June 2019 at CN1.

(#) There was examination period on 6 to 21 June 2019 at CN2.

5.2.3 As shown in ***Tables 5-1 and 5-2,*** no Limit Level exceedance was recorded in this Reporting Period. However, one noise complaint (which triggered Action Level) was received under the Project and complaint details could be referred to Section 8.

6. WASTE MANAGEMENT

6.1 GENERAL WASTE MANAGEMENT

6.1.1 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time.

6.2 RECORDS OF WASTE QUANTITIES

6.2.1 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.

6.2.2 The quantities of waste for disposal in this Reporting Period are summarized in ***Tables 6-1*** and ***6-2*** and the Monthly Summary Waste Flow Table is shown in ***Appendix K***. Whenever possible, materials were reused on-site as far as practicable.

Table 6-1 Summary of Quantities of Inert C&D Materials

Type of Waste	Contract 1		Contract 2		Contract 3	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Total generated Inert C&D Materials ('000m^3)	14.250	-	0.504	-	0.695	-
Hard Rock and Large Broken Concrete ('000m^3)	4.357	-	0	-	0	-
Reused in this Contract (Inert) ('000m^3)	2.976	-	0.085	-	0	-
Reused in other Projects (Inert) ('000m^3)	2.217	-	0	-	0.488	-
Disposal as Public Fill (Inert) ('000m^3)	4.700	TKO 137	0.419	TKO 137	0.695	TKO 137

Table 6-2 Summary of Quantities of C&D Wastes

Type of Waste	Contract 1		Contract 2		Contract 3	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Recycled Metal ('000kg)	0.002	27 Sheung Yee Rd, Kowloon Bay	0	-	0	-
Recycled Paper / Cardboard Packing ('000kg)	0.446	License collector	0	-	0	-
Recycled Plastic ('000kg)	0.012	License collector	0	-	0	-
Chemical Wastes ('000kg)	0	-	0	-	0	-
General Refuses ('000m^3)	0.084	SENT	0.0005	SENT	0.018	SENT

7. SITE INSPECTION

7.1 REQUIREMENTS

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

7.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH

Contract 1

7.2.1 In the Reporting Period, joint site inspection for Contract 1 to evaluate site environmental performance was carried out by the RE, ET and the Contractor on **6th, 11th, 18th and 25th June 2019** in which IEC joined the site inspection with SSEMC on **6th June 2019**. No non-compliance was noted. The findings / deficiencies of ***Contract 1*** that observed during the weekly site inspection are listed in ***Table 7-1***.

Table 7-1 Site Observations of Contract 1

Date	Findings / Deficiencies	Follow-Up Status
6 June 2019	• Stagnant water cumulated inside the drip tray after rainstorm should be cleared. (PTT & USRT) • Drip tray should be provided for chemical storage on-site. (USRT)	• Stagnant water cumulated inside the drip tray after rainstorm was cleared. • Free standing oil drums without drip tray were removed.
11 June 2019	• Sediment cumulated inside the outlet should be cleaned. (Q1) • Turbidity water discharged from site was observed. Proper de-silting facilities should be provided and make sure all water discharge from site should comply with discharge license requirement. (Q2 & Q4)	• Sediment cumulated inside the outlet was cleared. • No turbidity water discharge from Q4 was observed.
18 June 2019	• C&D waste cumulated on-site should be cleaned more frequency. (USRT) • Turbidity water generated from site should be diverted to proper de-silting facilities prior discharge from site. (Q2) • Sand and debris cumulated inside the u-channel should be cleaned. • Proper dust mitigation measures should be provided for exposed slope or surface to reduce dust impact. (General)	• C&D waste cumulated on-site was cleared. • No turbidity water discharged from Q2 was observed. • Sand and debris inside u-channel was cleaned. • Reminder only.
25 June 2019	• Sediment cumulated inside the outlet should be cleaned. (Q1) • Water and oil mixture cumulated inside drip tray should be cleaned and dispose as chemical waste. (Road L3)	• Sediment cumulated inside the outlet was cleared. • Water and oil mixture cumulated inside the drip tray was cleaned.

Contract 2

7.2.2 In the Reporting Period, joint site inspection for Contract 2 to evaluate site environmental performance was carried out by the RE, ET and the Contractor on **5th, 12th, 19th and 26th June 2019** in which IEC joined the site inspection with SSEMC on **19th June 2019**. No non-compliance was noted. The findings / deficiencies of ***Contract 2*** that observed during the

weekly site inspection are listed in ***Table 7-2***.

Table 7-2 Site Observations of Contract 2

Date	Findings / Deficiencies	Follow-Up Status
5 June 2019	• The Contractor was reminded to clean stagnant water within site area after rainstorm. • The Contractor was reminded to avoid dust emission during construction work. • The Contractor was reminded to maintain the noise barrier properly.	• Reminder only. • Reminder only. • Reminder only.
12 June 2019	• The Contractor was reminded to remove the stagnant water at Portion 2.	• Reminder only.
19 June 2019	• Oil drum was observed on the ground of portion 2. The Contractor should place oil drum inside drip tray to avoid oil leakage. • Mobile crane without NRMM label was observed at portion 2. The Contractor should provide NRMM label for mobile crane used within site area. • Overflow of muddy water outside work area was observed at portion 5. The Contractor should provide mitigation measure to avoid overflow of muddy water. • The Contractor was reminded to review the wastewater treatment system at portion 2. • The Contractor was reminded to clean the mud trails at sit entrance of portion 2.	• Oil drum was removed from site area. • NRMM label was provided for the mobile crane used within site area. • No overflow of muddy water was observed. • Reminder only. • Reminder only.
26 June 2019	• Muddy trails was observed at site entrance of portion 2. The Contractor was advised to clean it as soon as possible. • The Contractor was reminded to provide noise reduction material on the breaker.	• Muddy trails was cleaned at site entrance. • Reminder only.

Contract 3

7.2.3 In the Reporting Period, joint site inspection for Contract 3 to evaluate site environmental performance was carried out by the RE, ET and the Contractor on **6th, 14th, 21st and 28th June 2019** in which IEC joined the site inspection with SSEMC on **14th June 2019**. No non-compliance was noted. The findings / deficiencies of ***Contract 3*** that observed during the weekly site inspection are listed in ***Table 7-3***

Table 7-3 Site Observations of Contract 3

Date	Findings / Deficiencies	Follow-Up Status
6 June 2019	• Potential muddy surface runoff in the public U-channel was observed at E11. The Contractor was advised to enhance mitigation measure to avoid potential surface runoff out of site area.	• Proper mitigation measure was implemented.
14 June 2019	• Accumulation of construction wastes was observed at E8. The Contractor was advised to dispose construction wastes regularly. • Free standing chemical containers was observed at System B. The Contractor was advised to provide proper mitigation measure to avoid land	• Construction wastes were removed. • Drip tray was provided for the free standing

Date	Findings / Deficiencies	Follow-Up Status
	contamination. • The Contractor was reminded to provide proper mitigation measure to avoid potential overflow of muddy water at E8 and System B. • The Contractor was reminded to remove the stagnant water at E8.	chemicals • Reminder only. • Reminder only.
21 June 2019	• No adverse environmental problem was observed.	• NA.
28 June 2019	• The Contractor was reminded to repair the WetSep as soon as possible at E11.	• Reminder only.

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.1.1 In the Reporting Period, one (1) environmental complaint was received with respect to the construction noise arising from Contract 1 on Sunday. Besides, no summons and prosecution under the EM&A Programme was lodged for the project. Investigation for the complaint was undertaken by the ET and presented in following sections.

Complaint received for Contract 1

EPD referred a case to CEDD on 17 June 2019 regarding the construction noise heard at On Tat Estate on Sunday. The Contractor explained that general cleaning by water jet was carried out in the construction site on the concerned day. Since the work did not involve the use of Powered Mechanical Equipment (PME), it would not violate the noise control ordinance. The Investigation report is underway by ET.

8.1.2 The complaint log is shown in ***Appendix M.***

8.1.3 In the Reporting Period, no environmental summons and Prosecution recorded.

8.1.4 The statistical summary table of environmental complaint, summons and prosecution is presented in ***Tables 8-1, 8-2*** and ***8-3***.

Table 8-1 Statistical Summary of Environmental Complaints

Reporting Period	Contract no.	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
1 Apr 2017 – 31 May 2019	1	0	**38**	**Dust, Noise and light nuisance**
21 Mar 2017 – 31 May 2019	2	0	**4**	**Noise**
31 May 2018 – 31 May 2019	3	0	**1**	**Waste Management**
1 – 30 June 2019	1	**1**	**39**	**Noise**
	2	0	**4**	NA
	3	0	**1**	NA

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Contract no.	Environmental Summons Statistics		
		Frequency	Cumulative	Summons Nature
1 Apr 2017 – 31 May 2019	1	0	0	NA
21 Mar 2017 – 31 May 2019	2	0	0	NA
31 May 2018 – 31 May 2019	3	0	0	NA
1 – 30 June 2019	1	0	0	NA
	2	0	0	NA
	3	0	0	NA

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Contract no.	Environmental Prosecution Statistics		
		Frequency	Cumulative	Prosecution Nature
1 Apr 2017 – 31 May 2019	1	0	0	NA
21 Mar 2017 – 31 May 2019	2	0	0	NA
31 May 2018 – 31 May 2019	3	0	0	NA
1 – 30 June 2019	1	0	0	NA
	2	0	0	NA
	3	0	0	NA

9. IMPLEMENTATION STATUS OF MITIGATION MEASURES

9.1 GENERAL REQUIREMENTS

9.1.1 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 L.***

9.1.2 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 in this Reporting Period are summarized in ***Table 9-1***.

Table 9-1 Environmental Mitigation Measures

Issues	Environmental Mitigation Measures
Water Quality	• Wastewater to be treated by filtration system; such as, silt curtain or sedimentation tank before discharge. • Replace silt curtain materials if necessary
Air Quality	• Maintain damp / wet surface on access road • Keep slow speed in the sites • All vehicles must use wheel washing facility before off site • All vehicles must use wheel washing facility before off site • Sprayed water during breaking works
Noise	• Restrain operation time of plants from 07:00 to 19:00 on any working day except for Public Holiday and Sunday. • Keep good maintenance of plants • Place noisy plants away from residence or school • Provide noise barriers or hoarding to enclose the noisy plants or works • Shut down the plants when not in used.
Waste and Chemical Management	• On-site sorting prior to disposal • Follow requirements and procedures of the “Trip-ticket System” • Predict required quantity of • concrete accurately • Collect the unused fresh concrete at designated locations in the sites for subsequent disposal
General	• The site was generally kept tidy and clean.

9.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

9.2.1 Construction activities for Contract 1 in the coming month are listed below:

1. Implementation of Temporary Traffic Arrangement at the junction between On Sau Road and Road L4, Po Lam Road near Po Tat Estate and Po Lam Road near Ma Yau tong Village;
2. Construction of the substructures at South Towers and footing at North Tower of Pedestrian Connectivity System B (PCSB);
3. Construction of Subway of PCSB;
4. Construction of drainage pipe 1800mm dia. from M/H S211 to M/H S211B and drainage pipe 375mm dia. from M/H R725 to T729 in Road L1;
5. Construction of drainage works near the box culvert BC1 and BC2;
6. Laying of cable ducts for underground utilities in Road L5;
7. Construction of Box Culvert BC1 and BC2;
8. Construction of water mains at Roads L2 and L5;
9. Construction of pile cap and strap beams and steel post erection of Public Transport Terminus;
10. Road Improvement Works at Po Lam Road
11. Construction of Water Pumping Station:
12. Backfilling works for Retaining Wall RWA 13, RWA 14 and RWA 18;

13. Base slabs and walls at Salt and Fresh Water Reservoir;
14. Retaining walls of Artificial Flood Attenuation Lake;
15. Construction of Noise Barrier walls and Retaining Walls RWA12 and RWA14
16. Rock Slope Survey and Slope Stabilization at Portion B1 and B5

9.2.2 Construction activities for Contract 2 in the coming month are listed below:

- Portion 1: Excavation and shoring works for E1 – PC3 & E1 –PC5; piling works for Pile Cap E1 – PC3 and construction of Pier E1-P 1
- Portion 2: Continue rock slope excavation for E3-ST1; rock excavation for E3-F1; existing lighting removal and installation of rock dowel
- Portion 3: Relocation of existing pedestrian crossing
- Portion 4: Rectification of defects
- Portion 5: - Excavation and Shoring works for covered walkway footing BBI-NB-F2,F1a,F1b; footing Construction for Northern and Southern High Mast; Relocation of High Masts and drainage Works
- Portion 6: Rock breaking for rock cut slope and BBI Footing; fixing formwork, reinforcement and place concrete for RWE12

9.2.3 Construction activities for Contract 3 in the coming month are listed below:

<u>Road Improvement Works 1 (RIW1)</u>
- Construction works at Slip Road 2;
- Civil provision for gas-main relocation at Slip Road 2;
- Piling Platform 1 & 2 Construction (RIW1);
- No fine concrete construction at Type 8 area (RIW1);
- ELS for Type 1 & 1a construction (RIW1); and
- Site clearance at Substation (RIW1);

<u>Road Improvement Works 2 (RIW2)</u>
- Pull-out test for soil nail construction;
- Soil nail construction commencement;
- Removal of existing central median on Clear Water Bay Road;
- Relocation of for Welcome sign board; and
- Soil excavation to form slope profile for soil nail construction;

<u>Road Improvement Works 3 (RIW3)</u>
- Construct site access at Slope D1, D2 and D3;
- Haul construction for Slope D1 and D3
- Stage 1 rock excavation of Slope D3;
- Pre-drill works of Slope D1

<u>Pedestrian Connectivity Facility E8 (PC-E8)</u>
- Footing construction works at lower portion
- Construct temporary staircase and working platform on upper portion
- Construct haul road on upper portion

<u>Pedestrian Connectivity Facility E11 (PC-E11)</u>
- Construction of socket H piling works at PC-E11

<u>Pedestrian Connectivity Facility System A (PC-SYA)</u>
- Rock excavation and associated rock mapping of footing at System A;

<u>Pedestrian Connectivity Facility System A (PC-SYB)</u>
- Construct run-in & out at On Chui Street for PC-SYB;
- Haul Road Construction at PC-SYB;

- Piling works at PC-SYB;

Tseung Kwan O Bus-Bus Interchange New Public Toilet (BBI-Toilet)

- Lay underground drainage pipe;

9.3 KEY ISSUES FOR THE COMING MONTH

9.3.1 Key issues to be considered in the coming month include:

- Implementation of dust suppression measures at all times;
- Potential wastewater quality impact due to surface runoff;
- Potential fugitive dust quality impact due from the dry/loose/exposure soil surface/dusty material;
- Disposal of empty engine oil containers within site area;
- Ensure dust suppression measures are implemented properly;
- 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

9.3.2 During rainy season, the Contractors should pay special attention on water quality mitigation measures and fully implement according to the ISEMM of the EM&A Manual, in particular to prevent muddy water or other water pollutants from site surface overflow to public area should be properly maintained. The implementation of water quality mitigation measures conducted by the Contractor is shown in ***Appendix N***.

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

10.1.1 This is **27th** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **30 June 2019**.

10.1.2 No 24-hour or 1-hour TSP monitoring results that triggered the Action or Limit Levels were recorded. No NOEs or the associated corrective actions were therefore issued.

10.1.3 In the Reporting Period, no exceedance was recorded and no Notification of Exceedance was issued. However, one noise complaint (which triggered Action Level) were received for the Project.

10.1.4 EPD referred a case to CEDD on 17 June 2019 regarding the construction noise heard at On Tat Estate on Sunday. The Contractor explained that general cleaning by water jet was carried out in the construction site on the concerned day. Since the work did not involve the use of Powered Mechanical Equipment (PME), it would not violate the noise control ordinance. The Investigation report is underway by ET.

10.1.5 No notification of summons or successful prosecution was received under the Project.

10.1.6 During the Reporting Period, weekly joint site inspection by the RE, ET with the relevant Main-contractor was carried out for Contracts 1, 2 and 3 in accordance with the EM&A Manual stipulation whereas IEC performed monthly site inspection for both contracts. No non-compliance observed during the site inspection.

10.2 RECOMMENDATIONS

10.2.1 As wet season is approaching, preventive measures for muddy water or other water pollutants from site surface overflow to public area should be properly maintained. The Contractors should paid special attention on water quality mitigation measures and fully implement according ISEMM of the EM&A Manual.

10.2.2 Since construction site is highly visible to the resident at nearby estates, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission.

10.2.3 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.

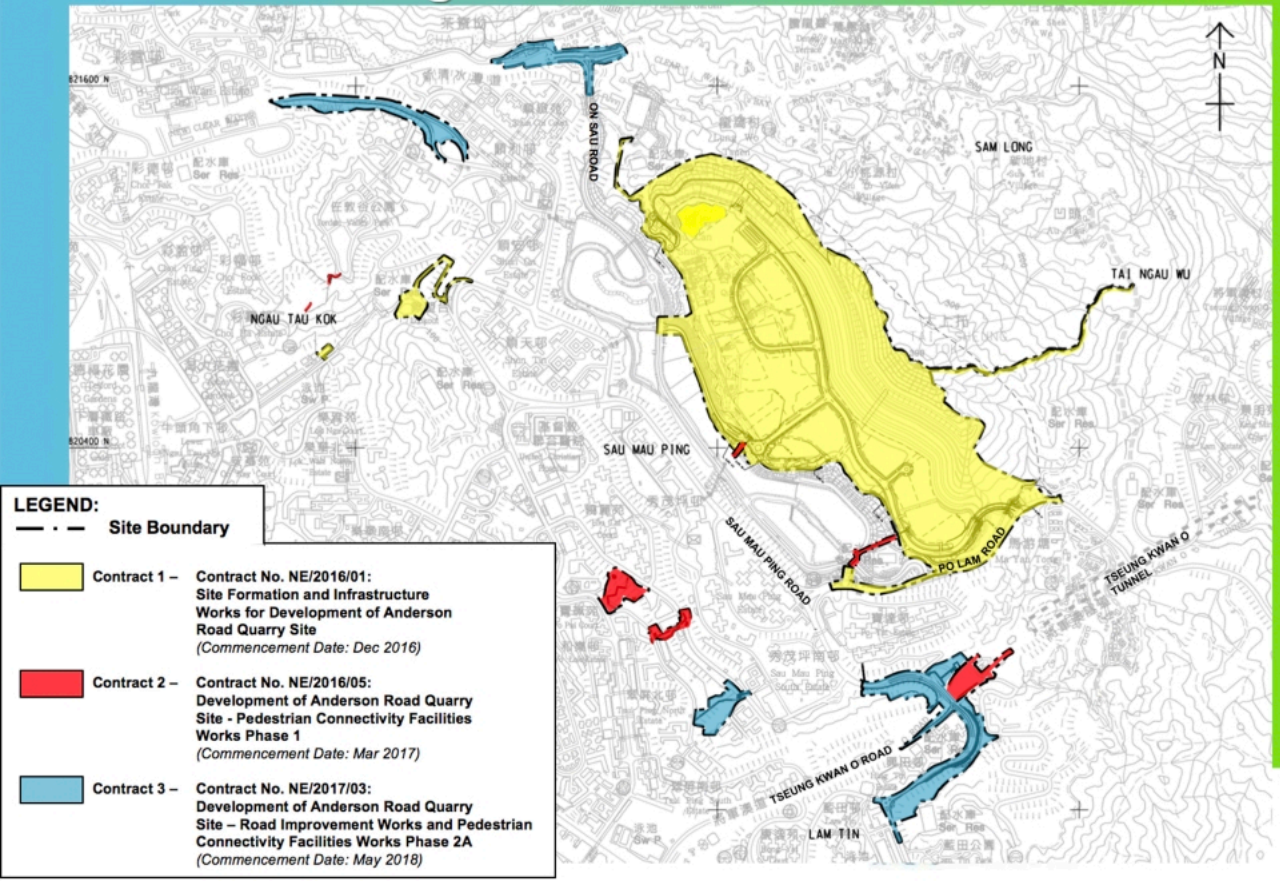
10.2.4 In addition, all effluent discharge shall be ensure to fulfill Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or discharge permits stipulation.

10.2.5 Mosquito control measures should be continued to prevent mosquito breeding on site.

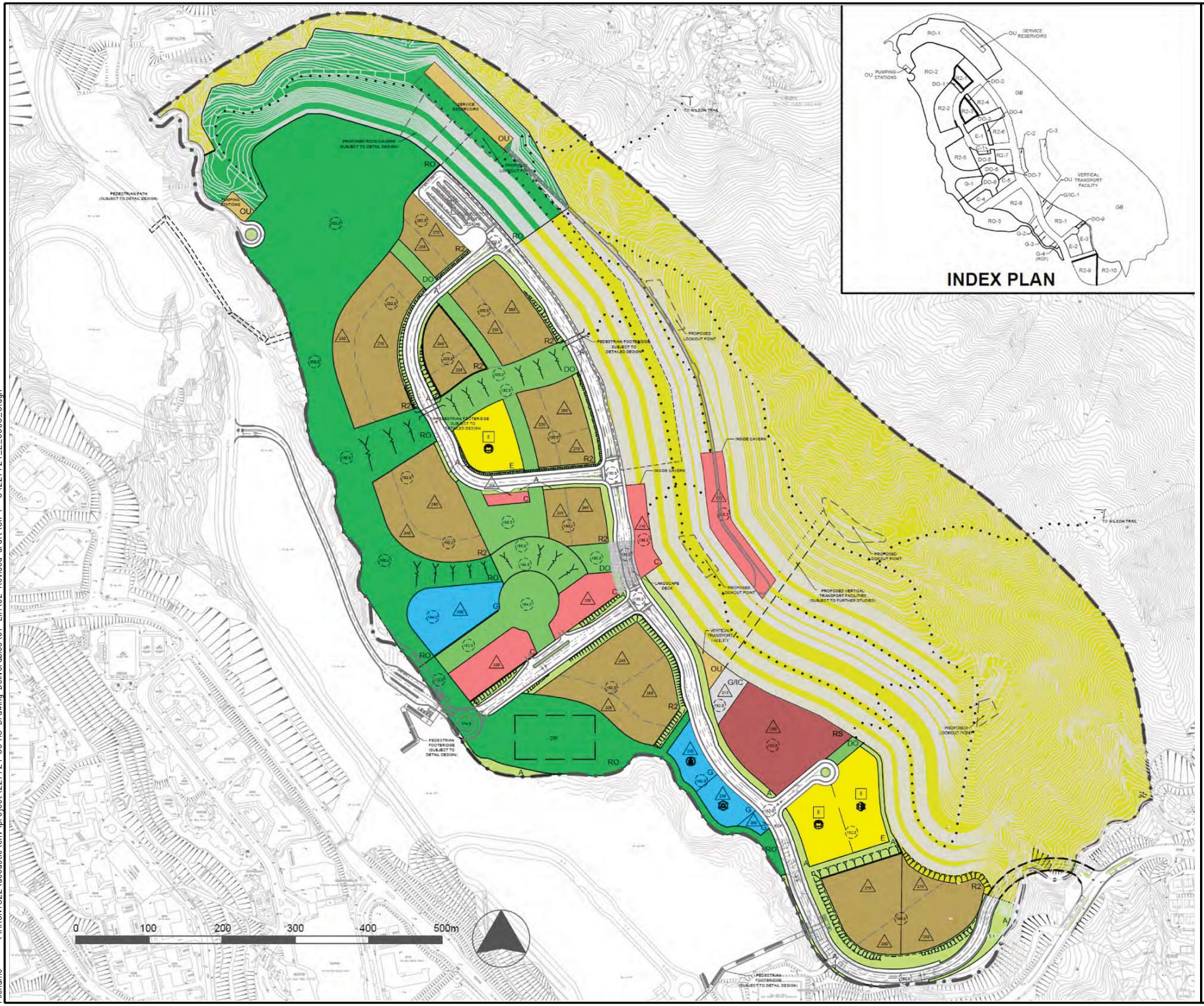
Appendix A

Layout plan of the Project

Contract Packages



Layout plan of Contract 1 (NE/2016/01)



Rev	Description	By	Date
C	THIRD ISSUE	GL	03/14
B	SECOND ISSUE	GL	01/14
A	FIRST ISSUE	GL	10/13

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Recommended Outline Development Plan

Drawing no.	Rev.
227724/E/0003	C

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: AS SHOWN

Status: PRELIMINARY

CEDD 土木工程拓展署 Civil Engineering and Development Department

Printed by : 3/31/2014
Filename : \\HKGNTS22\acoustic\env\project\227724-50\13 Drawing Deliverables\07 EIA\02 Revised draft\Ch 1 - 3\227724_E_0003_C.dgn

Layout plan of Contract 2 (NE/2016/05)

LEGEND:

SITE BOUNDARY

PORTION 1

N

841600 E

841700 E

841800 E

820000 N

819900 N

819800 N

曉光街

HIU KWONG STREET

曉和閣
Hiu Wo House

曉順閣
Hiu Shun House

遊樂場

道路
Road

新生命教育協會呂郭碧鳳中學
NLSI Lui Kwok Pat Fung College

觀塘瑪利諾書院
Kwun Tong Maryknoll College

天主教
耶穌復活堂
Resurrection Parish

TSUI PING ROAD
彩道

寶珮街

寶瑛閣
Po Ying House

Playground

PO PUI STREET

寶珊閣
Po Wu House

寶珮苑
PO PUI COURT

寶珊閣
Po Shan House

翠楣樓
Tsui Mei House

翠楊樓
Tsui Yeung House

HIU MING STREET

曉明閣
Hiu Ming Court

曉光閣
Hiu Kwong Court

平台
Podium

曉華大廈
Hiu Wah Building

富華閣
Fu Wah Court

曉光街休憩花園
Hiu Kwong Street Rest Garden

RCP

CUL

SHR

CW

EW

NGAU TAU KOK

TSUI LAM

KWUN TONG

AECOM

PROJECT
項目

DEVELOPMENT OF
ANDERSON ROAD
QUARRY SITE - INVESTIGATION,
DESIGN AND CONSTRUCTION

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY
FACILITIES WORKS PHASE 1

CLIENT
業主

土木工程拓展署
Civil Engineering and
Development Department

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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核
-	OCT. 16	TENDER DRAWING	AC

STATUS
階段

SCALE 比例
A1 1 : 500

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 A1 1 : 60000

PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

SHEET TITLE
圖紙名稱
E1 - PORTION OF SITE

SHEET NUMBER
圖紙編號
60328348/PC1/1016

Project Management Initials: Designer: PCTK Checked: AC Approved: BWCW ISO A1 594mm x 841mm

Plot File by: CHENHK 2016/10/24
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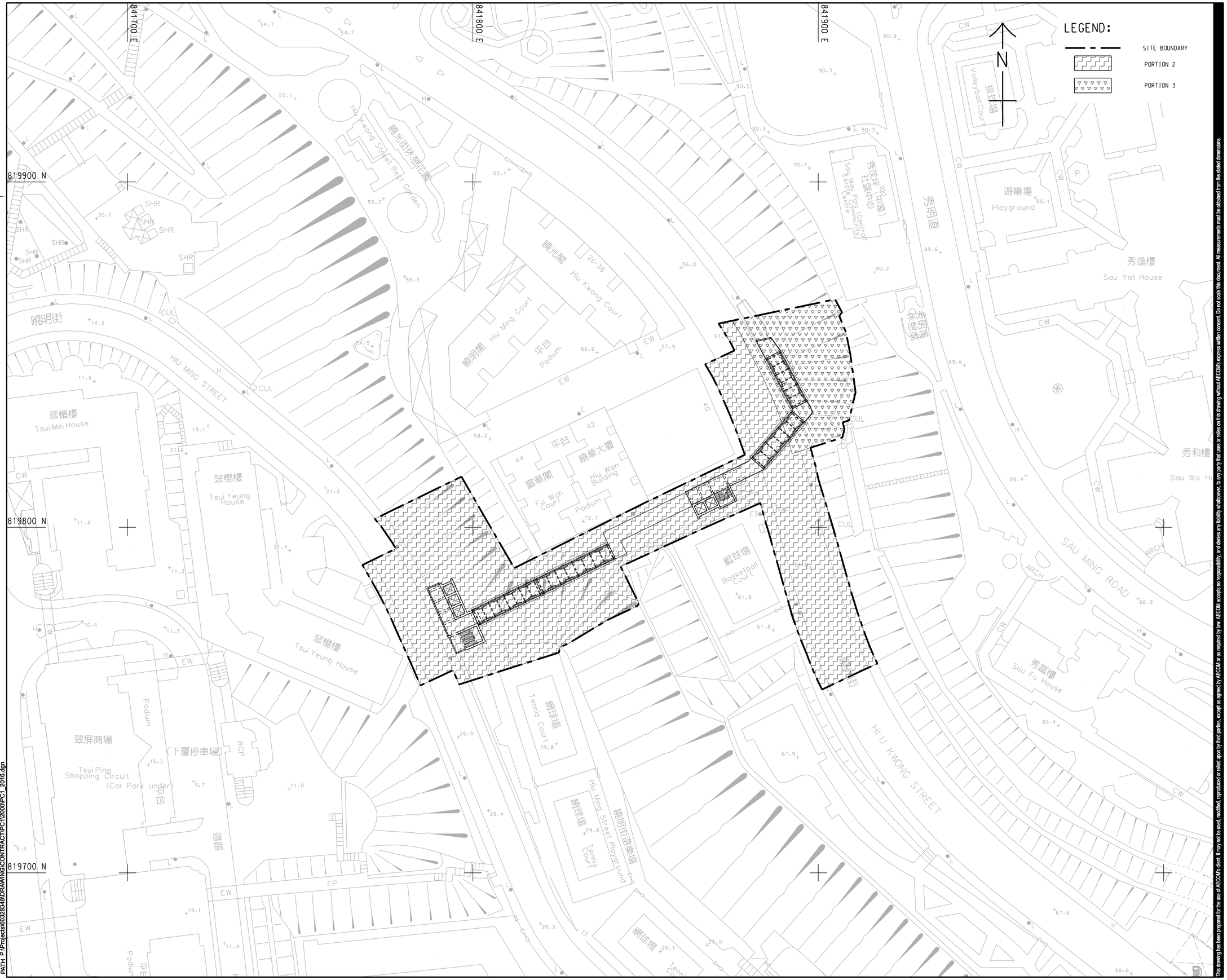

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PROJECT 項目

DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INVESTIGATION, DESIGN AND CONSTRUCTION

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

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STATUS 階段

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DIMENSION UNIT 尺寸單位
METRES

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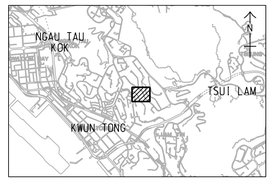

PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

SHEET TITLE 圖紙名稱
E2-C1-E3 - PORTION OF SITE

SHEET NUMBER 圖紙編號
60328348/PC1/2016

Project Management Initials: | Designer: PCTK | Checked: AC | Approved: BWCW | ISO A1 594mm x 841mm

842700 E | 842800 E | 842900 E

819700 N

819600 N

819500 N

LEGEND:

- SITE BOUNDARY
- PORTION 4
- PORTION 5
- PORTION 6

N

Road | 道路 | Elevated Road | 高架道路 | 連德道 | 兒童遊樂場 | 平台 (下層停車場) Podium (Car Park under) | 香港環境保護署 Environmental Protection Department | CUL | FP | TS | PH | WT

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PROJECT 項目

DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INVESTIGATION, DESIGN AND CONSTRUCTION

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

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-	OCT. 16	TENDER DRAWING	AC

STATUS 階段

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DIMENSION UNIT 尺寸單位
METRES

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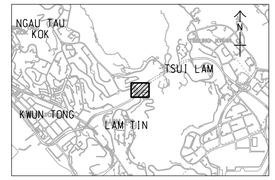

PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

SHEET TITLE 圖紙名稱
E12 AND BBI - PORTION OF SITE

SHEET NUMBER 圖紙編號
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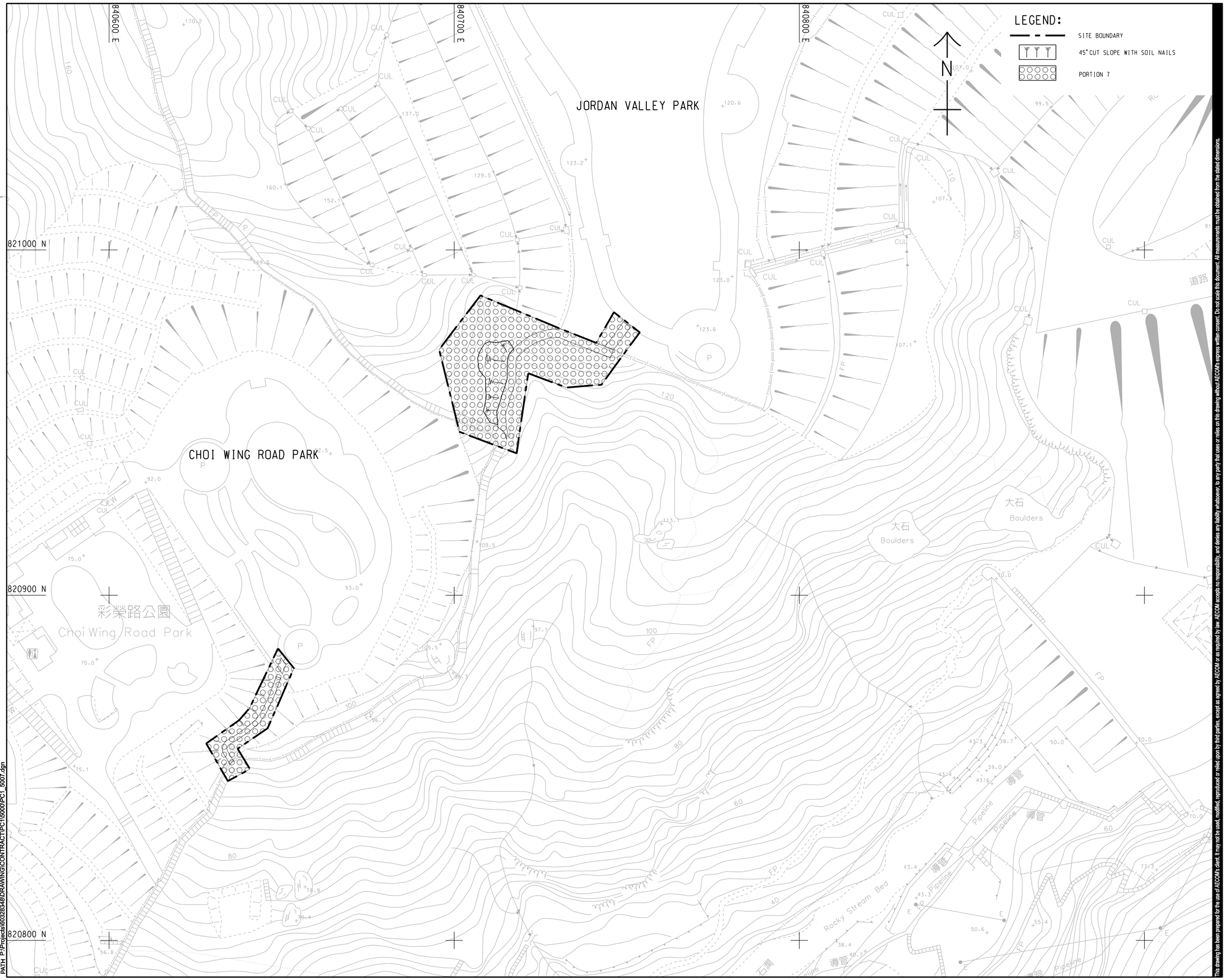

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PROJECT 項目

DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INVESTIGATION, DESIGN AND CONSTRUCTION

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

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-	OCT. 16	TENDER DRAWING	AC

STATUS 階段

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DIMENSION UNIT 尺寸單位
METRES

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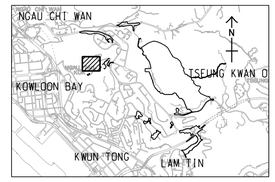

PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

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GREEN ROUTE - PORTION OF SITE

SHEET NUMBER 圖紙編號
60328348/PC1/5007

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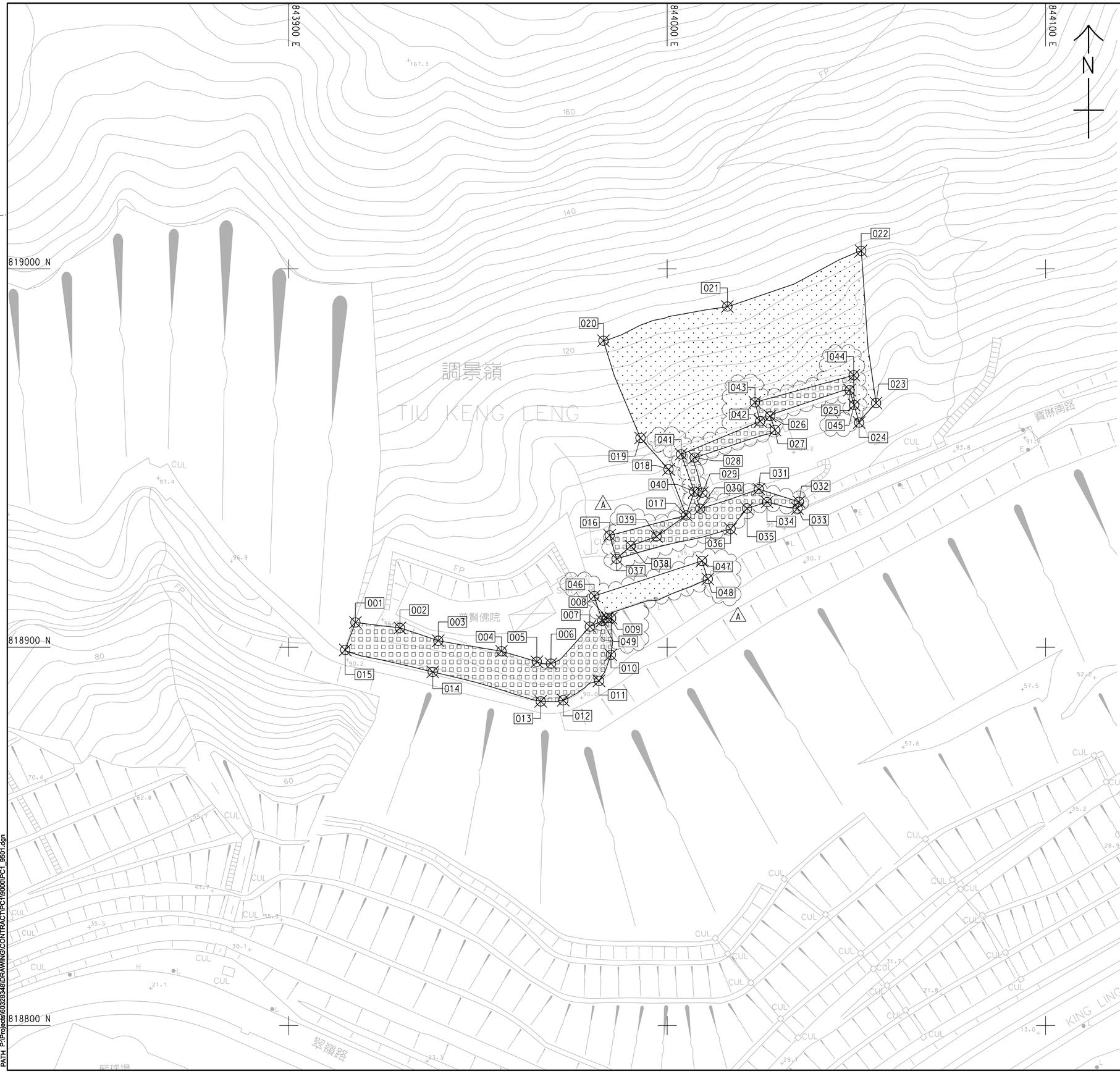

SETTING OUT POINTS

POINTS	EASTING	NORTHING
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003	843939.483	818901.709
004	843956.219	818898.942
005	843965.528	818896.168
006	843969.261	818895.667
007	843979.545	818905.452
008	843984.131	818907.650
009	843985.175	818907.685
010	843985.110	818897.974
011	843981.962	818891.121
012	843972.510	818885.990
013	843966.562	818885.703
014	843938.026	818893.479
015	843914.8936	818899.2916
016	843917.5873	818906.5418
017	844004.9983	818934.8475
018	844000.3294	818947.0185
019	843992.9288	818955.3047
020	843983.1315	818980.9995
021	844015.8829	818990.0481
022	844051.2430	819004.7564
023	844055.1790	818964.5518
024	844050.7010	818959.3870
025	844048.1970	818967.9590
026	844027.1930	818961.0890
027	844028.4560	818957.440
028	844007.2170	818950.1120
029	844009.2850	818940.8450
030	844008.6995	818936.6258
031	844024.2060	818941.7840
032	844034.8059	818938.4355
033	844034.4315	818936.6727
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035	844021.0980	818936.6740
036	844016.7340	818931.2790
037	843986.6120	818923.3580
038	843990.360	818926.797
039	843997.172	818929.287
040	844007.154	818941.102
041	844003.647	818950.980
042	844024.555	818959.707
043	844023.162	818964.725
044	844049.278	818971.887
045	844049.396	818964.017
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PROJECT 項目

DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INVESTIGATION, DESIGN AND CONSTRUCTION

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

CLIENT 業主

土木工程拓展署
Civil Engineering and Development Department

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核
A	NOV. 16	TENDER ADDENDUM NO. 1	AC
-	OCT. 16	TENDER DRAWING	AC

STATUS 階段

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DIMENSION UNIT 尺寸單位
METRES

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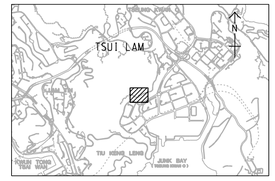


PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

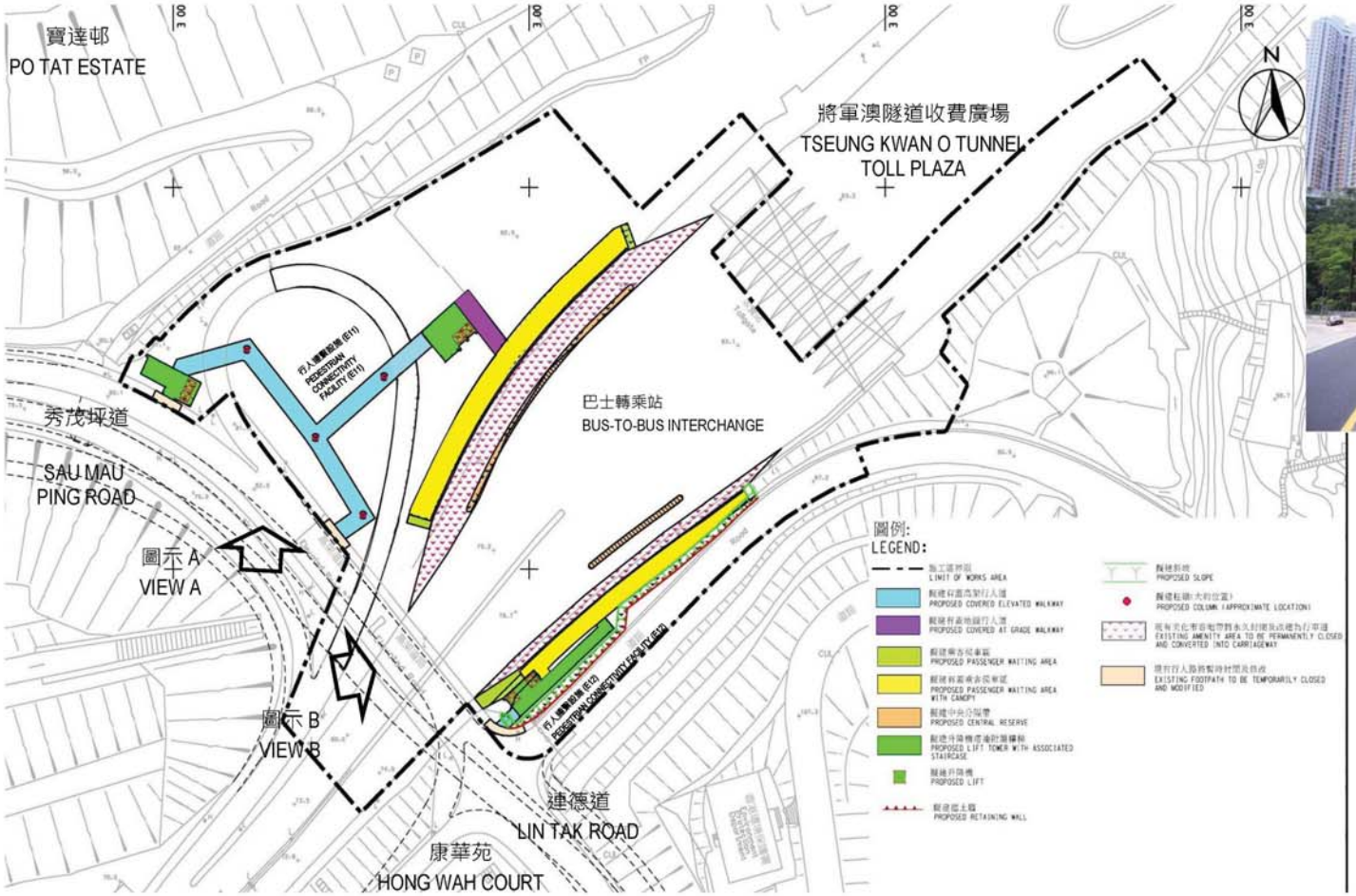
SHEET TITLE 圖紙名稱

INFRASTRUCTURAL WORKS AT PO LAM ROAD SOUTH TIU KENG LENG – PORTION OF SITE

SHEET NUMBER 圖紙編號

60328348/PC1/9501A

Layout plan of Contract 3 (NE/2017/03) (Non-Designated Area)



圖示 A VIEW A

圖示 B VIEW B

圖則名稱 Drawing Title

行人連繫設施(巴士轉乘站、E11及E12) - 平面圖及構思圖

Pedestrian Connectivity Facilities (Bus-to-Bus Interchange, E11 and E12) - Layout Plan and Artist's Impression

項目編號 Item No.
765CL

比例 Scale

圖則編號 Drawing No.
附件五 Appendix 5

辦事處 Office
新界東拓展處
NEW TERRITORIES EAST DEVELOPMENT OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project Management Initials: | Designer: | CCYT Checked: | AWYC Approved: HKT | ISO A1 594mm x 841mm

842000 N
819600 E
820400 N
820200 N
842600 E
842500 E
842100 E
842400 E

SLOPE NO. E8-1
SLOPE NO. E8-2
PEDESTRIAN CONNECTIVITY E8 SEE DRAWING NO. 60328348/R&P/3501
HIU YUK PATH
HIU MING STREET
HIU KWONG STREET
PARK STRIP
梁式芝書院 Leung Shek Chee College
曉育徑
足球場 Football Field
The Hong Kong Ching Chung Hau Po Woon Primary School
ROAD L4 (CONSTRUCTED UNDER SEPERATE CONTRACT)
EXISTING BOX CULVERT
PEDESTRIAN CONNECTIVITY SYSTEM A SEE DRAWING NO. 60328348/R&P/3101
PEDESTRIAN CONNECTIVITY SYSTEM A (CONSTRUCTED UNDER SEPERATE CONTRACT)
ROAD L1 (CONSTRUCTED UNDER SEPERATE CONTRACT)
PEDESTRIAN CONNECTIVITY SYSTEM B (CONSTRUCTED UNDER SEPERATE CONTRACT)
SLOPE NO. B1
SLOPE NO. B2
PEDESTRIAN CONNECTIVITY SYSTEM B SEE DRAWING NO. 60328348/R&P/3301
ON SAU ROAD
秀茂坪淨水配水庫 Sau Mau Ping Salt Water Service Reservoir

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60328348/R&P/1001.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60328348/R&P/1001 TO 1008.

Plot File by: WUMT 2017/11/9
PATH P:\Projects\60328348\DRAWING\CONTRACT\R&P\1000\R&P_1008.dgn

AECOM

PROJECT 項目

DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INVESTIGATION, DESIGN AND CONSTRUCTION

CONTRACT TITLE
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - ROAD IMPROVEMENT WORKS AND PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 2A

CLIENT 業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

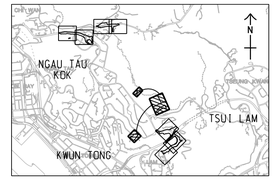
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核
			yc
A	NOV. 17	TENDER ADDENDUM NO. 1	AWYC
-	OCT. 17	TENDER DRAWING	AWYC

STATUS 階段

SCALE 比例
A1 1 : 500

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 A1 1 : 60000



PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2017/03

SHEET TITLE 圖紙名稱
GENERAL LAYOUT

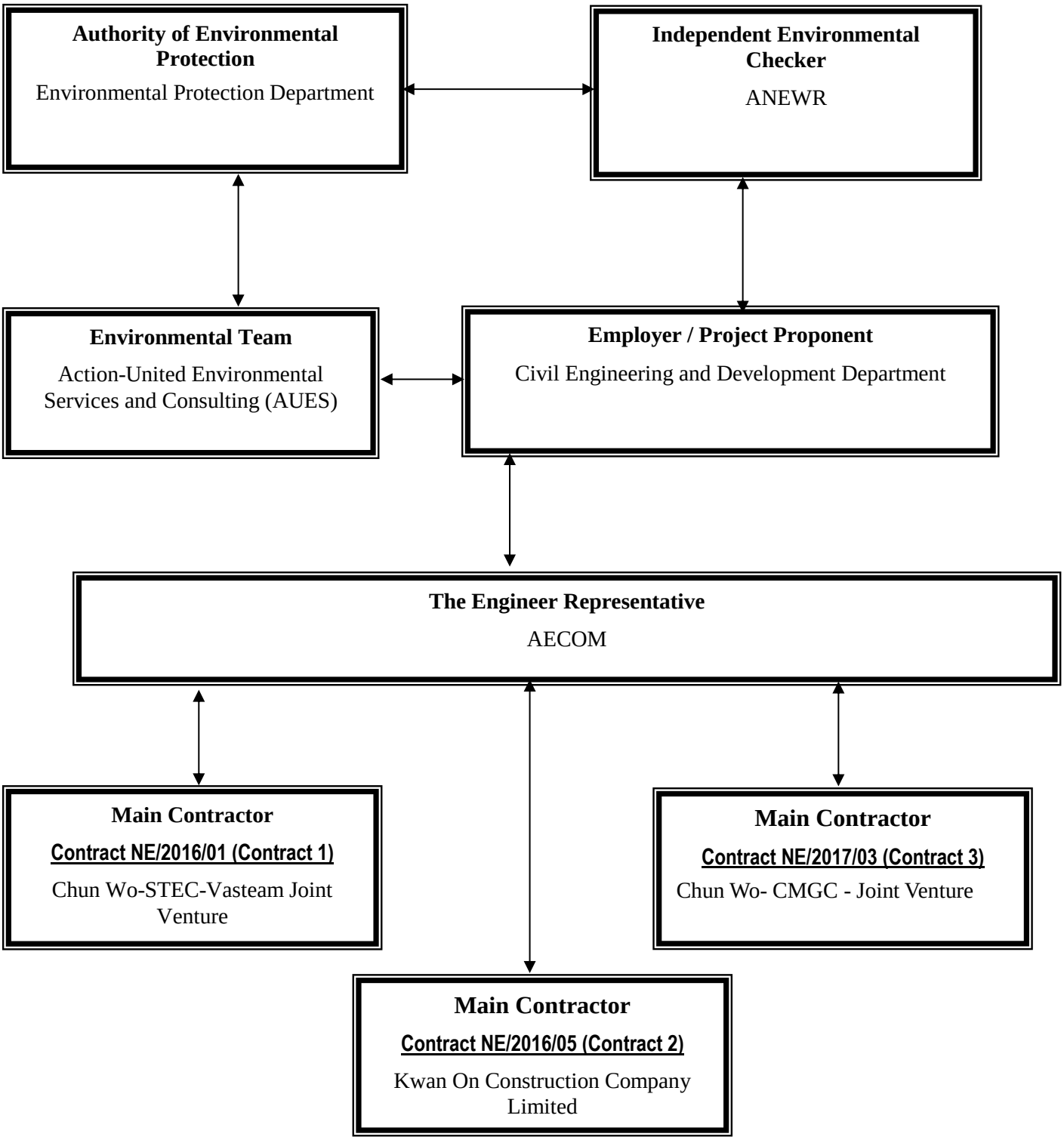
SHEET 8 OF 8

SHEET NUMBER 圖紙編號
60328348/R&P/1008A

Appendix B

Project Organization Structure

Project Organization Structure



Contact Details of Key Personnel for Contract 1 – NE/2016/01

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	Leung Siu Kau, Kelvin	2301 1383	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Li, Ling Tommy	9389 8792	2473 3221
ANEWR	Independent Environmental Checker	Adi Lee	2618 2836	3007 8648
CSVJV	Project Manager	William Leung	2638 7181	2744 6937
CSVJV	Site Agent	TY Leung	2638 7181	2744 6937
CSVJV	Project Environmental Manager	Shelton Chan	2638 7181	2744 6937
CSVJV	Environmental Officer	Ken Chiu	2638 7181	2744 6937
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.

CSVJV (Main Contractor) – Chun Wo-STEC-Vasteam Joint Venture

ANEWR (IEC) –ANewR Consulting Limited

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

Contact Details of Key Personnel for Contract 2 – NE/2016/05

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	Leung Siu Kau, Kelvin	2301 1383	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Vincent Yuen	5599 1466	2473 3221
ANEWR	Independent Environmental Checker	Adi Lee	2618 2836	3007 8648
KOCCL	Project Director	Ambrose Kwong	2889 2675	2558 6900
KOCCL	Site Agent	Yung, Shui Heng	6012 4284	2558 6900
KOCCL	Safety and Environmental Manager	Joly C K Kwong	6111 5711	2558 6900
KOCCL	Environmental Officer	Lee Kwan Ho, Byron	6671 0383	2558 6900
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.

KOCCL (Main Contractor) –Kwan On Construction Company Limited

ANEWR (IEC) –ANewR Consulting Limited

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

Contact Details of Key Personnel for Contract 3 –NE/2017/03

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	Leung Siu Kau, Kelvin	2301 1383	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Brad Chan	5506 0068	2473 3221
ANEWR	Independent Environmental Checker	Adi Lee	2618 2836	3007 8648
CW – CMGC - JV	Construction Manager	William Leung	9464 1392	3965 9900
CW – CMGC - JV	Site Agent	Chris Lam	9801 9974	3965 9900
CW – CMGC - JV	Environmental Officer	King Lam	9570 6187	3965 9900
CW – CMGC - JV	Environmental Supervisor	Belle Mak	6094 1580	3965 9900
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.

CW – CMGC - JV (Main Contractor) – Chun Wo- CMGC - Joint Venture

ANEWR (IEC) –ANewR Consulting Limited

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

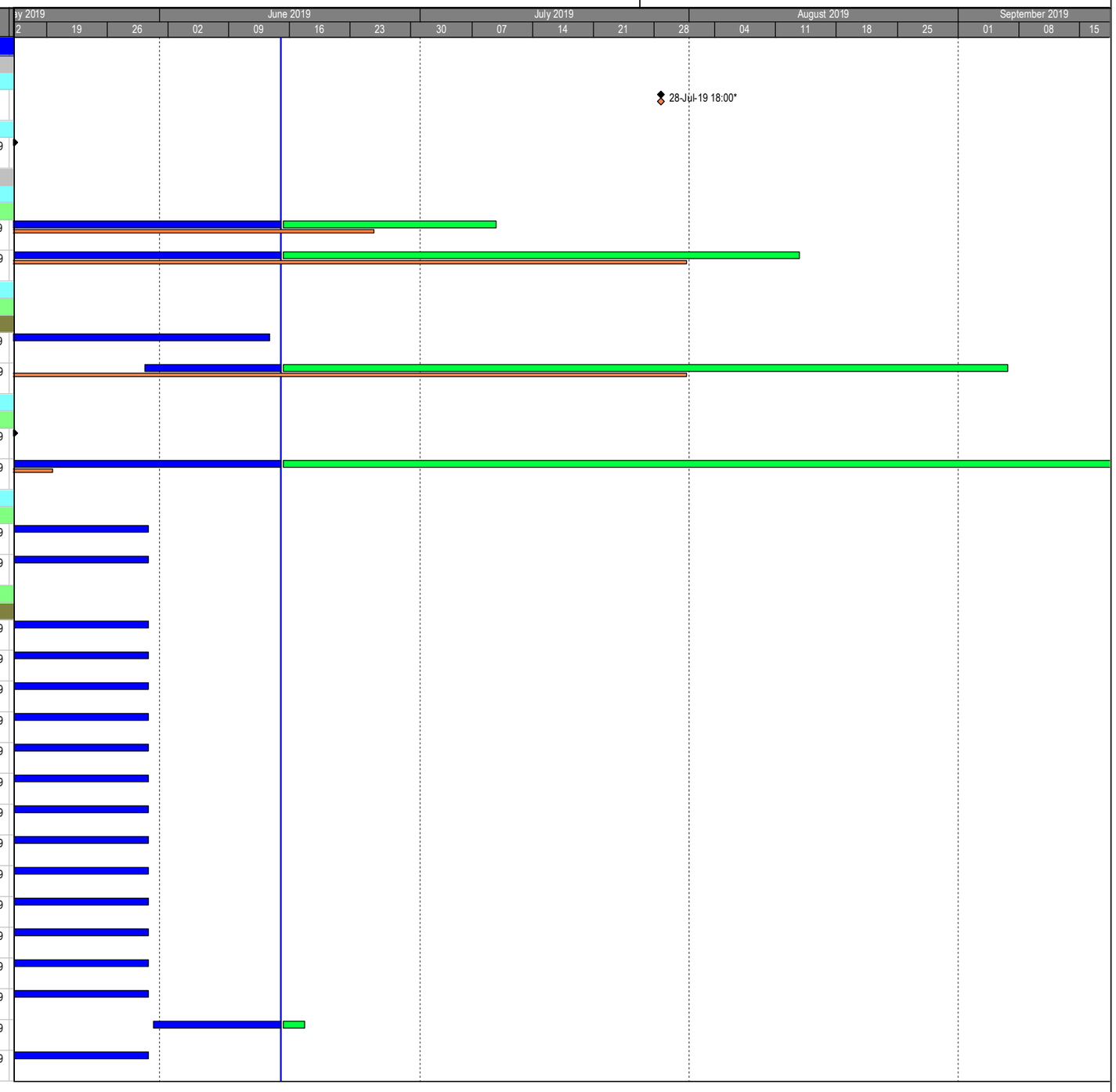
Appendix C

Construction Programme

(a) Contract 1 (NE/2016/01)
(b) Contract 2 (NE/2016/05)
(c) Contract 3 (NE/2017/03)

Contract 1 (NE/2016/01)

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
ARQ - Works Programme Rev.1 - 3MRP (15 Jun 2019)						
Project Key Dates						
Key Dates for Completion of Sections of the Works						
AKC1040	KD4 - Completion of Section IV of the Works - Portion A3	0d		28-Jul-19 18:00	0d	
Possession Periods						
AKP1270	Date for Possession of the Portion E1	0d	25-Dec-16 08:00		0d	15-May-19 08:00 A
Preliminary						
Design						
Shop Drawings						
APD7030	Preparation and Submission of Shop Drawings of Structural Steel Works of Noise Barrier at Road L4	90d	06-Mar-19 08:00	25-Jun-19 18:00	67d	16-Apr-19 08:00 A
APD7040	Review and Approval of Shop Drawings of Structural Steel Works of Noise Barrier at Road L4	90d	11-Apr-19 08:00	31-Jul-19 18:00	76d	15-May-19 08:00 A
Major Material / Plants Deliveries						
Major Material						
Civil / Structural Material						
APM1115	Materials Submission and Approval for Semi-enclosure Noise Barrier Panels at Road L4	60d	02-Feb-19 08:00	02-Apr-19 18:00	60d	15-Apr-19 08:00 A
APM1120	Procurement, Fabrication and Delivery of Semi-enclosure Noise Barrier Panels at Road L4	120d	03-Apr-19 08:00	31-Jul-19 18:00	100d	30-May-19 08:00 A
Excavation Permit (XP)						
Portion E1 (Water Mains as referred to Dwg. No.60328348/SF&I/5722)						
APF1190	Submit Application of XP for Waterworks in Portion E1 (CHU455 to CHU494.446)	0d	21-Nov-18 08:00		0d	15-May-19 08:00 A
APF1200	HyD Review Application of XP for Waterworks in Portion E1 (CHU455 to CHU494.446)	180d	21-Nov-18 08:00	19-May-19 18:00	180d	15-May-19 08:00 A
ARQ - MEP Submission						
General Submission						
A1030	Submission and Approval for Professional Indemnity Insurance (PI) for Independent Checking Engineer-R0	0d			14d	15-May-19 08:00 A
A1031	Submission and Approval for Professional Indemnity Insurance (PI) for Independent Checking Engineer-R1	0d			14d	15-May-19 08:00 A
Fresh and Salt Water Pumping Station						
Electrical						
A1380	Submission and Approval for Design of Electrical System at CLP Transformer Rm at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1390	Submission and Approval for Design of Power Supply System at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1400	Submission and Approval for Design of 380V Switchboard at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1410	Submission and Approval for Design of 24V DC Battery at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1420	Submission and Approval for Design of Capacitor and Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1430	Submission and Approval for Design of Auto Charger and Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1440	Submission and Approval for Design of Pump Set Control Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1450	Submission and Approval for Design of Small Power and ELV at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1460	Submission and Approval for Design of Cable Containment at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1470	Submission and Approval for Design of Earthing and Lightning Protection at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1480	Submission and Approval for Design of Compessor Control Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1500	Submission and Approval for Design of Capacitor and Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1600	Submission and Approval for Design of Support for Panels and Switchboard	0d			14d	15-May-19 08:00 A
A1610	Submission and Approval for Material of Electrical System at CLP Transformer Rm at Fresh Water Pumping Station	0d			14d	31-May-19 08:00 A
A1620	Submission and Approval for Material of 380V Switchboard at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A

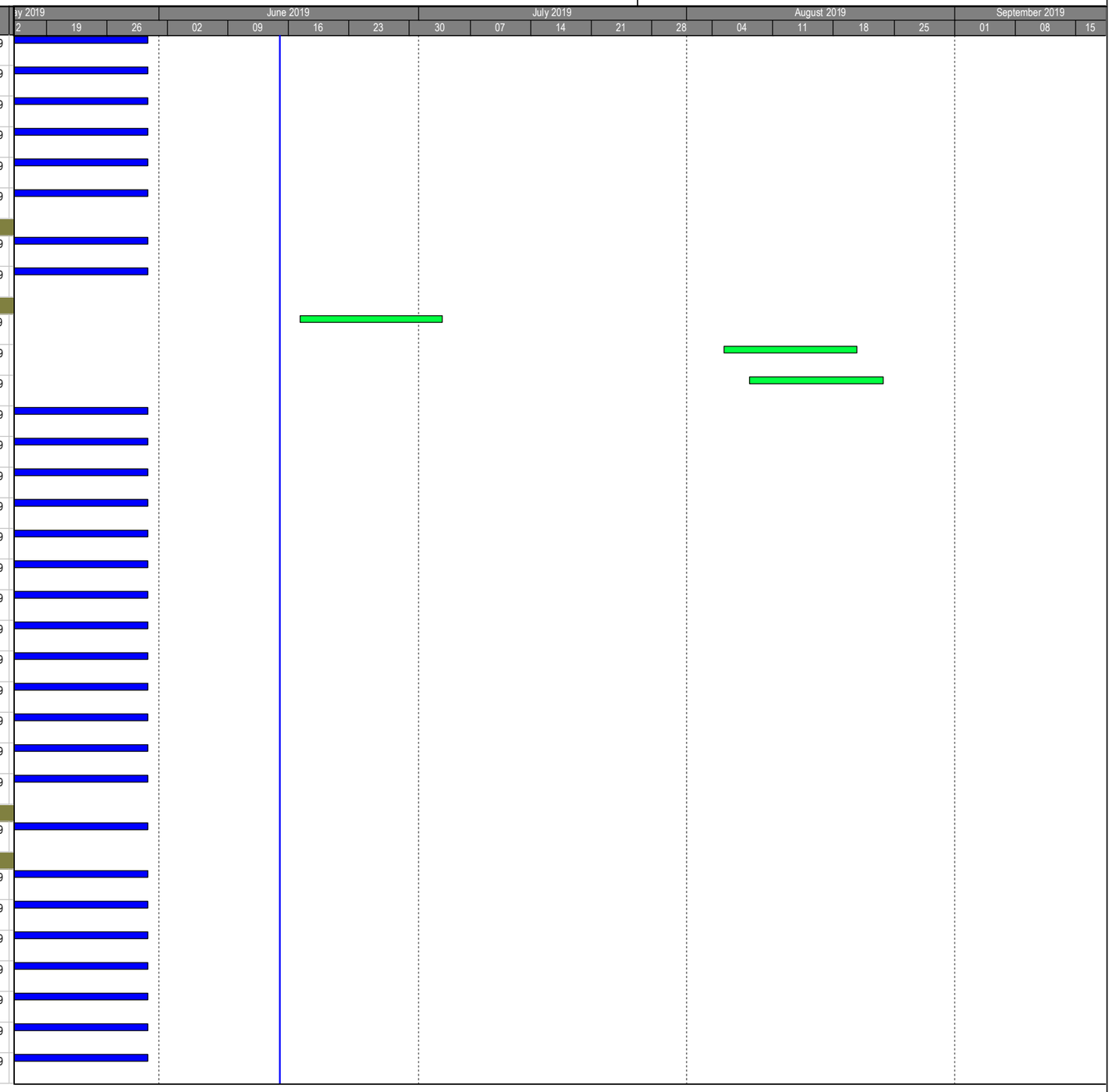


Primary Baseline
Actual Work
Baseline Milestone
Milestone
Forecast Work

3 Month Rolling Programme
ARQ - Works Programme Rev.1 - 3MRP (15 Jun 2019)
14-Jun-19

Date	Revision	Checked	Approved

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
A1630	Submission and Approval for Material of 24V DC Battery at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1640	Submission and Approval for Material of Capacitor and Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1650	Submission and Approval for Material of Auto Charger and Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1660	Submission and Approval for Material of Pump Set Control Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1670	Submission and Approval for Material of Compessor Control Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1720	Submission and Approval for Material of Support for Panels and Switchboard	0d			14d	15-May-19 08:00 A
MVAC						
A1010	Submission and Approval for Design of MVAC at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1230	Submission and Approval for Material of MVAC at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
Mechanical						
A1270	Submission and Approval for Design of Mechnical Works (Pumping) at Fresh Water Pumping Station	0d			14d	17-Jun-19 08:00*
A1300	Submission and Approval for Design of Booster Pumping Station	0d			14d	05-Aug-19 08:00*
A1310	Submission and Approval for Material of Booster Pumping Station	0d			14d	08-Aug-19 08:00
A1320R1	Submission and Approval for Material of High Head Pump Set at Fresh Water Pumping Station (R1)	0d			14d	15-May-19 08:00 A
A1350	Submission and Approval for Material of Lifting Appliance at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1360R1	Submission and Approval for Material of Pipes and Fittings at FW & SW Pumping Station and Service Reservoir (R1)	0d			14d	15-May-19 08:00 A
A1370	Submission and Approval for Material of Gate Valves at FW Pumping Station and FW & SW Water Reservoirs	0d			14d	15-May-19 08:00 A
A1371	Submission and Approval for Material of Motorized Gate Valves at FW Pumping Station and FW & SW Water Reservoirs	0d			14d	15-May-19 08:00 A
A1372	Submission and Approval for Material of Motorized Butterfly Valves at FW Pumping Station and FW & SW Water Reservoirs	0d			14d	15-May-19 08:00 A
A3526	Submission and Approval for Material of Reflux Valves at SW Pumping Station and Sham Wan Shan SW Pumping Station	0d			14d	15-May-19 08:00 A
A3586	Submission and Approval for Material of Pressure Relief Valves at FW Pumping Station and FW & SW Water Reservoirs	0d			14d	15-May-19 08:00 A
A3596	Submission and Approval for Material of Ball Valves at FW Pumping Station and FW & SW Water Reservoirs	0d			14d	15-May-19 08:00 A
A3606	Submission and Approval for Material of 3-way Valves at FW Pumping Station and FW & SW Water Reservoirs	0d			14d	15-May-19 08:00 A
A3616	Submission and Approval for Material of Anti-vacuum Valves at FW Pumping Station and FW & SW Water Reservoirs	0d			14d	15-May-19 08:00 A
A3626	Submission and Approval for Material of Globe Valves at FW Pumping Station and FW & SW Water Reservoirs	0d			14d	15-May-19 08:00 A
A3636	Submission and Approval for Shop Drawings of Puddle Pipes at FW Pumping Station	0d			14d	15-May-19 08:00 A
Civil Requirement						
A3391	Submission and Approval for Drawing (Civil Requirement) of Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
Instrumentation						
A1730	Submission and Approval for Design of Control Philosophy at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1740	Submission and Approval for Design of SCADA System at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1750	Submission and Approval for Design of Station Control & Instrument Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1760	Submission and Approval for Design of Pump Motor Starter Panel at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1770	Submission and Approval for Design of Upgrading Works to Existing SCADA System at Cheung Sha Wan Station	0d			14d	15-May-19 08:00 A
A1780	Submission and Approval for Design of SCADA Network System at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A1830	Submission and Approval for Design of Upgrading Works to Existing SCADA at CSW Office,Salt Pumping Sta,NTE,Shatin WTW	0d			14d	15-May-19 08:00 A



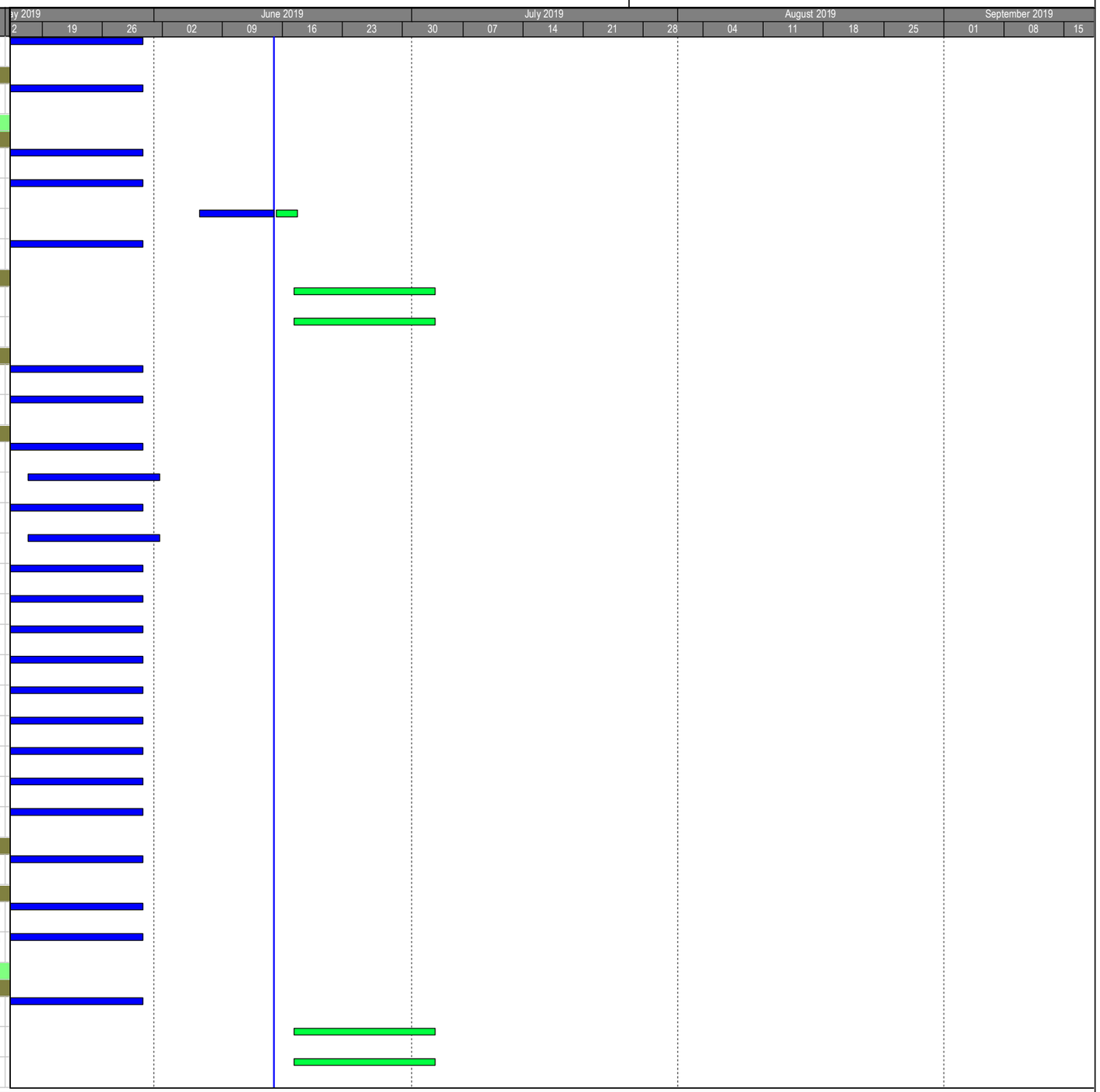
Primary Baseline
Actual Work
Baseline Milestone
Milestone
Forecast Work

3 Month Rolling Programme

ARQ - Works Programme Rev.1 - 3MRP (15 Jun 2019)
14-Jun-19

Date	Revision	Checked	Approved

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
A1850	Submission and Approval for Material of SCADA System at Water Pumping Station	0d			14d	15-May-19 08:00 A
Fire Services						
A1250	Submission and Approval for Design of FSS at Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
Fresh and Salt Water Service Reservoir						
MVAC						
A1860	Submission and Approval for Design of MVAC at Fresh Water Reservoir	0d			14d	15-May-19 08:00 A
A1870	Submission and Approval for Design of MVAC at Salt Water Reservoir	0d			14d	15-May-19 08:00 A
A1880	Submission and Approval for Material of MVAC at Fresh Water Reservoir	0d			9d	06-Jun-19 08:00 A
A1890	Submission and Approval for Material of MVAC at Salt Water Reservoir	0d			14d	15-May-19 08:00 A
Fire Services						
A1900	Submission and Approval for Design of FSS at Fresh Water Reservoir	0d			14d	17-Jun-19 08:00*
A1910	Submission and Approval for Design of FSS at Salt Water Reservoir	0d			14d	17-Jun-19 08:00*
Mechanical						
A1920	Submission and Approval for Design of Mechanical Works at Fresh Water Reservoir	0d			14d	15-May-19 08:00 A
A1930	Submission and Approval for Design of Mechanical Works at Salt Water Reservoir	0d			14d	15-May-19 08:00 A
Electrical						
A1940	Submission and Approval for Design of Power Supply System at Recorder House and Penthouse at Fresh Water Reservoir	0d			14d	15-May-19 08:00 A
A1950	Submission and Approval for Design of Electical System at Recorder House and Penthouse at Fresh Water Reservoir	0d			14d	17-May-19 08:00 A
A1960	Submission and Approval for Design of Earthing & Lightning at Recorder House and Penthouse at Fresh Water Reservoir	0d			14d	15-May-19 08:00 A
A1970	Submission and Approval for Design of Valve Control Panel and Instrumentation Panel at Fresh Water Reservoir	0d			14d	17-May-19 08:00 A
A1980	Submission and Approval for Design of 24V DC Battery at Fresh Water Reservoir	0d			14d	15-May-19 08:00 A
A1990	Submission and Approval for Design of Power Supply System at Recorder House and Penthouse at Salt Water Reservoir	0d			14d	15-May-19 08:00 A
A2000	Submission and Approval for Design of Electical System at Recorder House and Penthouse at Salt Water Reservoir	0d			14d	15-May-19 08:00 A
A2010	Submission and Approval for Design of Earthing & Lightning at Recorder House and Penthouse at Salt Water Reservoir	0d			14d	15-May-19 08:00 A
A2020	Submission and Approval for Design of Valve Control Panel and Instrumentation Panel at Salt Water Reservoir	0d			14d	15-May-19 08:00 A
A2030	Submission and Approval for Design of Valve Control Panel and Instrumentation Panel at Salt Water Break Tank	0d			14d	15-May-19 08:00 A
A2040	Submission and Approval for Design of 24V DC Battery at Salt Water Reservoir	0d			14d	15-May-19 08:00 A
A2050	Submission and Approval for Material of 24V DC Battery at Fresh Water Reservoir	0d			14d	15-May-19 08:00 A
A2060	Submission and Approval for Material of 24V DC Battery at Salt Water Reservoir	0d			14d	15-May-19 08:00 A
Instrumentation						
A2080	Submission and Approval for Design of SCADA Networks System at Salt Water Reservoir	0d			14d	15-May-19 08:00 A
Civil Requirement						
A3393	Submission and Approval for Drawing (Civil Requirement) of Fresh Water Pumping Station	0d			14d	15-May-19 08:00 A
A3394	Submission and Approval for Drawing (Civil Requirement) of Salt Water Pumping Station	0d			14d	15-May-19 08:00 A
PTT						
Electrical						
A2170	Submission and Approval for Design of Power Supply System at PTT	0d			14d	15-May-19 08:00 A
A2180	Submission and Approval for Design of Electrical Works at PTT	0d			14d	17-Jun-19 08:00*
A2190	Submission and Approval for Design of Earthing and Lightning Protection System at PTT	0d			14d	17-Jun-19 08:00*

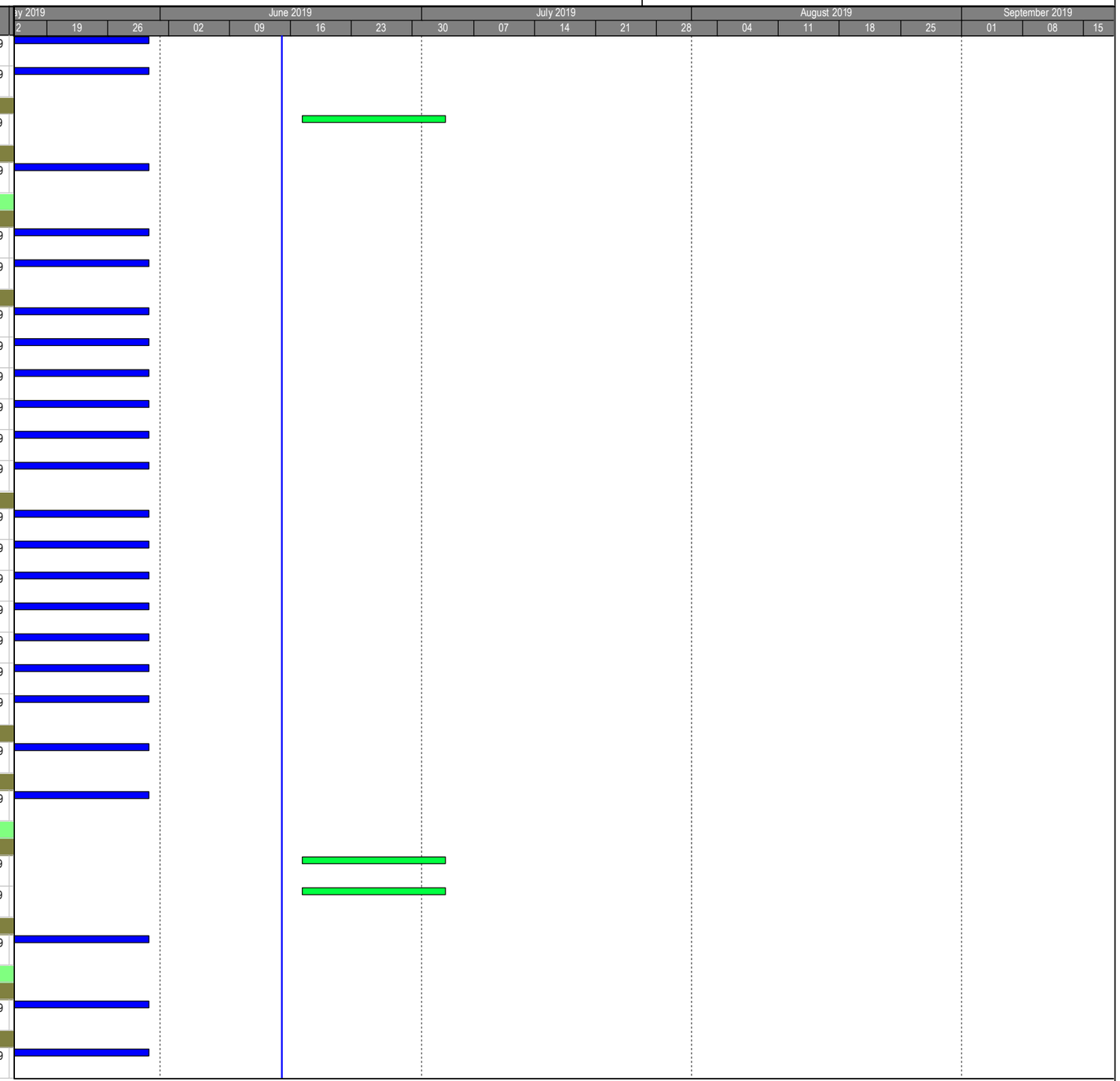


Primary Baseline
Actual Work
Baseline Milestone
Milestone
Forecast Work

3 Month Rolling Programme
ARQ - Works Programme Rev.1 - 3MRP (15 Jun 2019)
14-Jun-19

Date	Revision	Checked	Approved

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
A2200	Submission and Approval for Design of Photovoltaic System at PTT	0d			14d	15-May-19 08:00 A
A2210	Submission and Approval for Material of Photovoltaic System at PTT	0d			14d	15-May-19 08:00 A
Road Lighting						
A2220	Submission and Approval for Design of Lighting System at PTT	0d			14d	17-Jun-19 08:00*
Civil Requirement						
A3397	Submission and Approval for Drawing (Civil Requirement) of PTT	0d			14d	15-May-19 08:00 A
Underpass						
MVAC						
A2230	Submission and Approval for Design of MVAC at Underpass	0d			14d	15-May-19 08:00 A
A2240	Submission and Approval for Material of MVAC at Underpass	0d			14d	15-May-19 08:00 A
Fire Services						
A2380	Submission and Approval for Design of FSS at Underpass	0d			14d	15-May-19 08:00 A
A2390	Submission and Approval for Material of FS Pump Control Panel at Underpass	0d			14d	15-May-19 08:00 A
A2400	Submission and Approval for Material of FS Pump and Motor at Underpass	0d			14d	15-May-19 08:00 A
A2410	Submission and Approval for Material of FS Fire Hydrant and Hose Reel at Underpass	0d			14d	15-May-19 08:00 A
A2420	Submission and Approval for Material of FS Pipes and Fittings at Underpass	0d			14d	15-May-19 08:00 A
A2430	Submission and Approval for Material of FS Battery and Charger at Underpass	0d			14d	15-May-19 08:00 A
Electrical						
A2260	Submission and Approval for Design of Power Supply System at Underpass	0d			14d	15-May-19 08:00 A
A2270	Submission and Approval for Design of Electrical Works at Underpass	0d			14d	15-May-19 08:00 A
A2280	Submission and Approval for Design of Earthing and Lightning Protection System at Underpass	0d			14d	15-May-19 08:00 A
A2340	Submission and Approval for Material of ATS Panel at Underpass	0d			14d	15-May-19 08:00 A
A2350	Submission and Approval for Material of LV Switchboard at Underpass	0d			14d	15-May-19 08:00 A
A2360	Submission and Approval for Material of Lighting System at Underpass	0d			14d	15-May-19 08:00 A
A2370	Submission and Approval for Material of Luminaire at Underpass	0d			14d	15-May-19 08:00 A
Road Lighting						
A2250	Submission and Approval for Design of Road Lighting System at Underpass	0d			14d	15-May-19 08:00 A
Civil Requirement						
A3398	Submission and Approval for Drawing (Civil Requirement) of Underpass	0d			14d	15-May-19 08:00 A
Artificial Flood Attenuation Lake						
Electrical						
A2440	Submission and Approval for Design of Earthing and Lightning Protection System at Artificial Flood Attenuation Lake	0d			14d	17-Jun-19 08:00*
A2450	Submission and Approval for Design of Lighting System at Artificial Flood Attenuation Lake	0d			14d	17-Jun-19 08:00*
Civil Requirement						
A3399	Submission and Approval for Drawing (Civil Requirement) of Artificial Flood Attenuation Lake	0d			14d	15-May-19 08:00 A
Underground Stormwater Retention Tank						
MVAC						
A2470	Submission and Approval for Material of MVAC at USRT-R0	0d			14d	15-May-19 08:00 A
Fire Services						
A2600	Submission and Approval for Design of FSS at USRT-R0	0d			14d	15-May-19 08:00 A



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14-Jun-19

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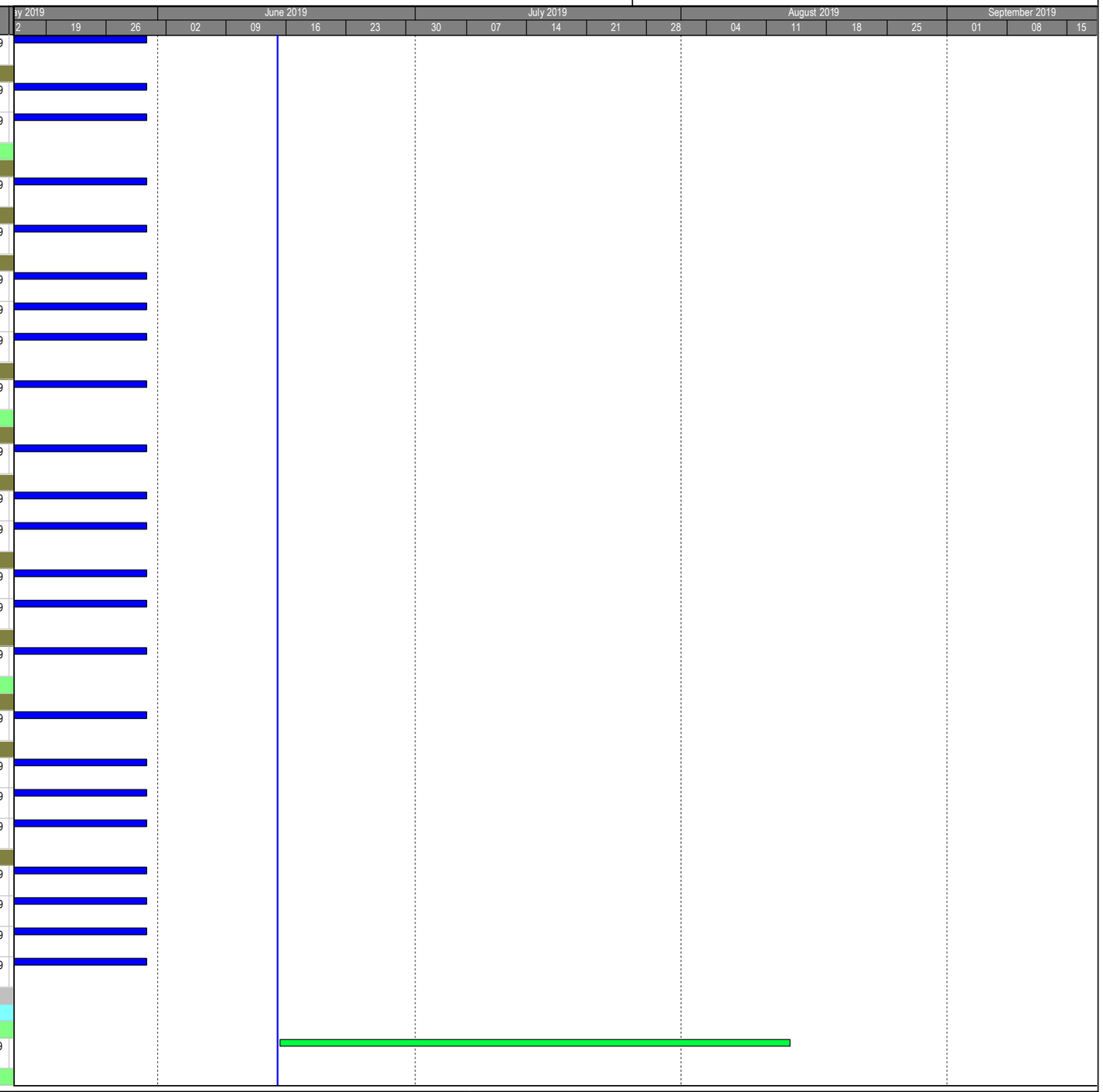
Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
A2610	Submission and Approval for Material of FSS at USRT-R0	0d			14d	15-May-19 08:00 A
Electrical						
A2490	Submission and Approval for Design of Electrical Works at USRT-R0	0d			14d	15-May-19 08:00 A
A2550	Submission and Approval for Design of Small Power and ELV at USRT-R0	0d			14d	15-May-19 08:00 A
Pedestrian Connectivity System A						
Fire Services						
A2680	Submission and Approval for Design of FSS at SYS-A-R0	0d			14d	15-May-19 08:00 A
Building Services - Plumbing and Drainage						
A3402	Submission and Approval for Material of Lift Sump Pit (Submersible) at SYS-A-R0	0d			14d	15-May-19 08:00 A
Electrical						
A2650	Submission and Approval for Design of Power Supply System at SYS-A-R0	0d			14d	15-May-19 08:00 A
A2660	Submission and Approval for Design of Electrical Works at SYS-A-R0	0d			14d	15-May-19 08:00 A
A2670	Submission and Approval for Design of Earthing and Lightning Protection System at SYS-A-R0	0d			14d	15-May-19 08:00 A
Civil Requirement						
A3403	Submission and Approval for Drawing (Civil Requirement) of SYS-A	0d			14d	15-May-19 08:00 A
Pedestrian Connectivity System B						
Fire Services						
A2960	Submission and Approval for Design of FSS at SYS-B	0d			14d	15-May-19 08:00 A
Building Services - Plumbing and Drainage						
A3404	Submission and Approval for Design of Lift Sump Pit (Submersible) at SYS-B	0d			14d	15-May-19 08:00 A
A3405	Submission and Approval for Material of Lift Sump Pit (Submersible) at SYS-B	0d			14d	15-May-19 08:00 A
Electrical						
A2930	Submission and Approval for Design of Power Supply System at SYS-B	0d			14d	15-May-19 08:00 A
A2940	Submission and Approval for Design of Electrical Works at SYS-B	0d			14d	15-May-19 08:00 A
Civil Requirement						
A3406	Submission and Approval for Drawing (Civil Requirement) of SYS-B	0d			14d	15-May-19 08:00 A
Common for All Areas						
MVAC						
A2970	Submission and Approval for Material of MVAC Thermal Insulation at Common Areas	0d			14d	15-May-19 08:00 A
Fire Services						
A3070	Submission and Approval for Material of Manual Fire Alarm System at Common Areas	0d			14d	15-May-19 08:00 A
A3080	Submission and Approval for Material of Manual Fire Alarm Control at Common Areas	0d			14d	15-May-19 08:00 A
A3090	Submission and Approval for Material of Battery and Charger at Common Areas	0d			14d	15-May-19 08:00 A
Plumbing and Drainage Services						
A3120	Submission and Approval for Material of Tanks,Pipes,Valves and Fittings for Fresh Water and Cleaning Water Supply System	0d			14d	15-May-19 08:00 A
A3130	Submission and Approval for Material of Tanks,Pipes,Valves and Fittings for Flushing Water Supply System	0d			14d	15-May-19 08:00 A
A3140	Submission and Approval for Material of Pipes,Valves and Fittings for Drainage System	0d			14d	15-May-19 08:00 A
A3150	Submission and Approval for Material of LMCP for Drainage Pump System	0d			14d	15-May-19 08:00 A
Construction and Installation						
Underpass Tunnel						
West Portal						
ACU1090	B1 - Construct Permanent West Portal Structure	60d	10-Sep-18 08:00	21-Nov-18 18:00	60d	15-Jun-19 08:00*
East Portal						



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14-Jun-19

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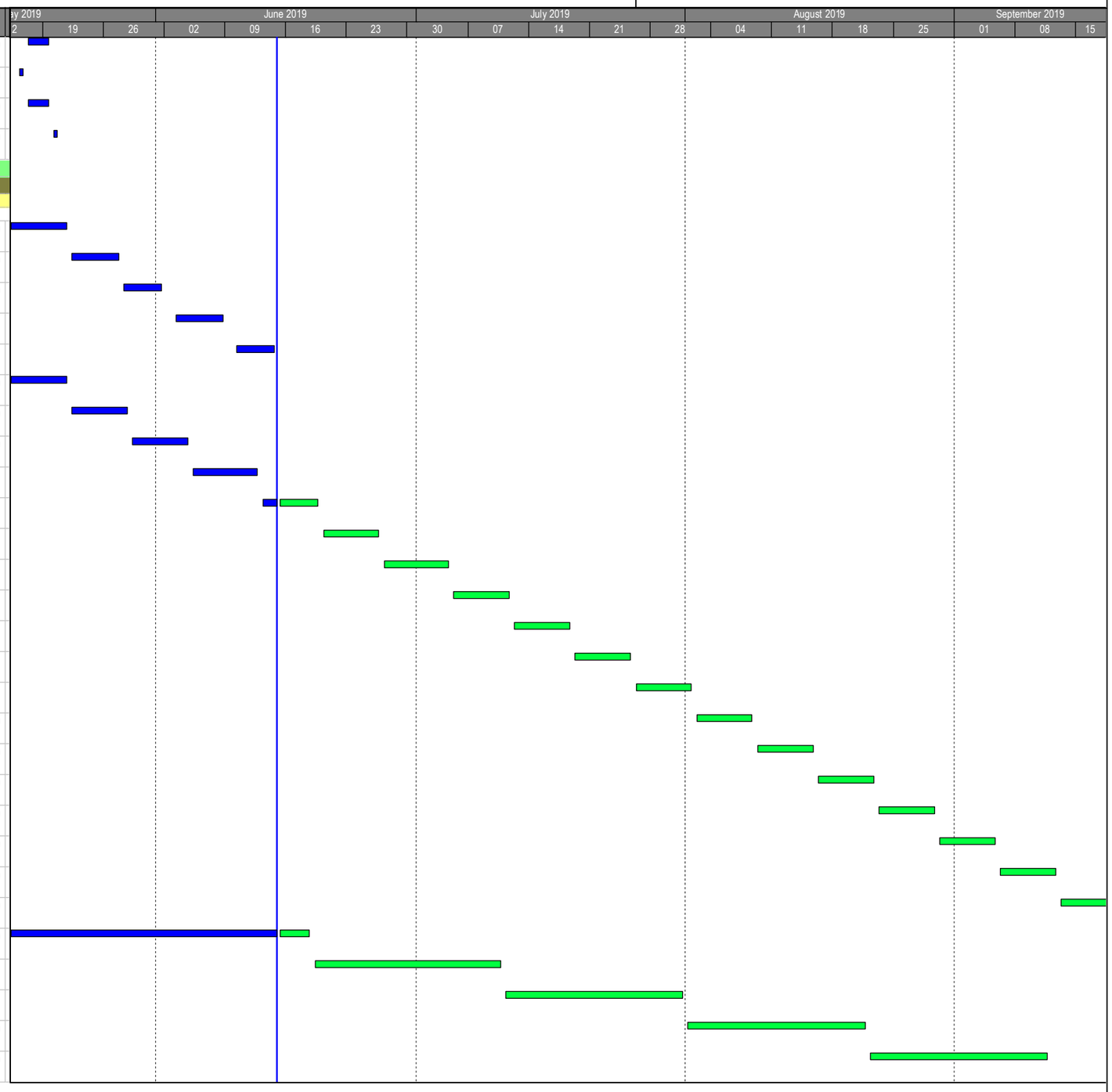
Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
ACU2050A028	D1 - Stage 5 - Excavation from +165.5mPD to +164mPD (At East Portal Entrance)	0d			3d	17-May-19 08:00 A
ACU2050A029	D1 - Stage 5 - Removal of 2nd Row Concrete Block at +165.5mPD to +164mPD (At East Portal Entrance)	0d			1d	16-May-19 08:00 A
ACU2050A030	D1 - Stage 5 - Excavation from +164mPD to +162.5mPD (At East Portal Entrance)	0d			3d	17-May-19 08:00 A
ACU2050A031	D1 - Stage 5 - Removal of Bottom Row Concrete Block at +164mPD to +162.5mPD (At East Portal Entrance)	0d			1d	20-May-19 08:00 A
Underpass Tunnel						
Tunnel Construction						
Tunnel Construction from West Portal						
CH2435 to CH2510						
ACU3010D1010	Pilot (CH2510 to CH2511) - Const pilot tunnel	0d			6d	15-May-19 09:00 A
ACU3010D1020	Pilot (CH2511 to CH2512) - Const pilot tunnel	0d			5d	22-May-19 09:00 A
ACU3010D1030	Pilot (CH2512 to CH2513) - Const pilot tunnel	0d			5d	28-May-19 09:00 A
ACU3010D1040	Pilot (CH2513 to CH2514) - Const pilot tunnel	0d			5d	03-Jun-19 09:00 A
ACU3010D1050	Pilot (CH2514 to CH2515) - Const pilot tunnel	0d			5d	10-Jun-19 09:00 A
ACU3010E1040	Top Head (CH2490 to CH2491) - Const top heading	0d			6d	15-May-19 09:00 A
ACU3010E1050	Top Head (CH2491 to CH2492) - Const top heading	0d			6d	22-May-19 09:00 A
ACU3010E1060	Top Head (CH2492 to CH2493) - Const top heading	0d			6d	29-May-19 09:00 A
ACU3010E1070	Top Head (CH2493 to CH2494) - Const top heading	0d			6d	05-Jun-19 09:00 A
ACU3010E1080	Top Head (CH2494 to CH2495) - Const top heading	0d			6d	13-Jun-19 09:00 A
ACU3010E1090	Top Head (CH2495 to CH2496) - Const top heading	0d			6d	20-Jun-19 09:00
ACU3010E1100	Top Head (CH2496 to CH2497) - Const top heading	0d			6d	27-Jun-19 09:00
ACU3010E1110	Top Head (CH2497 to CH2498) - Const top heading	0d			6d	05-Jul-19 09:00
ACU3010E1120	Top Head (CH2498 to CH2499) - Const top heading	0d			6d	12-Jul-19 09:00
ACU3010E1130	Top Head (CH2499 to CH2500) - Const top heading	0d			6d	19-Jul-19 09:00
ACU3010E1140	Top Head (CH2500 to CH2501) - Const top heading	0d			6d	26-Jul-19 09:00
ACU3010E1150	Top Head (CH2501 to CH2502) - Const top heading	0d			6d	02-Aug-19 09:00
ACU3010E1160	Top Head (CH2502 to CH2503) - Const top heading	0d			6d	09-Aug-19 09:00
ACU3010E1170	Top Head (CH2503 to CH2504) - Const top heading	0d			6d	16-Aug-19 09:00
ACU3010E1180	Top Head (CH2504 to CH2505) - Const top heading	0d			6d	23-Aug-19 09:00
ACU3010E1190	Top Head (CH2505 to CH2506) - Const top heading	0d			6d	30-Aug-19 09:00
ACU3010E1200	Top Head (CH2506 to CH2507) - Const top heading	0d			6d	06-Sep-19 09:00
ACU3010E1210	Top Head (CH2507 to CH2508) - Const top heading	0d			6d	13-Sep-19 09:00
ACU3010F1000	Benching (CH2455 to CH2460) - Const Benching	0d			29d	15-May-19 09:00 A
ACU3010F1010	Benching (CH2460 to CH2465) - Const Benching	0d			18d	19-Jun-19 09:00
ACU3010F1020	Benching (CH2465 to CH2470) - Const Benching	0d			18d	11-Jul-19 09:00
ACU3010F1030	Benching (CH2470 to CH2475) - Const Benching	0d			18d	01-Aug-19 09:00
ACU3010F1040	Benching (CH2475 to CH2480) - Const Benching	0d			18d	22-Aug-19 09:00



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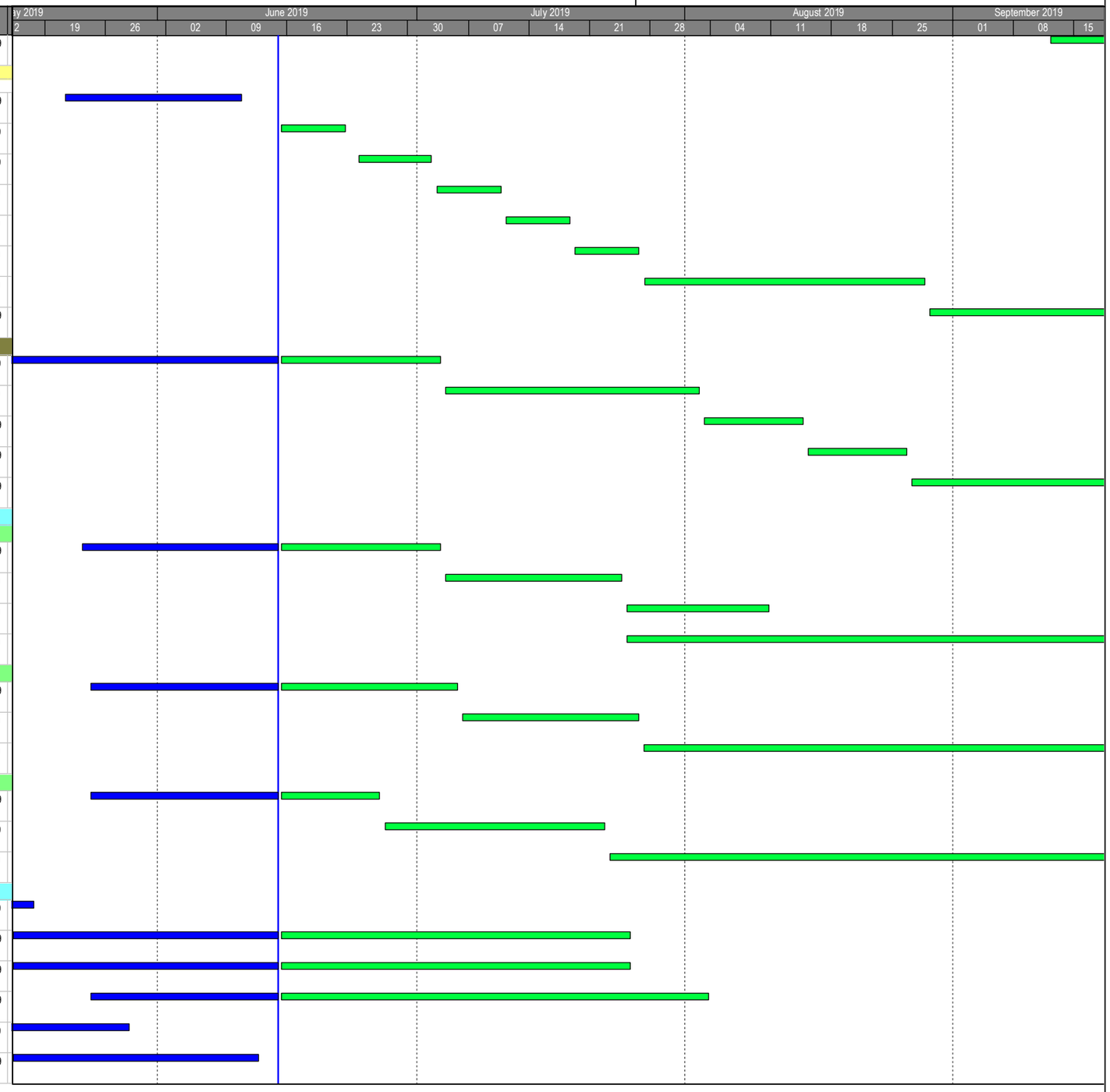
ACU3010F1050	Benching (CH2480 to CH2485) - Const Benching	0d			18d	12-Sep-19 09:00
Tunnel Construction from East Portal						
CH2520 to CH2510						
ACU3065A051	Pilot (CH2520 to CH2515) - Const pilot tunnel	0d			17d	21-May-19 09:00 A
ACU3065A061	Top Head (CH2520 to CH2518) - Const top heading	0d			7d	15-Jun-19 09:00
ACU3065A071	Top Head (CH2518 to CH2516) - Const top heading	0d			7d	24-Jun-19 09:00
ACU3065A081	Top Head (CH2516 to CH2514) - Const top heading	0d			7d	03-Jul-19 09:00
ACU3065A091	Top Head (CH2514 to CH2512) - Const top heading	0d			7d	11-Jul-19 09:00
ACU3065A101	Top Head (CH2512 to CH2510) - Const top heading	0d			7d	19-Jul-19 09:00
ACU3065A111	Benching (CH2520 to CH2515) - Const Benching	0d			28d	27-Jul-19 09:00
ACU3065A121	Benching (CH2515 to CH2510) - Const Benching	0d			28d	29-Aug-19 09:00
Tunnel Lining						
ACU3140A13	Prepare work for tunnel Permanent lining works	0d			73d 4h	01-Apr-19 14:00 A
ACU3140A20	Tunnel Permanent Lining from West Bay 1 & 2	0d			30d	04-Jul-19 08:00
ACU3140A22	Tunnel Permanent Lining from West Bay 3	0d			12d	03-Aug-19 08:00
ACU3140A24	Tunnel Permanent Lining from West Bay 4	0d			12d	15-Aug-19 08:00
ACU3140A26	Tunnel Permanent Lining from West Bay 5 & 6	0d			24d	27-Aug-19 08:00
Pedestrian Connectivity System B						
Lift Tower (North) and Subway within Portion A1						
ACS2041	A1 - Const North lift tower wall from +176 to +180	0d			34d	23-May-19 09:00 A
ACS2042	A1 - Const North lift tower wall from +180 to +183.2	0d			18d	04-Jul-19 09:00
ACS2050	A1 - Back Fill between Lift Tower (North) and Divert Access	15d	26-Jul-18 08:00	11-Aug-18 18:00	15d	25-Jul-19 08:00
ACS2060	A1 - Construction of Super Structure of Lift Tower (+183.2mPD to Roof Level)	60d	13-Aug-18 08:00	24-Oct-18 18:00	60d	25-Jul-19 08:00
Lift Tower (South) and Subway within Portion C1b						
ACS2141	C1b - Const South lift tower wall from +176 to +180	0d			35d	24-May-19 09:00 A
ACS2142	C1b - Const South lift tower wall from +180 to +183.2	0d			18d	06-Jul-19 09:00
ACS2150	C1b - Construction of Super Structure of Lift Tower (+183.2 to Roof Level)	60d	04-Aug-18 08:00	15-Oct-18 18:00	60d	27-Jul-19 08:00
Lift Tower Submay						
ACS2162	C1b - Const Subway base slab between South & North Tower	0d			28d	24-May-19 09:00 A
ACS2172	C1b - Const Subway top slab & wall between South & North Tower	0d			21d	27-Jun-19 09:00
ACS2182	C1b - Install W/P membrane & backfill Subway	0d			60d	23-Jul-19 09:00
Underground Stormwater Retention Tank (Portion A1)						
ACN1020A125	A1 - Const Zone A Column Pedestals	0d			35d	02-Apr-19 09:00 A
ACN1020A135	A1 - Const Zone B Wall Structure 2nd Lift	0d			60d	15-May-19 09:00 A
ACN1020A145	A1 - Const Zone C Wall Structure 2nd Lift	0d			60d	15-May-19 09:00 A
ACN1020A155	A1 - Const Zone A Wall Structure 2nd Lift	0d			60d	24-May-19 09:00 A
ACN1020A175	A1 - Const Zone C Column full high	0d			34d	15-Apr-19 09:00 A
ACN1020A185	A1 - Const Zone A Column full high	0d			24d	15-May-19 09:00 A



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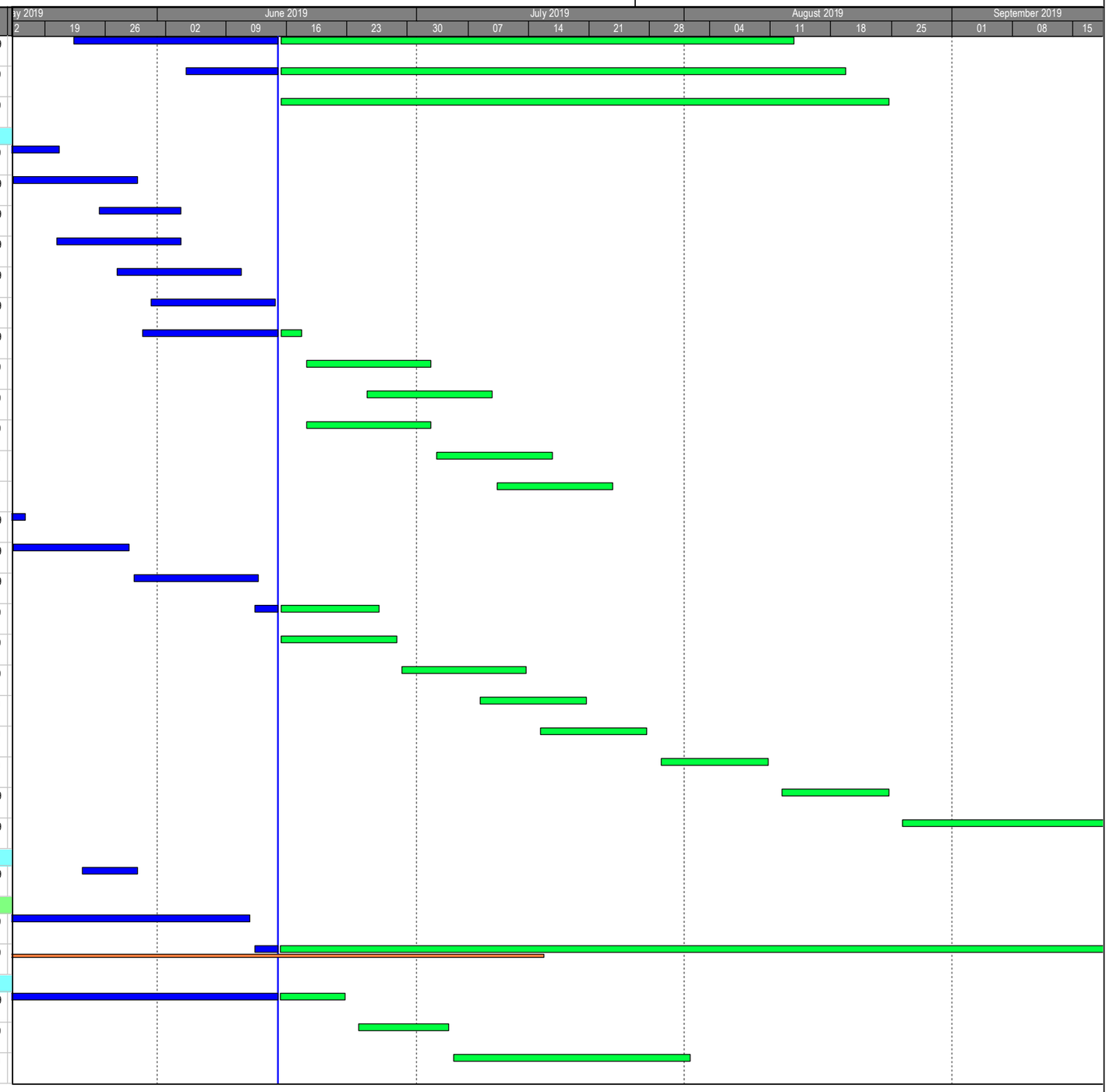
ACN1020A195	A1 - Const Zone B Top Slab	0d			70d	22-May-19 09:00 A
ACN1020A205	A1 - Const Zone C Top Slab	0d			64d	04-Jun-19 09:00 A
ACN1020A215	A1 - Const Zone A Top Slab	0d			60d	15-Jun-19 09:00
Artificial Flood Attenuation Lake/ Underground Water Tretment Plant (Portion B4)						
ACF1017a02	B4 - Excavation for retaining wall Type C,A bay 13 to 17	0d			24d	18-Apr-19 09:00 A
ACF1017a03	B4 - Bay 13 to 17 construction of retaining wall Type C,A base slab	0d			13d	15-May-19 09:00 A
ACF1017a04	B4 - Bay 13 to 17 construction of retaining wall type C,A wall structure	0d			8d	25-May-19 09:00 A
ACF1017a05	B4 - Excavation for retaining wall Type C,A bay 3 to 8	0d			13d	20-May-19 09:00 A
ACF1017a06	B4 - Bay 3 to 8 construction of retaining wall Type C,A base slab	0d			12d	27-May-19 09:00 A
ACF1017a07	B4 - Bay 3 to 8 construction of retaining wall type C,A wall structure	0d			12d	31-May-19 09:00 A
ACF1017a09	B4 - Excavation for retaining wall base slab bay 9 to 12	0d			15d	30-May-19 09:00 A
ACF1017a10	B4 - Bay 9 to 12 construction of retaining wall base slab	0d			12d	18-Jun-19 09:00
ACF1017a11	B4 - Bay 9 to 12 construction of retaining wall wall structure	0d			12d	25-Jun-19 09:00
ACF1017a13	B4 - Excavation for retaining wall base slab bay 22 to 24	0d			12d	18-Jun-19 09:00
ACF1017a14	B4 - Bay 22 to 24 construction of retaining wall base slab	0d			12d	03-Jul-19 09:00
ACF1017a15	B4 - Bay 22 to 24 construction of retaining wall wall structure	0d			12d	10-Jul-19 09:00
ACF1017a19	B4 - Bay 42 to 45 construction of retaining wall wall structure	0d			12d	03-May-19 09:00 A
ACF1017a21	B4 - Excavation for retaining wall base slab bay 38 to 41	0d			12d	15-May-19 09:00 A
ACF1017a22	B4 - Bay 38 to 41 construction of retaining wall base slab	0d			12d	29-May-19 09:00 A
ACF1017a23	B4 - Bay 38 to 41 construction of retaining wall wall structure	0d			13d	12-Jun-19 09:00 A
ACF1017a33	B4 - Excavation for retaining wall base slab bay 46 to 49	0d			12d	15-Jun-19 09:00
ACF1017a43	B4 - Bay 46 to 49 construction of retaining wall base slab	0d			12d	29-Jun-19 09:00
ACF1017a53	B4 - Bay 46 to 49 construction of retaining wall wall structure	0d			12d	08-Jul-19 09:00
ACF1017a63	B4 - Excavation for retaining wall base slab bay 50 to 52	0d			12d	15-Jul-19 09:00
ACF1017a73	B4 - Bay 50 to 52 construction of retaining wall base slab	0d			12d	29-Jul-19 09:00
ACF1017a83	B4 - Bay 50 to 52 construction of retaining wall wall structure	0d			12d	12-Aug-19 09:00
ACF1040	B4 - Excavation for Underground Water Treatment Plant	60d	12-Dec-18 08:00	26-Feb-19 18:00	60d	26-Aug-19 08:00
Water Pumping Stations (Portion B5)						
ACW1160	C2/D2 - Divert Temperary Access Road to adjacent to RWA14	6d	22-Oct-18 08:00	27-Oct-18 18:00	6d	23-May-19 08:00 A
Fresh Water Pumping Station (Portion B5)						
ACW2012	B5 - Construction of FW pumping Station Base Slab	0d			45d	15-Apr-19 09:00 A
ACW2020	B5 - Construction of Wall Structure of Fresh Water Pumping station	90d	25-Mar-19 08:00	15-Jul-19 18:00	88d	12-Jun-19 08:00 A
Public Transportation Terminus (Portion B5)						
ACP1049A005	B5 - Construct Pile Caps (PC2a) and Tie Beams (TB3b) at GL.B-D/1-9 (Stage 5)	0d			103d	16-Feb-19 08:00 A
ACP1080A001	B5 - Excavation for Construction of Footing of Noise Barrier Walls at GL.C-D/9 (Stage 6)	0d			9d	24-Jun-19 08:00
ACP1080A002	B5 - Construct Footing of Noise Barrier Walls at GL.C-D/9 (Stage 6)	0d			24d	05-Jul-19 08:00



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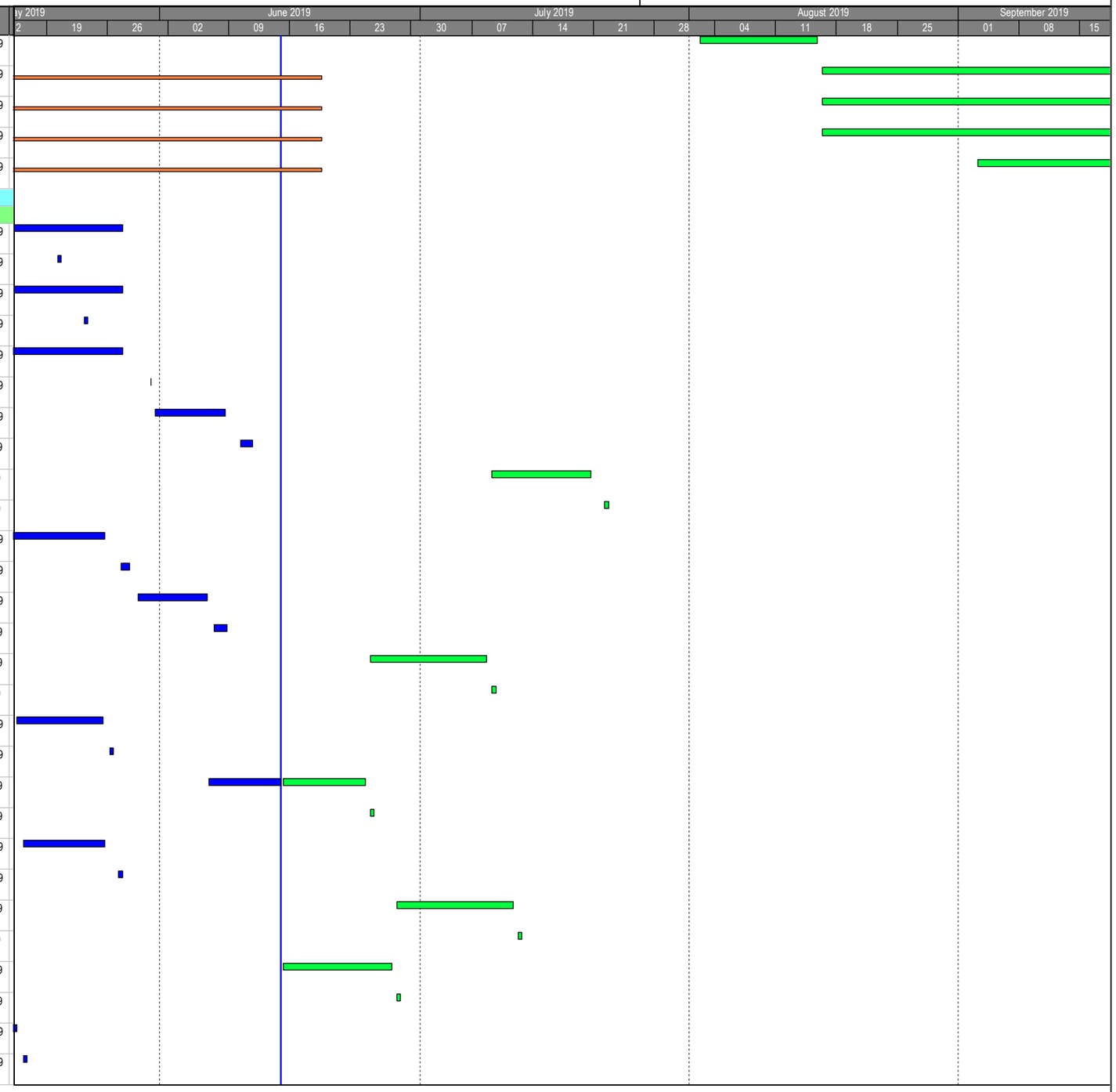
ACP1080A003	B5 - Backfill Footing of Noise Barrier Walls at GL.B-D/9 & GL.C-D/9 (Stage 5 & 6)	0d			12d	02-Aug-19 08:00
ACP1100	B5 - Construction of Catchpit (SC1), Drainage Manholes and Drainage Pipes Laying	90d	28-Feb-19 08:00	19-Jun-19 18:00	90d	16-Aug-19 08:00
ACP1110	B5 - Construction of Sewerage Manholes and Sewerage Pipes Laying	90d	28-Feb-19 08:00	19-Jun-19 18:00	90d	16-Aug-19 08:00
ACP1120	B5 - Water Main Pipes Laying and Valves Instalaltion	90d	28-Feb-19 08:00	19-Jun-19 18:00	90d	16-Aug-19 08:00
ACP1130	B5 - Installation of Road Lighting Ducts, Services and Utilities	75d	18-Mar-19 08:00	19-Jun-19 18:00	75d	03-Sep-19 08:00
Internal Road Construction						
Single Cell Box Culvert BC1 ind. Transition Section CH141.820 to CH168.019						
ACL10050A170	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 10 (CHA120 to CHA108)	0d			11d	15-May-19 08:00 A
ACL10050A171	Concrete Pouring for Wall andTop Slab of Box Culvert BC1 Bay 10 (CHA120 to CHA108)	0d			1d	20-May-19 08:00 A
ACL10050A177	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 9 (CHA108 to CHA96)	0d			11d	15-May-19 08:00 A
ACL10050A178	Concrete Pouring for Wall andTop Slab of Box Culvert BC1 Bay 9 (CHA108 to CHA96)	0d			1d	23-May-19 08:00 A
ACL10050A180	Laying Geotextile Filter and Rockfilling for Box Culvert BC1 Bay 8 (CHA96 to CHA84)	0d			12d	14-May-19 08:00 A
ACL10050A181	Blinding Layer for Box Culvert BC1 Bay 8 (CHA96 to CHA84)	0d			0d	31-May-19 00:00 A
ACL10050A182	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC1 Bay 8 (CHA96 to CHA84)	0d			6d	31-May-19 13:30 A
ACL10050A183	Concrete Pouring for Base Slab of Box Culvert BC1 Bay 8 (CHA96 to CHA84)	0d			2d	10-Jun-19 08:00 A
ACL10050A184	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 8 (CHA96 to CHA84)	0d			11d	09-Jul-19 08:00
ACL10050A185	Concrete Pouring for Wall andTop Slab of Box Culvert BC1 Bay 8 (CHA96 to CHA84)	0d			1d	22-Jul-19 08:00
ACL10050A187	Laying Geotextile Filter and Rockfilling for Box Culvert BC1 Bay 7 (CHA84 to CHA72)	0d			15d	09-May-19 08:00 A
ACL10050A188	Blinding Layer for Box Culvert BC1 Bay 7 (CHA84 to CHA72)	0d			1d	27-May-19 13:30 A
ACL10050A189	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC1 Bay 7 (CHA84 to CHA72)	0d			7d	29-May-19 13:30 A
ACL10050A190	Concrete Pouring for Base Slab of Box Culvert BC1 Bay 7 (CHA84 to CHA72)	0d			1d	07-Jun-19 08:00 A
ACL10050A191	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 7 (CHA84 to CHA72)	0d			11d	25-Jun-19 08:00
ACL10050A192	Concrete Pouring for Wall andTop Slab of Box Culvert BC1 Bay 7 (CHA84 to CHA72)	0d			1d	09-Jul-19 08:00
ACL10050A196	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC1 Bay 6 (CHA72 to CHA60)	0d			9d	15-May-19 13:30 A
ACL10050A197	Concrete Pouring for Base Slab of Box Culvert BC1 Bay 6 (CHA72 to CHA60)	0d			0d	26-May-19 08:00 A
ACL10050A198	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 6 (CHA72 to CHA60)	0d			14d 0h	06-Jun-19 17:30 A
ACL10050A199	Concrete Pouring for Wall andTop Slab of Box Culvert BC1 Bay 6 (CHA72 to CHA60)	0d			1d	25-Jun-19 08:00
ACL10050A203	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC1 Bay 5 (CHA60 to CHA48)	0d			9d	16-May-19 08:00 A
ACL10050A204	Concrete Pouring for Base Slab of Box Culvert BC1 Bay 5 (CHA60 to CHA48)	0d			1d	27-May-19 08:00 A
ACL10050A205	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 5 (CHA60 to CHA48)	0d			11d	28-Jun-19 08:00
ACL10050A206	Concrete Pouring for Wall andTop Slab of Box Culvert BC1 Bay 5 (CHA60 to CHA48)	0d			1d	12-Jul-19 08:00
ACL10050A212	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 4 (CHA48 to CHA36)	0d			11d	15-Jun-19 08:00
ACL10050A213	Concrete Pouring for Wall andTop Slab of Box Culvert BC1 Bay 4 (CHA48 to CHA36)	0d			1d	28-Jun-19 08:00
ACL10050A217	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC1 Bay 3 (CHA36 to CHA24)	0d			9d	04-May-19 13:30 A
ACL10050A218	Concrete Pouring for Base Slab of Box Culvert BC1 Bay 3 (CHA36 to CHA24)	0d			1d	16-May-19 08:00 A



Primary Baseline
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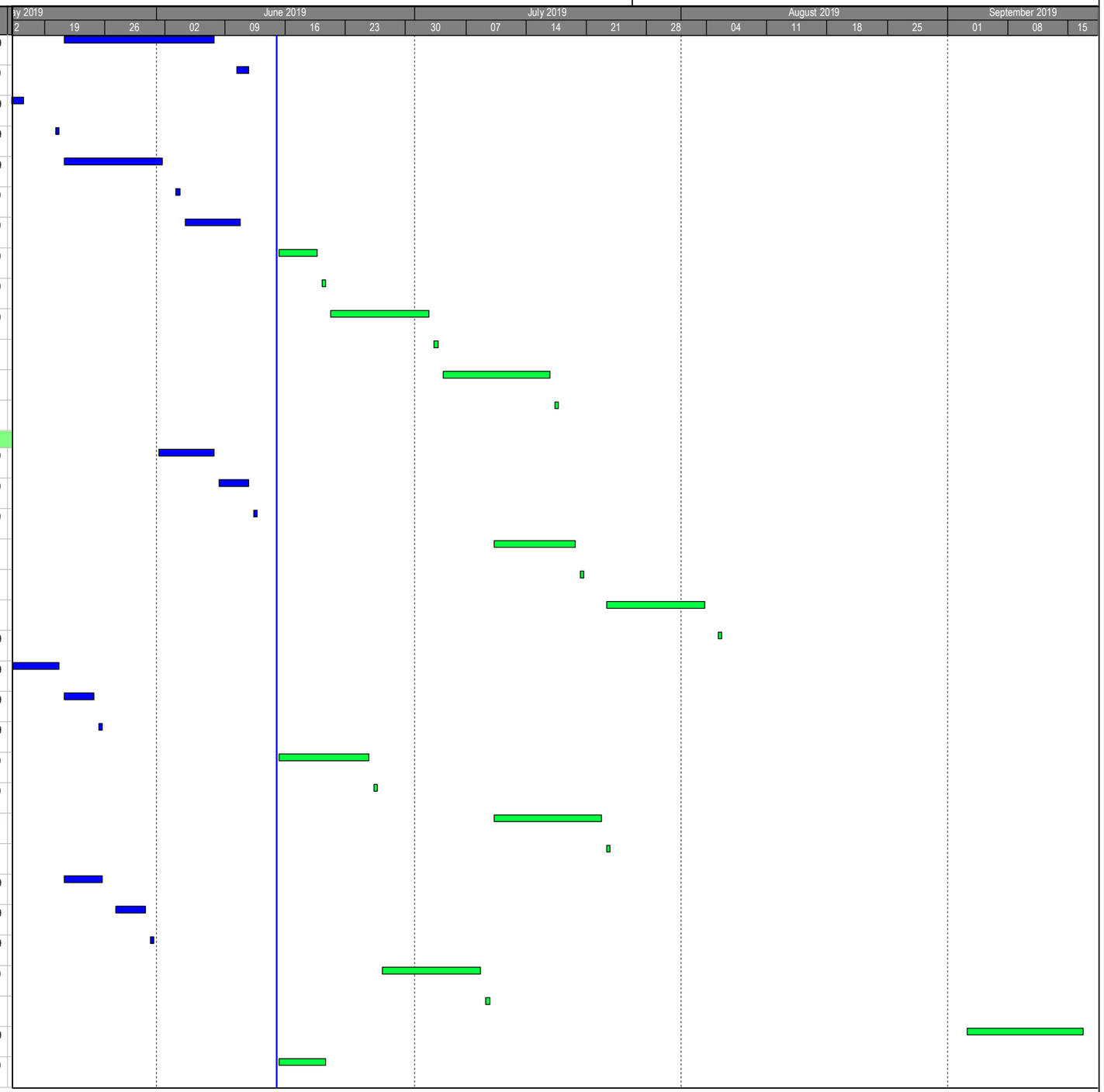
3 Month Rolling Programme

ARQ - Works Programme Rev.1 - 3MRP (15 Jun 2019)
14-Jun-19

Date	Revision	Checked	Approved

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
ACL10050A219	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 3 (CHA36 to CHA24)	0d			15d	21-May-19 08:00 A
ACL10050A220	Concrete Pouring for Wall andTop Slab of Box Culvert BC1 Bay 3 (CHA36 to CHA24)	0d			2d	10-Jun-19 08:00 A
ACL10050A224	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC1 Bay 2 (CHA24 to CHA12)	0d			9d	06-May-19 13:30 A
ACL10050A225	Concrete Pouring for Base Slab of Box Culvert BC1 Bay 2 (CHA24 to CHA12)	0d			1d	20-May-19 08:00 A
ACL10050A226	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 2 (CHA24 to CHA12)	0d			11d	21-May-19 08:00 A
ACL10050A227	Concrete Pouring for Wall andTop Slab of Box Culvert BC1 Bay 2 (CHA24 to CHA12)	0d			1d	03-Jun-19 08:00 A
ACL10050A228	Excavation of Box Culvert BC1 Bay 1 (CHA12 to CHA0)	0d			5d	04-Jun-19 08:00 A
ACL10050A229	Laying Geotextile Filter and Rockfilling for Box Culvert BC1 Bay 1 (CHA12 to CHA0)	0d			4d	15-Jun-19 08:00*
ACL10050A230	Blinding Layer for Box Culvert BC1 Bay 1 (CHA12 to CHA0)	0d			1d	20-Jun-19 08:00
ACL10050A231	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC1 Bay 1 (CHA12 to CHA0)	0d			9d	21-Jun-19 08:00
ACL10050A232	Concrete Pouring for Base Slab of Box Culvert BC1 Bay 1 (CHA12 to CHA0)	0d			1d	03-Jul-19 08:00
ACL10050A233	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 1 (CHA12 to CHA0)	0d			11d	04-Jul-19 08:00
ACL10050A234	Concrete Pouring for Wall andTop Slab of Box Culvert BC1 Bay 1 (CHA12 to CHA0)	0d			1d	17-Jul-19 08:00
Twin Cell Box Culvert BC2						
ACL10050A107	Excavation of Box Culvert BC2 Bay 12 (CHB128 to CHB144)	0d			5d	01-Jun-19 08:00 A
ACL10050A108	Laying Geotextile Filter and Rockfilling for BC2 Bay 12 (CHB128 to CHB144)	0d			3d	08-Jun-19 08:00 A
ACL10050A109	Blinding Layer for Box Culvert BC2 Bay 12 (CHB128 to CHB144)	0d			1d	12-Jun-19 08:00 A
ACL10050A110	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 12 (CHB128 to CHB144)	0d			9d	10-Jul-19 08:00
ACL10050A111	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 12 (CHB128 to CHB144)	0d			1d	20-Jul-19 08:00
ACL10050A112	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert Bay 12 (CHB128 to CHB144)	0d			11d	23-Jul-19 08:00
ACL10050A113	Concrete Pouring for Wall andTop Slab of Box Culvert BC2 Bay 12 (CHB128 to CHB144)	0d			1d	05-Aug-19 08:00
ACL10050A114	Excavation of Box Culvert BC2 Bay 13 (CHB144 to CHB156)	0d			5d	15-May-19 08:00 A
ACL10050A115	Laying Geotextile Filter and Rockfilling for BC2 Bay 13 (CHB144 to CHB156)	0d			4d	21-May-19 08:00 A
ACL10050A116	Blinding Layer for Box Culvert BC2 Bay 13 (CHB144 to CHB156)	0d			1d	25-May-19 08:00 A
ACL10050A117	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 13 (CHB144 to CHB156)	0d			9d	15-Jun-19 08:00
ACL10050A118	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 13 (CHB144 to CHB156)	0d			1d	26-Jun-19 08:00
ACL10050A119	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC2 Bay 13 (CHB144 to CHB156)	0d			11d	10-Jul-19 08:00
ACL10050A120	Concrete Pouring for Wall andTop Slab of Box Culvert BC2 Bay 13 (CHB144 to CHB156)	0d			1d	23-Jul-19 08:00
ACL10050A121	Excavation of Box Culvert BC2 Bay 14 (CHB156 to CHB168)	0d			5d	21-May-19 08:00 A
ACL10050A122	Laying Geotextile Filter and Rockfilling for BC2 Bay 14 (CHB156 to CHB168)	0d			4d	27-May-19 08:00 A
ACL10050A123	Blinding Layer for Box Culvert BC2 Bay 14 (CHB156 to CHB168)	0d			1d	31-May-19 08:00 A
ACL10050A124	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 14 (CHB156 to CHB168)	0d			9d	27-Jun-19 08:00
ACL10050A125	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 14 (CHB156 to CHB168)	0d			1d	09-Jul-19 08:00
ACL10050A126	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert Bay 14 (CHB156 to CHB168)	0d			11d	03-Sep-19 08:00
ACL10050A128	Excavation of Box Culvert BC2 Bay 15 (CHB168 to CHB180)	0d			5d	15-Jun-19 08:00



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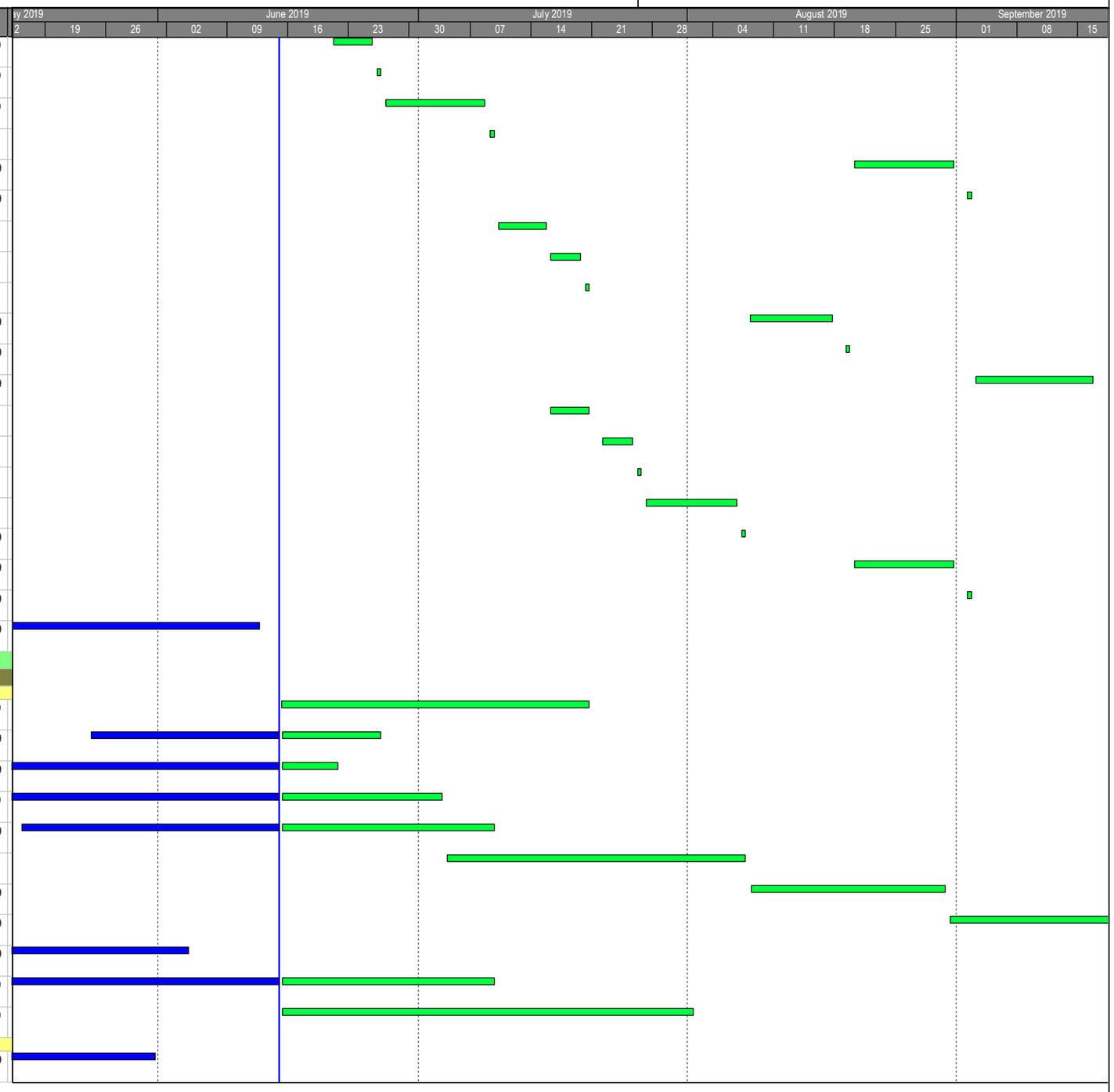
Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
ACL10050A129	Laying Geotextile Filter and Rockfilling for BC2 Bay 15 (CHB168 to CHB180)	0d			4d	21-Jun-19 08:00*
ACL10050A130	Blinding Layer for Box Culvert BC2 Bay 15 (CHB168 to CHB180)	0d			1d	26-Jun-19 08:00
ACL10050A131	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 15 (CHB168 to CHB180)	0d			9d	27-Jun-19 08:00
ACL10050A132	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 15 (CHB168 to CHB180)	0d			1d	09-Jul-19 08:00
ACL10050A133	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC2 Bay 15 (CHB168 to CHB180)	0d			11d	20-Aug-19 08:00
ACL10050A134	Concrete Pouring for Wall andTop Slab of Box Culvert BC2 Bay 15 (CHB168 to CHB180)	0d			1d	02-Sep-19 08:00
ACL10050A135	Excavation of Box Culvert BC2 Bay 16 (CHB180 to CHB192)	0d			5d	10-Jul-19 08:00
ACL10050A136	Laying Geotextile Filter and Rockfilling for BC2 Bay 16 (CHB180 to CHB192)	0d			4d	16-Jul-19 08:00*
ACL10050A137	Blinding Layer for Box Culvert BC2 Bay 16 (CHB180 to CHB192)	0d			1d	20-Jul-19 08:00
ACL10050A138	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 16 (CHB180 to CHB192)	0d			9d	08-Aug-19 08:00
ACL10050A139	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 16 (CHB180 to CHB192)	0d			1d	19-Aug-19 08:00
ACL10050A140	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert Bay 16 (CHB180 to CHB192)	0d			11d	03-Sep-19 08:00
ACL10050A142	Excavation of Box Culvert BC2 Bay 17 (CHB192 to CHB201.096)	0d			5d	16-Jul-19 08:00
ACL10050A143	Laying Geotextile Filter and Rockfilling for BC2 Bay 17 (CHB192 to CHB201.096)	0d			4d	22-Jul-19 08:00*
ACL10050A144	Blinding Layer for Box Culvert BC2 Bay 17 (CHB192 to CHB201.096)	0d			1d	26-Jul-19 08:00
ACL10050A145	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 17 (CHB192 to CHB201.096)	0d			9d	27-Jul-19 08:00
ACL10050A146	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 17 (CHB192 to CHB201.096)	0d			1d	07-Aug-19 08:00
ACL10050A147	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert Bay 17 (CHB192 to CHB201.096)	0d			11d	20-Aug-19 08:00
ACL10050A148	Concrete Pouring for Wall andTop Slab of Box Culvert BC2 Bay 17 (CHB192 to CHB201.096)	0d			1d	02-Sep-19 08:00
ACL10050A150	A1 - Backfilling to Bottom Level of Retaining Wall RWA9 (BC2 Bay #1 to 6)	0d			24d	15-May-19 08:00 A
At-grade Internal Road L1						
Road L1 and L5 (Portion A1)						
Road L1 (Portion A1)						
ACL10115	A1 - Backfilling Road L1 from System B to West Portal for Temporary Haul Road	30d	12-Jul-18 08:00	15-Aug-18 18:00	30d	15-Jun-19 08:00
ACL10121A060	A1 - Watermain from junction L3/L1 to L5 /L1	0d			28d	24-May-19 09:00 A
ACL10121A070	A1 - Excav Drainage Pipes between M/H S212 to S211a at Road L1	0d			84d 1h	08-Mar-19 17:30 A
ACL10121A080	A1 - Lay 1800mm drain pipe S212 to 211a at Road L1	0d			62d	16-Apr-19 09:00 A
ACL10121A090	A1 - Construct Manhole S212, S212a, S211 at road L1	0d			45d	16-May-19 09:00 A
ACL10121A100	A1 - Excav Drainage Pipes between M/H S211a to BC1 at Road L1	0d			30d	04-Jul-19 09:00
ACL10121A110	A1 - Lay 1950mm drain pipe S211a to BC1 at Road L1	0d			20d	08-Aug-19 09:00
ACL10121A120	A1 - Construct Manhole S211a & BC1 connection point at road L1	0d			25d	31-Aug-19 09:00
ACL10121A130	A1 - Excavate sewer pipe from B119 to B122 at L1	0d			51d	30-Mar-19 14:00 A
ACL10121A140	A1 - Constuct sewer pipe 375 & 450 dia from B119 to B122 at L1	0d			61d 1h	25-Apr-19 17:30 A
ACL10121A150	A1 - Construct Manhole B120, B121, B121a at road L1	0d			40d	15-Jun-19 09:00
Road L5 (Portion A1)						
ACL10120A93	A1 - Lay fresh & salt watermain at L5	0d			50d	29-Mar-19 09:00 A



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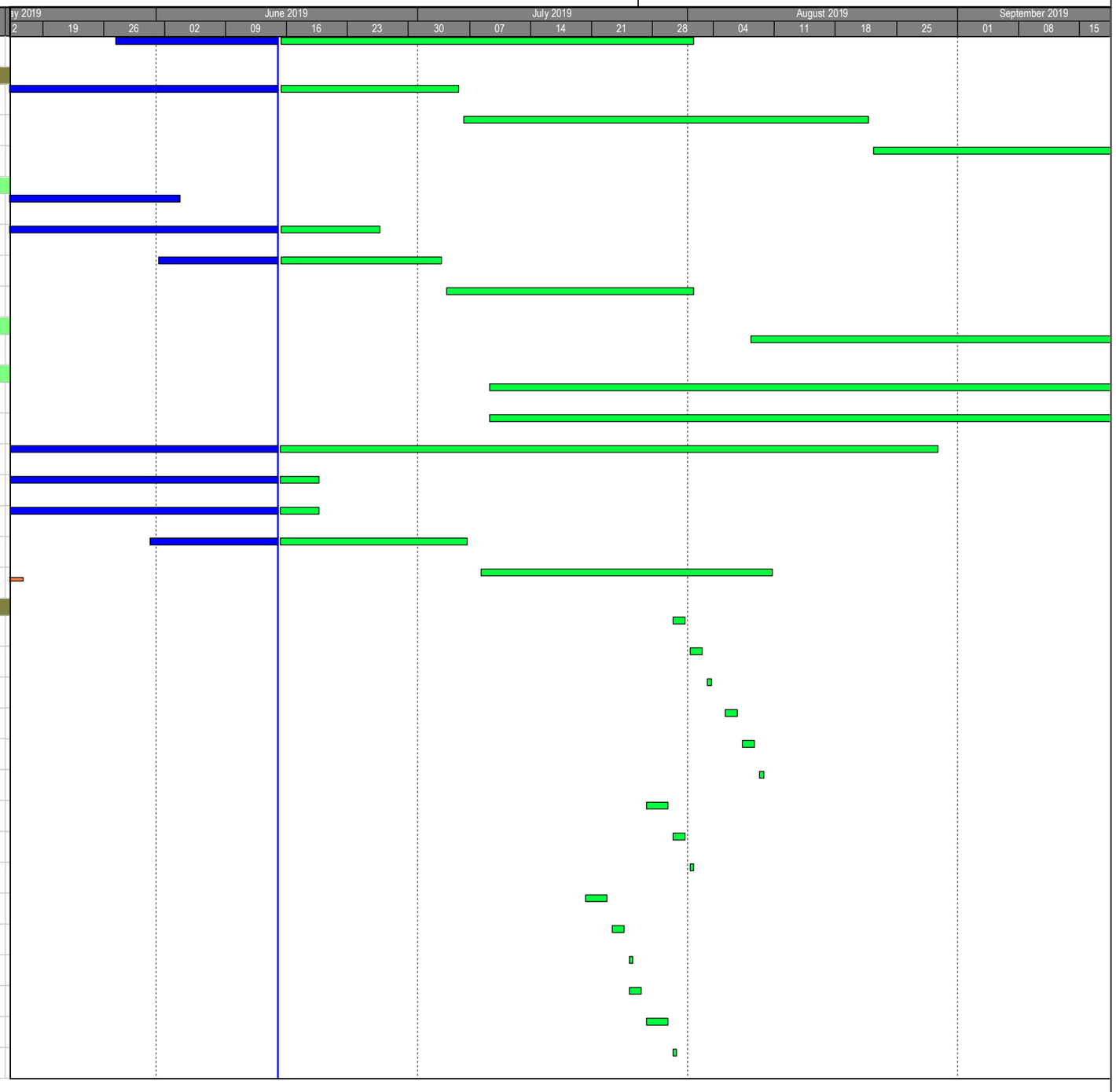
ACL10120B103	A1 - LAy Gas main & Utilities Duct at L5	0d			56d	27-May-19 09:00 A
Road L1 (Portion B2)						
ACL10039A014	B2 - Excav drainage pipe from BC1 Bay 1 to S231	0d			52d	04-May-19 09:00 A
ACL10039A024	B2 - Lay 1500mm drainage pipe from BC1 Bay 1 to S231	0d			40d	06-Jul-19 09:00
ACL10039A034	B2 - Construct M/H S222 & backfill drainage from BC1 to S231	0d			40d	22-Aug-19 09:00
At-grade Internal Road L2 (Portion B2/B11/B12)						
ACL20090	B2/B11/B12 - Const M/H R256 to R261, Backfill trench	0d			20d	11-May-19 09:00 A
ACL20100	B2/B11/B12 - Excav for drainage pipe R262 to R265	0d			39d	11-May-19 09:00 A
ACL20110	B2/B11/B12 - Lay drainage pipe from R262 to R265	0d			26d	01-Jun-19 08:00 A
ACL20120	B2/B11/B12 - Const M/H R262 to R265, Backfill trench	0d			25d	04-Jul-19 09:00
At-grade Internal Road L3 Portion A1)						
ACL30030	A1 - Construction of RWA9 at Slope A9 (North End to Open Cut Boundary)	75d	07-Aug-18 08:00	05-Nov-18 18:00	75d	08-Aug-19 08:00
At-grade Internal Road L4 (Portion C1a)						
ACL41150	C1a - Excavate and Construct Road Drainage System along Road L4 CH0 to CH50	80d	08-May-18 08:00	11-Aug-18 18:00	80d	09-Jul-19 08:00*
ACL41152	C1a - Excavate and Construct Road Drainage System along Road L4 CH100 to CH150	70d	08-May-18 08:00	31-Jul-18 18:00	70d	09-Jul-19 08:00*
ACL41240	C1a - Road Improvement at Junction between Road L4 and On Sau Road	90d	03-Jan-18 08:00	25-Apr-18 18:00	90d	15-May-19 08:00 A
ACL41260	C1a - RockSlope Inspection along Road L4	200d	13-Jan-18 08:00	15-Sep-18 18:00	30d	15-May-19 08:00 A
ACL41270	C1a - Submit Details of RockSlope Inspection to AECOM for Road L4	120d	20-Jul-18 08:00	10-Dec-18 18:00	30d	15-May-19 08:00 A
ACL41280	C1a - Contractor's Consultant Review and Design for Road L4	120d	06-Aug-18 08:00	28-Dec-18 18:00	30d	31-May-19 08:00 A
ACL41290	C1a - Remedial Works of Rock Slope for Road L4	200d	10-Sep-18 08:00	16-May-19 18:00	30d	08-Jul-19 08:00
Noise Barrier						
ACL401357	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #1 (2nd Stage)	0d			2d	30-Jul-19 08:00
ACL401358	C1a - Installation of Formwork and Temporary Platform for 3600mm HT Wall of Noise Barrier - Bay #1 (2nd Stage)	0d			2d	01-Aug-19 08:00
ACL401359	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #1 (2nd Stage)	0d			1d	03-Aug-19 08:00
ACL401366	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #2 (2nd Stage)	0d			2d	05-Aug-19 08:00
ACL401367	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #2 (2nd Stage)	0d			2d	07-Aug-19 08:00
ACL401368	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #2 (2nd Stage)	0d			1d	09-Aug-19 08:00
ACL401375	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #3 (2nd Stage)	0d			2d	27-Jul-19 08:00
ACL401376	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #3 (2nd Stage)	0d			2d	30-Jul-19 08:00
ACL401377	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #3 (2nd Stage)	0d			1d	01-Aug-19 08:00
ACL401384	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #4 (2nd Stage)	0d			2d	20-Jul-19 08:00
ACL401385	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #4 (2nd Stage)	0d			2d	23-Jul-19 08:00
ACL401386	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #4 (2nd Stage)	0d			1d	25-Jul-19 08:00
ACL401393	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #5 (2nd Stage)	0d			2d	25-Jul-19 08:00
ACL401394	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #5 (2nd Stage)	0d			2d	27-Jul-19 08:00
ACL401395	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #5 (2nd Stage)	0d			1d	30-Jul-19 08:00



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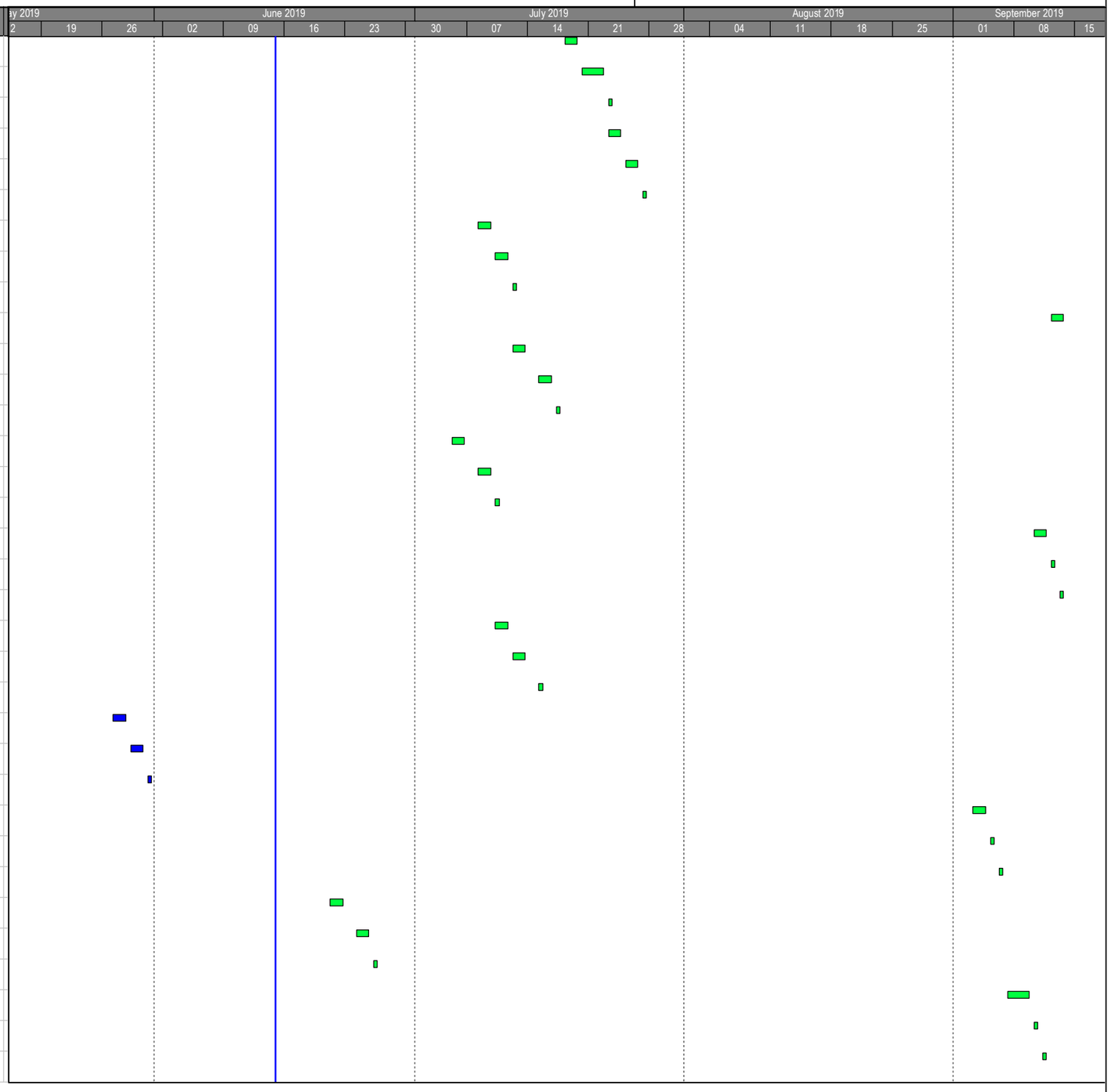
Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
ACL401402	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #6 (2nd Stage)	0d			2d	18-Jul-19 08:00
ACL401403	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #6 (2nd Stage)	0d			2d	20-Jul-19 08:00
ACL401404	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #6 (2nd Stage)	0d			1d	23-Jul-19 08:00
ACL401411	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #7 (2nd Stage)	0d			2d	23-Jul-19 08:00
ACL401412	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #7 (2nd Stage)	0d			2d	25-Jul-19 08:00
ACL401413	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #7 (2nd Stage)	0d			1d	27-Jul-19 08:00
ACL401420	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #8 (2nd Stage)	0d			2d	08-Jul-19 08:00
ACL401421	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #8 (2nd Stage)	0d			2d	10-Jul-19 08:00
ACL401422	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #8 (2nd Stage)	0d			1d	12-Jul-19 08:00
ACL401423	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #8 (3rd Stage)	0d			2d	12-Sep-19 08:00
ACL401429	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #9 (2nd Stage)	0d			2d	12-Jul-19 08:00
ACL401430	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #9 (2nd Stage)	0d			2d	15-Jul-19 08:00
ACL401431	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #9 (2nd Stage)	0d			1d	17-Jul-19 08:00
ACL401438	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #10 (2nd Stage)	0d			2d	05-Jul-19 08:00
ACL401439	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #10 (2nd Stage)	0d			2d	08-Jul-19 08:00
ACL401440	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #10 (2nd Stage)	0d			1d	10-Jul-19 08:00
ACL401441	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #10 (3rd Stage)	0d			2d	10-Sep-19 08:00
ACL401442	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #10 (3rd Stage)	0d			1d	12-Sep-19 08:00
ACL401443	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #10 (3rd Stage)	0d			1d	13-Sep-19 08:00
ACL401447	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #11 (2nd Stage)	0d			2d	10-Jul-19 08:00
ACL401448	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #11 (2nd Stage)	0d			2d	12-Jul-19 08:00
ACL401449	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #11 (2nd Stage)	0d			1d	15-Jul-19 08:00
ACL401456	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #12 (2nd Stage)	0d			2d	27-May-19 08:00 A
ACL401457	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #12 (2nd Stage)	0d			2d	29-May-19 08:00 A
ACL401458	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #12 (2nd Stage)	0d			1d	31-May-19 08:00 A
ACL401459	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #12 (3rd Stage)	0d			2d	03-Sep-19 08:00
ACL401460	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #12 (3rd Stage)	0d			1d	05-Sep-19 08:00
ACL401461	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #12 (3rd Stage)	0d			1d	06-Sep-19 08:00
ACL401465	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #13 (2nd Stage)	0d			2d	21-Jun-19 08:00
ACL401466	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #13 (2nd Stage)	0d			2d	24-Jun-19 08:00
ACL401467	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #13 (2nd Stage)	0d			1d	26-Jun-19 08:00
ACL401468	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #13 (3rd Stage)	0d			2d	07-Sep-19 08:00
ACL401469	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #13 (3rd Stage)	0d			1d	10-Sep-19 08:00
ACL401470	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #13 (3rd Stage)	0d			1d	11-Sep-19 08:00



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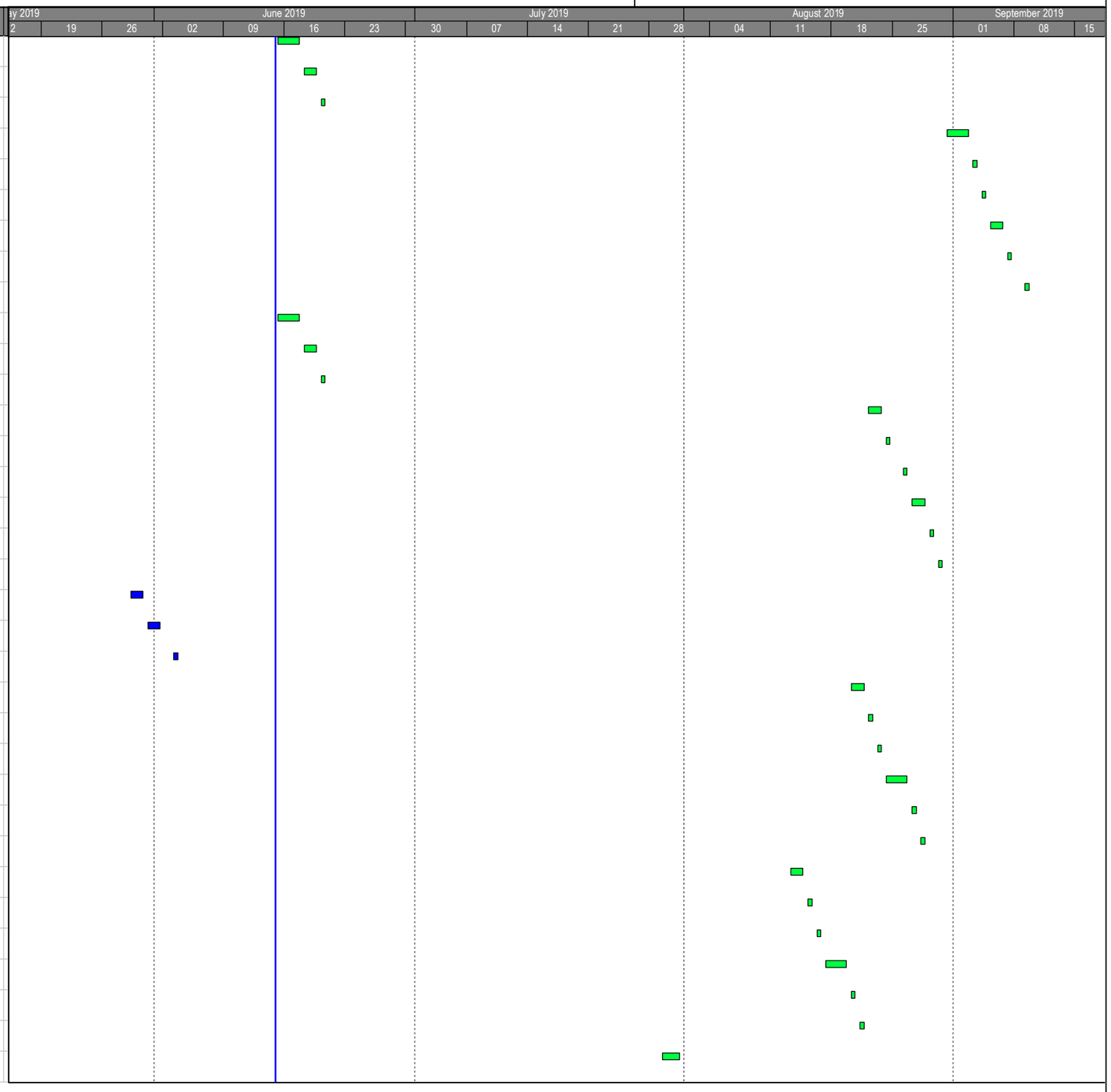
Forecast Work

3 Month Rolling Programme
ARQ - Works Programme Rev.1 - 3MRP (15 Jun 2019)
14-Jun-19

Date	Revision	Checked	Approved

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
ACL401474	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #14 (2nd Stage)	0d			2d	15-Jun-19 08:00
ACL401475	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #14 (2nd Stage)	0d			2d	18-Jun-19 08:00
ACL401476	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #14 (2nd Stage)	0d			1d	20-Jun-19 08:00
ACL401477	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #14 (3rd Stage)	0d			2d	31-Aug-19 08:00
ACL401478	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #14 (3rd Stage)	0d			1d	03-Sep-19 08:00
ACL401479	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #14 (3rd Stage)	0d			1d	04-Sep-19 08:00
ACL401486	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #15 (3rd Stage)	0d			2d	05-Sep-19 08:00
ACL401487	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #15 (3rd Stage)	0d			1d	07-Sep-19 08:00
ACL401488	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #15 (3rd Stage)	0d			1d	09-Sep-19 08:00
ACL401492	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #16 (2nd Stage)	0d			2d	15-Jun-19 08:00
ACL401493	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #16 (2nd Stage)	0d			2d	18-Jun-19 08:00
ACL401494	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #16 (2nd Stage)	0d			1d	20-Jun-19 08:00
ACL401495	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #16 (3rd Stage)	0d			2d	22-Aug-19 08:00
ACL401496	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #16 (3rd Stage)	0d			1d	24-Aug-19 08:00
ACL401497	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #16 (3rd Stage)	0d			1d	26-Aug-19 08:00
ACL401504	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #17 (3rd Stage)	0d			2d	27-Aug-19 08:00
ACL401505	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #17 (3rd Stage)	0d			1d	29-Aug-19 08:00
ACL401506	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #17 (3rd Stage)	0d			1d	30-Aug-19 08:00
ACL401510	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #18 (2nd Stage)	0d			2d	29-May-19 08:00 A
ACL401511	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #18 (2nd Stage)	0d			2d	31-May-19 08:00 A
ACL401512	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #18 (2nd Stage)	0d			1d	03-Jun-19 08:00 A
ACL401513	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #18 (3rd Stage)	0d			2d	20-Aug-19 08:00
ACL401514	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #18 (3rd Stage)	0d			1d	22-Aug-19 08:00
ACL401515	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #18 (3rd Stage)	0d			1d	23-Aug-19 08:00
ACL401522	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #19 (3rd Stage)	0d			2d	24-Aug-19 08:00
ACL401523	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #19 (3rd Stage)	0d			1d	27-Aug-19 08:00
ACL401524	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #19 (3rd Stage)	0d			1d	28-Aug-19 08:00
ACL401531	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #20 (3rd Stage)	0d			2d	13-Aug-19 08:00
ACL401532	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #20 (3rd Stage)	0d			1d	15-Aug-19 08:00
ACL401533	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #20 (3rd Stage)	0d			1d	16-Aug-19 08:00
ACL401540	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #21 (3rd Stage)	0d			2d	17-Aug-19 08:00
ACL401541	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #21 (3rd Stage)	0d			1d	20-Aug-19 08:00
ACL401542	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #21 (3rd Stage)	0d			1d	21-Aug-19 08:00
ACL401546	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #22 (2nd Stage)	0d			2d	29-Jul-19 13:30



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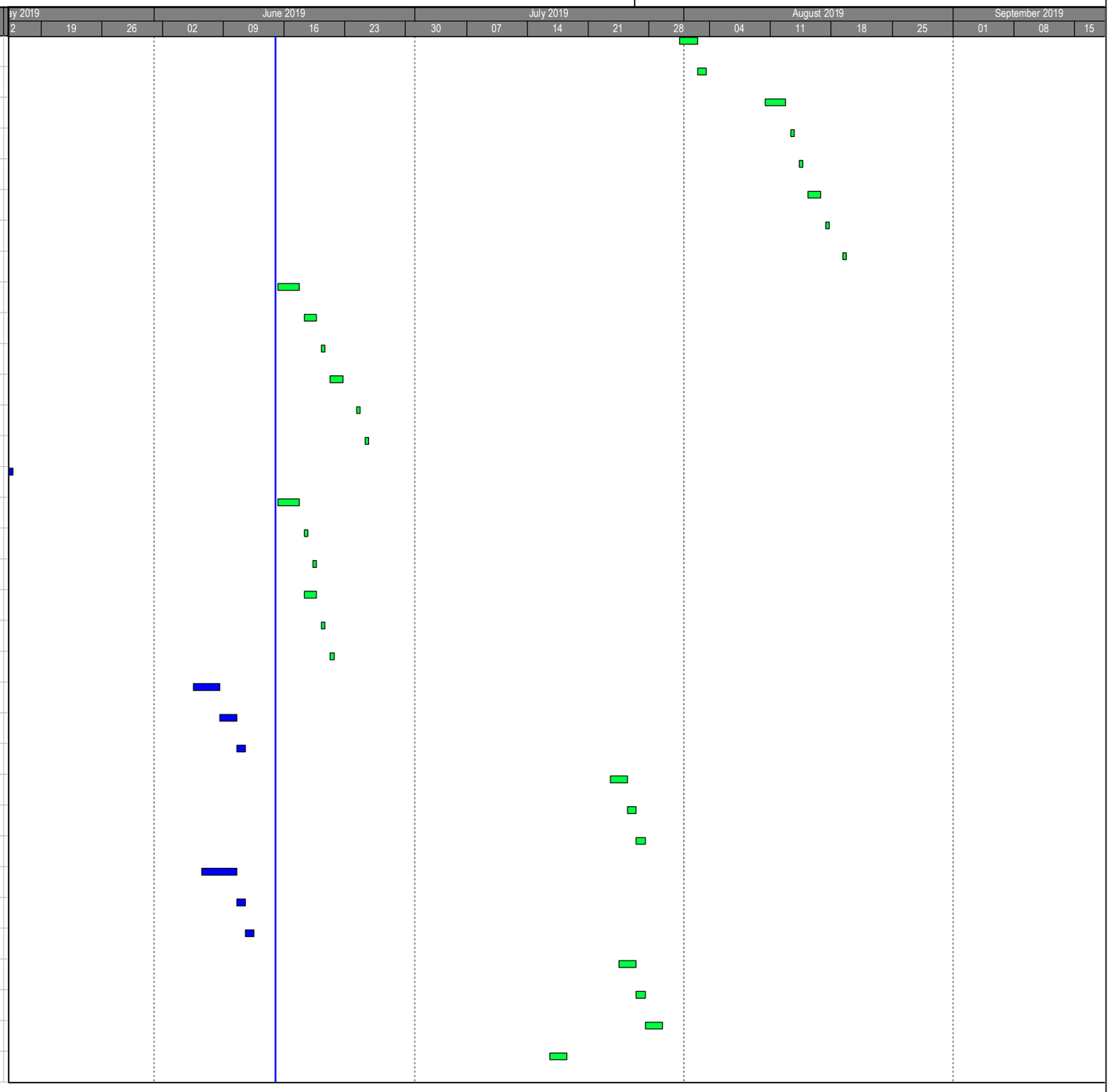
Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
ACL401547	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #22 (2nd Stage)	0d			2d	31-Jul-19 13:30
ACL401548	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #22 (2nd Stage)	0d			1d	02-Aug-19 13:30
ACL401549	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #22 (3rd Stage)	0d			2d	10-Aug-19 08:00
ACL401550	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #22 (3rd Stage)	0d			1d	13-Aug-19 08:00
ACL401551	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #22 (3rd Stage)	0d			1d	14-Aug-19 08:00
ACL401558	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #23 (3rd Stage)	0d			2d	15-Aug-19 08:00
ACL401559	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #23 (3rd Stage)	0d			1d	17-Aug-19 08:00
ACL401560	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #23 (3rd Stage)	0d			1d	19-Aug-19 08:00
ACL401564	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #24 (2nd Stage)	0d			2d	15-Jun-19 08:00
ACL401565	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #24 (2nd Stage)	0d			2d	18-Jun-19 08:00
ACL401566	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #24 (2nd Stage)	0d			1d	20-Jun-19 08:00
ACL401567	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #24 (3rd Stage)	0d			2d	21-Jun-19 08:00
ACL401568	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #24 (3rd Stage)	0d			1d	24-Jun-19 08:00
ACL401569	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #24 (3rd Stage)	0d			1d	25-Jun-19 08:00
ACL401578	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #25 (3rd Stage)	0d			1d	15-May-19 08:00 A
ACL401585	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #26 (3rd Stage)	0d			2d	15-Jun-19 08:00
ACL401586	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #26 (3rd Stage)	0d			1d	18-Jun-19 08:00
ACL401587	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #26 (3rd Stage)	0d			1d	19-Jun-19 08:00
ACL401594	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #27 (3rd Stage)	0d			2d	18-Jun-19 08:00
ACL401595	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #27 (3rd Stage)	0d			1d	20-Jun-19 08:00
ACL401596	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #27 (3rd Stage)	0d			1d	21-Jun-19 08:00
ACL401603	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #28 (3rd Stage)	0d			2d	05-Jun-19 13:30 A
ACL401604	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #28 (3rd Stage)	0d			1d	08-Jun-19 13:30 A
ACL401605	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #28 (3rd Stage)	0d			1d	10-Jun-19 13:30 A
ACL401612	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #29 (3rd Stage)	0d			2d	23-Jul-19 13:30
ACL401613	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #29 (3rd Stage)	0d			1d	25-Jul-19 13:30
ACL401614	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #29 (3rd Stage)	0d			1d	26-Jul-19 13:30
ACL401621	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #30 (3rd Stage)	0d			2d	06-Jun-19 13:30 A
ACL401622	C1a - Installation of Formworkst for 2400mm HT Wall of Noise Barrier - Bay #30 (3rd Stage)	0d			1d	10-Jun-19 13:30 A
ACL401623	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #30 (3rd Stage)	0d			1d	11-Jun-19 13:30 A
ACL401630	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #31 (3rd Stage)	0d			2d	24-Jul-19 13:30
ACL401631	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #31 (3rd Stage)	0d			1d	26-Jul-19 13:30
ACL401632	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #31 (3rd Stage)	0d			1d	27-Jul-19 13:30
ACL401636	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #32 (2nd Stage)	0d			2d	16-Jul-19 13:30*



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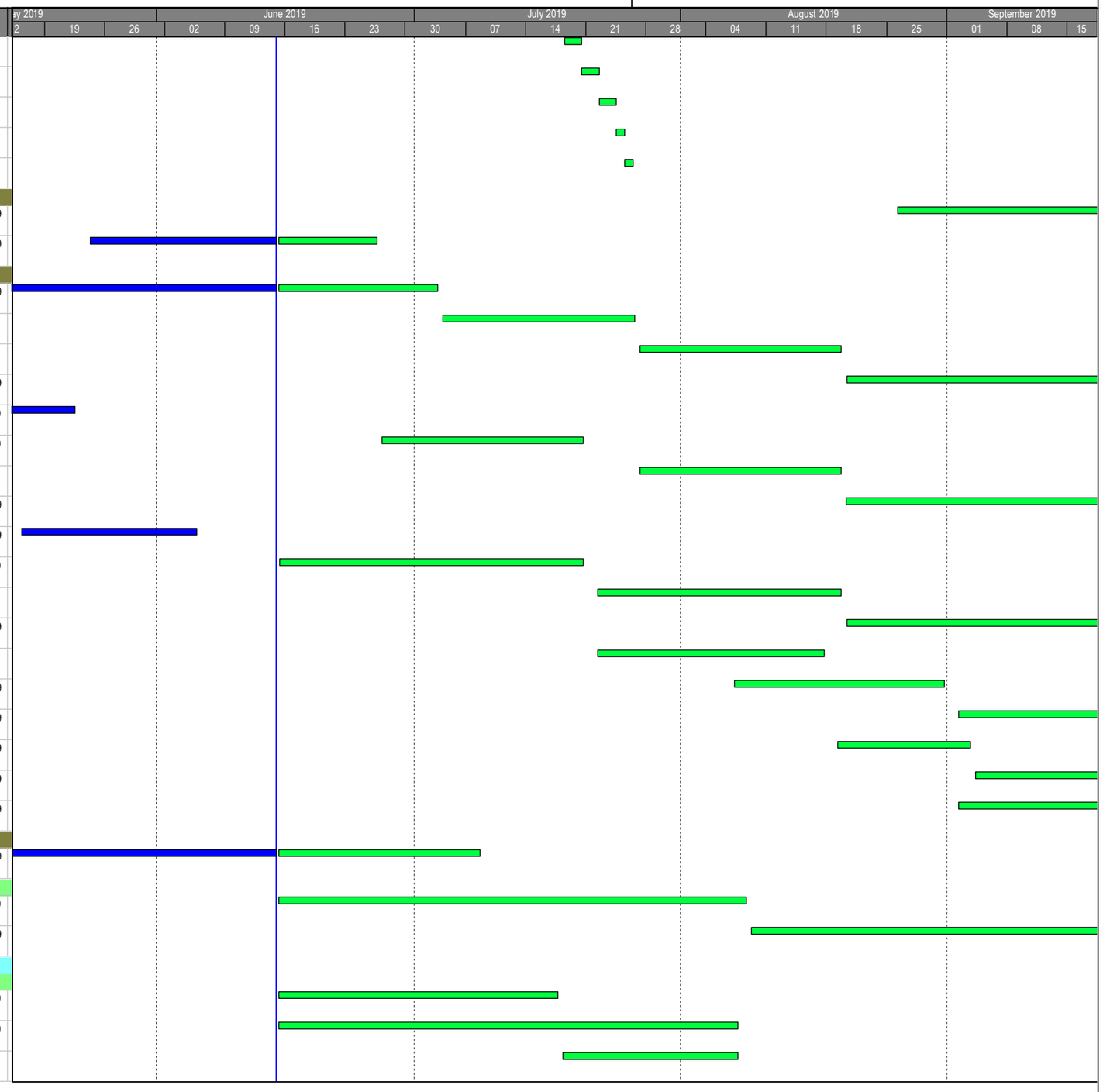
ACL401637	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #32 (2nd Stage)	0d			2d	18-Jul-19 13:30
ACL401638	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #32 (2nd Stage)	0d			1d	20-Jul-19 13:30
ACL401639	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #32 (3rd Stage)	0d			2d	22-Jul-19 13:30
ACL401640	C1a - Installation of Steel Formworks for 2400mm HT Wall of Noise Barrier - Bay #32 (3rd Stage)	0d			1d	24-Jul-19 13:30
ACL401641	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #32 (3rd Stage)	0d			1d	25-Jul-19 13:30
Twin 1950 Dia. Downpipe and Cascade						
ACL40050A002	C1a - Construction of New CP17-1 (IL +165mPD)	0d			45d	26-Aug-19 08:00*
ACL40060	C1a - Construction of new 2x1950mm Dia Drainage Pipe (IL +165.6mPD)	17d	20-Jan-18 08:00	08-Feb-18 18:00	28d	24-May-19 08:00 A
Retaining Wall RWA12						
ACL40020A004	C1a - Back Fill RWA12 - Bay #20 to Bay #17 up +161mPD	0d			49d	06-May-19 08:00 A
ACL40020A006	C1a - Construct RWA12 - Bay #20 & Bay#18 Wall upto +165mPD	0d			20d	04-Jul-19 08:00
ACL40020A007	C1a - Construct RWA12 - Bay #19 & 17 Wall upward +165mPD	0d			20d	27-Jul-19 08:00
ACL40020A009	C1a - Back Fill RWA12 - Bay #20 to Bay #17 up +165mPD	0d			25d	20-Aug-19 09:00
ACL40040A003	C1a - Construction of RWA12 - Bay #22 backfill upto +165mPD for 1950 pipe	0d			36d	04-Apr-19 13:30 A
ACL40040A042	C1a - Construction of RWA12 - Bay #22 Wall upward +175mPD as 2nd Portion	0d			20d	27-Jun-19 08:00
ACL40120A001	C1a - Construct RWA12 - Bay #21 Base Slab and Wall upward +165mPD as 1st Portion	0d			20d	27-Jul-19 08:00
ACL40120A002	C1a - Back Fill RWA12 - Bay #21 and 22 upward +163mPD (15 layers @ 4 layers/day)	0d			25d	20-Aug-19 08:00
ACL40120B030	C1a - Construction of RWA12 - Bay 15 Base Slab	0d			18d	16-May-19 09:00 A
ACL40120B031	C1a - Construction of RWA12 - Bay 16 & 15 upto +161mPD	0d			30d	15-Jun-19 09:00
ACL40120B032	C1a - Backfill RWA12 - Bay 16 & 15 upto +161mPD	0d			25d	22-Jul-19 09:00
ACL40120B033	C1a - Construction of RWA12 - Bay 16 & 15 upto +165mPD	0d			30d	20-Aug-19 09:00
ACL40120B040	C1a - Excavate RWA12 - Bay 8 & Bay 12	0d			24d	22-Jul-19 09:00
ACL40120B050	C1a - Construction of RWA12 - Bay 11 & 12 Base Slab	0d			22d	07-Aug-19 09:00
ACL40120B060	C1a - Construction of RWA12 - Bay 8a & 9a Base Slab	0d			20d	02-Sep-19 09:00
ACL40120B070	C1a - Excavate RWA12 - Bay 13 & Bay 14	0d			14d	19-Aug-19 09:00
ACL40120B080	C1a - Construction of RWA12 - Bay 13 & 14 Base Slab	0d			22d	04-Sep-19 09:00
ACL40120B090	C1a - Construction of RWA12 - Bay 11 & 12 Wall structure	0d			26d	02-Sep-19 09:00
Retaining Wall RWA18						
ACL40275	C1a - Back Filling Retaining Wall RWA18 (5 bays)	45d	10-Mar-18 08:00	07-May-18 18:00	45d	15-May-19 08:00 A
WSD Access Road (Portion B5)						
ACL60010	B5 - Site Clearance and Tree Felling	46d	19-Dec-17 08:00	13-Feb-18 18:00	46d	15-Jun-19 08:00
ACL60020	B5 - Drainage,Sewerage,Water mains and Underground Utilities laying (approx 600m) along WSD Access Road	120d	14-Feb-18 08:00	16-Jul-18 18:00	120d	09-Aug-19 08:00
Portion A1						
Site Formation						
ACA10075	A1 - Site Clearance in Portion A1 (R2-8)	27d	21-Jun-18 08:00	23-Jul-18 18:00	27d	15-Jun-19 08:00*
ACA10080	A1 - Site Clearance in Portion A1 (OU, G/I C-1 and RS-1)	45d	02-Oct-18 08:00	23-Nov-18 18:00	45d	15-Jun-19 08:00*
ACA10090	A1 - Site Clearance in Portion A1 (G-3 and G-4)	18d	24-Jul-18 08:00	13-Aug-18 18:00	18d	18-Jul-19 08:00



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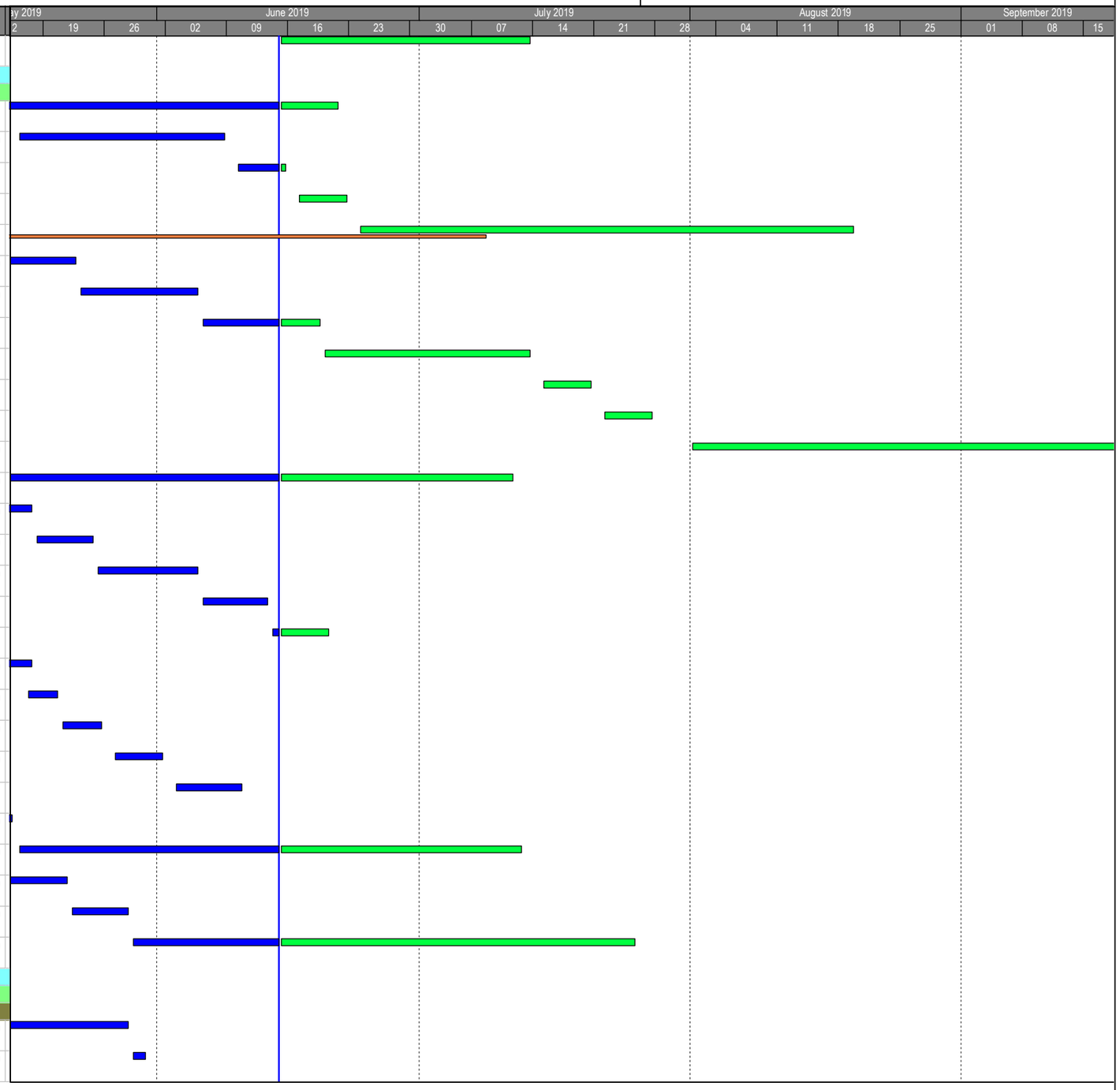
ACA10100	A1 - Site Clearance in Portion A1 (E-2)	24d	08-Nov-18 08:00	05-Dec-18 18:00	24d	15-Jun-19 08:00*
Portion B1						
Site Formation						
ACB100037A002	B1 - Installation of Wire Mesh for Slope 11NE-D/C978	0d			54d	15-Apr-19 08:00 A
ACB10120	B1 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C947 (2000 sqm) - 80sqm/d (Provisional Work)	20d	27-Feb-19 08:00	21-Mar-19 18:00	20d	16-May-19 08:00 A
ACB10130	B1 - JV Prepare and Submit Rock Slope Mapping Report for Slope 11NE-D/C947 (2000 sqm) (Provisional Work)	6d	22-Mar-19 08:00	28-Mar-19 18:00	6d	10-Jun-19 08:00 A
ACB10140	B1 - RE Review and Approve Rock Slope Mapping Report for Slope 11NE-D/C947 (2000 sqm) (Provisional Work)	6d	29-Mar-19 08:00	04-Apr-19 18:00	6d	17-Jun-19 08:00
ACB10150	B1 - Rock Slope Stabilization Measures (Instructed by RE) for Slope 11NE-D/C947 (2000 sqm)	48d	11-May-19 08:00	08-Jul-19 18:00	48d	24-Jun-19 08:00
ACB10160	B1 - Material and Equipment Mobilization up Hill for Slope 11NE-D/C949 (1600 sqm)	7d	27-Jun-18 08:00	05-Jul-18 18:00	7d	15-May-19 08:00 A
ACB10170	B1 - Anchorage Installation of Scaffold for Slope 11NE-D/C949 (1600 sqm)	12d	06-Jul-18 08:00	19-Jul-18 18:00	12d	23-May-19 08:00 A
ACB10180	B1 - Erection of Scaffold for Slope 11NE-D/C949 (1600 sqm) - 150sqm/d	11d	20-Jul-18 08:00	01-Aug-18 18:00	11d	06-Jun-19 08:00 A
ACB10190	B1 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C949 (1600 sqm) - 80sqm/d (Provisional Work)	20d	02-Aug-18 08:00	24-Aug-18 18:00	20d	20-Jun-19 08:00
ACB10200	B1 - JV Prepare and Submit Rock Slope Mapping Report for Slope 11NE-D/C949 (1600 sqm) (Provisional Work)	6d	25-Aug-18 08:00	31-Aug-18 18:00	6d	15-Jul-19 08:00
ACB10210	B1 - RE Review and Approve Rock Slope Mapping Report for Slope 111NE-D/C949 (1600 sqm) (Provisional Work)	6d	01-Sep-18 08:00	07-Sep-18 18:00	6d	22-Jul-19 08:00
ACB10220	B1 - Rock Slope Stabilization Measures (Instructed by RE) for Slope 11NE-D/C949 (1600 sqm) (Provisional Work)	48d	13-Sep-18 08:00	10-Nov-18 18:00	48d	01-Aug-19 08:00
ACB10290	B1 - Rock Slope Stabilization Measures (Instructed by RE) for Slope 11NE-D/C981 (500 sqm) (Provisional Work)	48d	19-Jul-18 08:00	12-Sep-18 18:00	48d	15-May-19 08:00 A
ACB10440	B1 - Anchorage Installation of Scaffold for Slope 11NE-D/C976 (800 sqm)	12d	10-Sep-18 08:00	22-Sep-18 18:00	12d	04-May-19 08:00 A
ACB10450	B1 - Erection of Scaffold for Slope 11NE-D/C976 (800 sqm) - 150sqm/d	6d	24-Sep-18 08:00	02-Oct-18 18:00	6d	18-May-19 08:00 A
ACB10460	B1 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C976 (800 sqm) - 80sqm/d (Provisional Work)	10d	03-Oct-18 08:00	13-Oct-18 18:00	10d	25-May-19 08:00 A
ACB10470	B1 - JV Prepare and Submit Rock Slope Mapping Report for Slope 11NE-D/C976 (800 sqm) (Provisional Work)	6d	15-Oct-18 08:00	22-Oct-18 18:00	6d	06-Jun-19 08:00 A
ACB10480	B1 - RE Review and Approve Rock Slope Mapping Report for Slope 11NE-D/C976 (800 sqm) (Provisional Work)	6d	23-Oct-18 08:00	29-Oct-18 18:00	6d	14-Jun-19 08:00 A
ACB10510	B1 - Anchorage Installation of Scaffold for Slope 11NE-D/C977 (400 sqm)	12d	27-Dec-18 08:00	10-Jan-19 18:00	12d	04-May-19 08:00 A
ACB10520	B1 - Erection of Scaffold for Slope 11NE-D/C977 (400 sqm) - 150sqm/d	3d	11-Jan-19 08:00	14-Jan-19 18:00	3d	17-May-19 08:00 A
ACB10530	B1 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C977 (400 sqm) - 80sqm/d (Provisional Work)	5d	15-Jan-19 08:00	19-Jan-19 18:00	5d	21-May-19 08:00 A
ACB10540	B1 - JV Prepare and Submit Rock Slope Mapping Report for Slope 11NE-D/C977 (400 sqm) (Provisional Work)	6d	21-Jan-19 08:00	26-Jan-19 18:00	6d	27-May-19 08:00 A
ACB10550	B1 - RE Review and Approve Rock Slope Mapping Report for Slope 111NE-D/C977 (400 sqm) (Provisional Work)	6d	28-Jan-19 08:00	02-Feb-19 18:00	6d	03-Jun-19 08:00 A
ACB10620	B1 - RE Review and Approve Rock Slope Mapping Report for Slope 111NE-D/C986 (800 sqm) (Provisional Work)	6d	10-Dec-18 08:00	15-Dec-18 18:00	6d	08-May-19 13:00 A
ACB10630	B1 - Rock Slope Stabilization Measures (Instructed by RE) for Slope 11NE-D/C986 (800 sqm) (Provisional Work)	48d	10-Jan-19 08:00	09-Mar-19 18:00	48d	16-May-19 08:00 A
ACB10730	B1 - JV Prepare and Submit Rock Slope Mapping Report for Slope 11NE-D/C999 (600 sqm) (Provisional Work)	6d	27-Oct-17 08:00	03-Nov-17 18:00	6d	15-May-19 08:00 A
ACB10740	B1 - RE Review and Approve Rock Slope Mapping Report for Slope 11NE-D/C999 (600 sqm) (Provisional Work)	6d	04-Nov-17 08:00	10-Nov-17 18:00	6d	22-May-19 08:00 A
ACB10750	B1 - Rock Slope Stabilization Measures (Instructed by RE) for Slope 11NE-D/C999 (600 sqm)	48d	30-Dec-17 08:00	28-Feb-18 18:00	48d	29-May-19 08:00 A
Portion B5						
Portion B5 North & East Side adjacent to Portion B2 and Pumping Station and Reservoirs						
Site Formation						
ACB50140	B5 - Anchorage Installation of Scaffold for Slope 11NE-D/C1000 (200 sqm)	12d	01-Apr-19 08:00	15-Apr-19 18:00	12d	15-May-19 08:00 A
ACB50150	B5 - Erection of Scaffold for Slope 11NE-D/C1000 (200 sqm) - 150sqm/d	2d	16-Apr-19 08:00	17-Apr-19 18:00	2d	29-May-19 08:00 A



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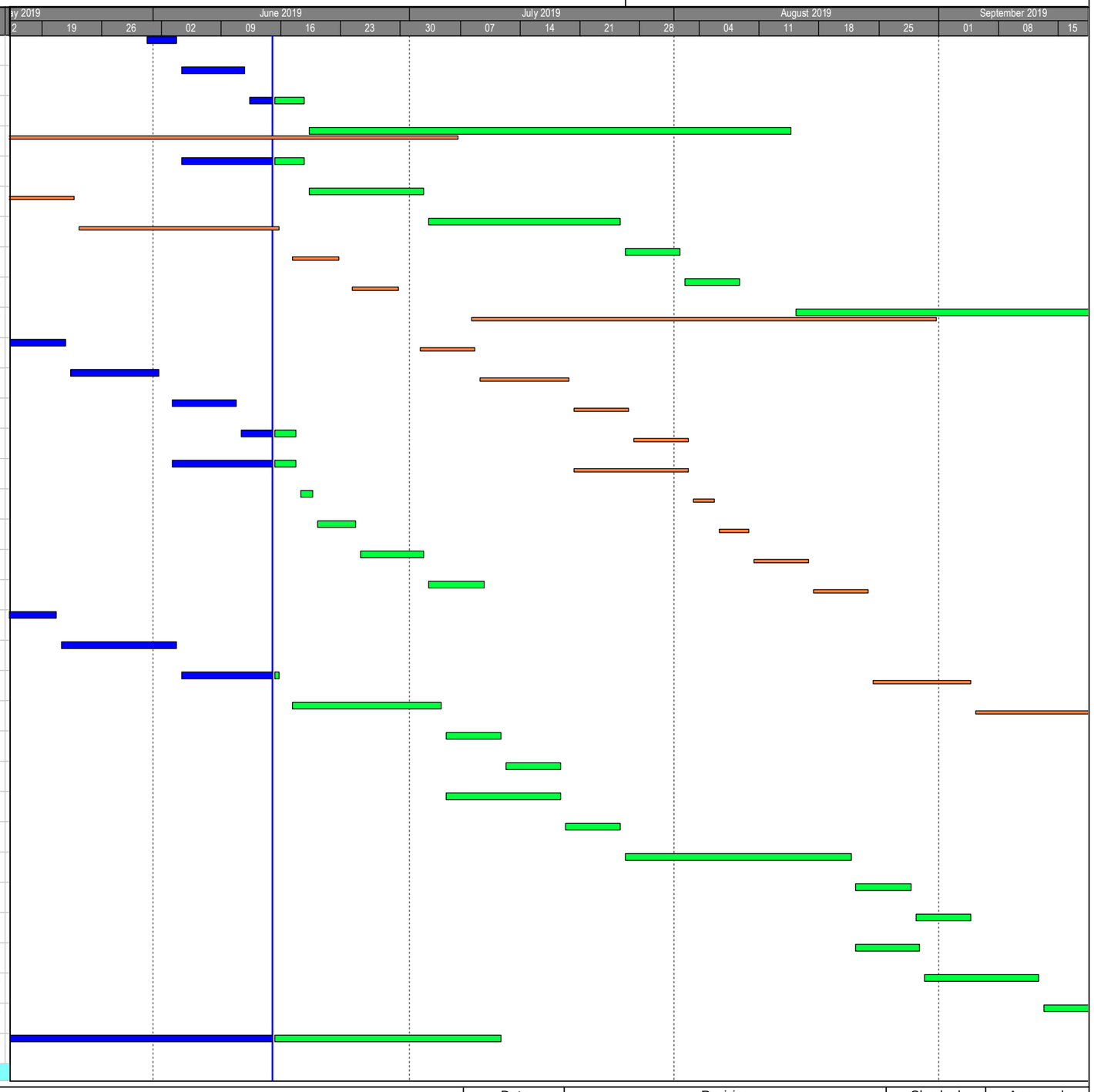
3 Month Rolling Programme

ARQ - Works Programme Rev.1 - 3MRP (15 Jun 2019)
14-Jun-19

Date	Revision	Checked	Approved

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
ACB50160	B5 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C1000 (200 sqm) - 80sqm/d (Provisional Work)	3d	18-Apr-19 08:00	24-Apr-19 18:00	3d	31-May-19 08:00 A
ACB50170	B5 - JV Prepare and Submit Detailed Design of RSSM for Slope 11NE-D/C1000 (200 sqm) (Provisional Work)	6d	25-Apr-19 08:00	02-May-19 18:00	6d	04-Jun-19 08:00 A
ACB50180	B5 - RE Review and Approve Detailed Design of RSSM for Slope 11NE-D/C1000 (200 sqm) (Provisional Work)	6d	03-May-19 08:00	09-May-19 18:00	6d	12-Jun-19 08:00 A
ACB50190	B5 - Rock Slope Stabilization Measures for Slope 11NE-D/C1000 (200 sqm) (Provisional Work)	48d	10-May-19 08:00	06-Jul-19 18:00	48d	19-Jun-19 08:00
ACB50200	B5 - Anchorage Installation of Scaffold for Slope 11NE-D/C982 (1600 sqm)	12d	25-Apr-19 08:00	09-May-19 18:00	12d	04-Jun-19 08:00 A
ACB50210	B5 - Erection of Scaffold for Slope 11NE-D/C982 (1600 sqm) - 150sqm/d	11d	10-May-19 08:00	22-May-19 18:00	11d	19-Jun-19 08:00
ACB50220	B5 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C982 (1600 sqm) - 80sqm/d (Provisional Work)	20d	23-May-19 08:00	15-Jun-19 18:00	20d	03-Jul-19 08:00
ACB50230	B5 - JV Prepare and Submit Detailed Design of RSSM for Slope 11NE-D/C982 (1600 sqm) (Provisional Work)	6d	17-Jun-19 08:00	22-Jun-19 18:00	6d	26-Jul-19 08:00
ACB50240	B5 - RE Review and Approve Detailed Design of RSSM for Slope 11NE-D/C982 (1600 sqm) (Provisional Work)	6d	24-Jun-19 08:00	29-Jun-19 18:00	6d	02-Aug-19 08:00
ACB50250	B5 - Rock Slope Stabilization Measures for Slope 11NE-D/C982 (1600 sqm) (Provisional Work)	48d	08-Jul-19 08:00	31-Aug-19 18:00	48d	15-Aug-19 08:00
ACB50270	B5 - Erection of Scaffold for Slope 11NE-D/C983 (800 sqm) - 150sqm/d	6d	02-Jul-19 08:00	08-Jul-19 18:00	6d	15-May-19 08:00 A
ACB50280	B5 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C983 (800 sqm) - 80sqm/d (Provisional Work)	10d	09-Jul-19 08:00	19-Jul-19 18:00	10d	22-May-19 08:00 A
ACB50290	B5 - JV Prepare and Submit Detailed Design of RSSM for Slope 11NE-D/C983 (800 sqm) (Provisional Work)	6d	20-Jul-19 08:00	26-Jul-19 18:00	6d	03-Jun-19 08:00 A
ACB50300	B5 - RE Review and Approve Detailed Design of RSSM for Slope 11NE-D/C983 (800 sqm) (Provisional Work)	6d	27-Jul-19 08:00	02-Aug-19 18:00	6d	11-Jun-19 08:00 A
ACB50320	B5 - Anchorage Installation of Scaffold for Slope 11NE-B/C1014 (300 sqm)	12d	20-Jul-19 08:00	02-Aug-19 18:00	12d	03-Jun-19 08:00 A
ACB50330	B5 - Erection of Scaffold for Slope 11NE-B/C1014 (300 sqm) - 150sqm/d	2d	03-Aug-19 08:00	05-Aug-19 18:00	2d	18-Jun-19 08:00
ACB50340	B5 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-B/C1014 (300 sqm) - 80sqm/d (Provisional Work)	4d	06-Aug-19 08:00	09-Aug-19 18:00	4d	20-Jun-19 08:00
ACB50350	B5 - JV Prepare and Submit Detailed Design of RSSM for Slope 11NE-B/C1014 (300 sqm) (Provisional Work)	6d	10-Aug-19 08:00	16-Aug-19 18:00	6d	25-Jun-19 08:00
ACB50360	B5 - RE Review and Approve Detailed Design of RSSM for Slope 11NE-B/C1014 (300 sqm) (Provisional Work)	6d	17-Aug-19 08:00	23-Aug-19 18:00	6d	03-Jul-19 08:00
ACB50380A001	B5 - Rock Scaling and Vegetation Stripping for Slope 11NE-B/C902	0d			30d	11-Apr-19 08:00 A
ACB50380A002	B5 - Anchorage Installation of Scaffold for Slope 11NE-B/C902 (1200 sqm)	0d			12d	21-May-19 08:00 A
ACB50390	B5 - Erection of Scaffold for Slope 11NE-B/C902 (1200 sqm) - 150sqm/d	10d	24-Aug-19 08:00	04-Sep-19 18:00	10d	04-Jun-19 08:00 A
ACB50400	B5 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-B/C902 (1200 sqm) - 80sqm/d (Provisional Work)	15d	05-Sep-19 08:00	23-Sep-19 18:00	15d	17-Jun-19 08:00
ACB50410	B5 - JV Prepare and Submit Detailed Design of RSSM for Slope 11NE-B/C902 (1200 sqm) (Provisional Work)	6d	24-Sep-19 08:00	30-Sep-19 18:00	6d	05-Jul-19 08:00
ACB50420	B5 - RE Review and Approve Detailed Design of RSSM for Slope 11NE-B/C902 (1200 sqm) (Provisional Work)	6d	02-Oct-19 08:00	09-Oct-19 18:00	6d	12-Jul-19 08:00
ACB50440	B5 - Anchorage Installation of Scaffold for Slope 11NE-D/C949 (1800 sqm)	12d	24-Sep-19 08:00	09-Oct-19 18:00	12d	05-Jul-19 08:00
ACB50450	B5 - Erection of Scaffold for Slope 11NE-D/C949 (1800 sqm) sqm) - 150sqm/d	6d	10-Oct-19 08:00	16-Oct-19 18:00	6d	19-Jul-19 08:00
ACB50460	B5 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C949 (1800 sqm) - 80sqm/d (Provisional Work)	23d	17-Oct-19 08:00	12-Nov-19 18:00	23d	26-Jul-19 08:00
ACB50470	B5 - JV Prepare and Submit Detailed Design of RSSM for Slope 11NE-D/C949 (1800 sqm) (Provisional Work)	6d	13-Nov-19 08:00	19-Nov-19 18:00	6d	22-Aug-19 08:00
ACB50480	B5 - RE Review and Approve Detailed Design of RSSM for Slope 11NE-D/C949 (1800 sqm) (Provisional Work)	6d	20-Nov-19 08:00	26-Nov-19 18:00	6d	29-Aug-19 08:00
ACB50500	B5 - Material and Equipment Mobilization up Hill for Slope 11NE-D/C948 (1400 sqm)	7d	13-Nov-19 08:00	20-Nov-19 18:00	7d	22-Aug-19 08:00
ACB50510	B5 - Anchorage Installation of Scaffold for Slope 11NE-D/C948 (1400 sqm)	12d	21-Nov-19 08:00	04-Dec-19 18:00	12d	30-Aug-19 08:00
ACB50520	B5 - Erection of Scaffold for Slope 11NE-D/C948 (1400 sqm) - 150sqm/d	10d	05-Dec-19 08:00	16-Dec-19 18:00	10d	13-Sep-19 08:00
ACB50630	B5 - Rock Slope Stabilization Measures for Slope 11NE-B/C1013 (700 sqm) (Provisional Work)	48d	26-Jun-20 08:00	21-Aug-20 18:00	48d	15-May-19 08:00 A

Portion B9



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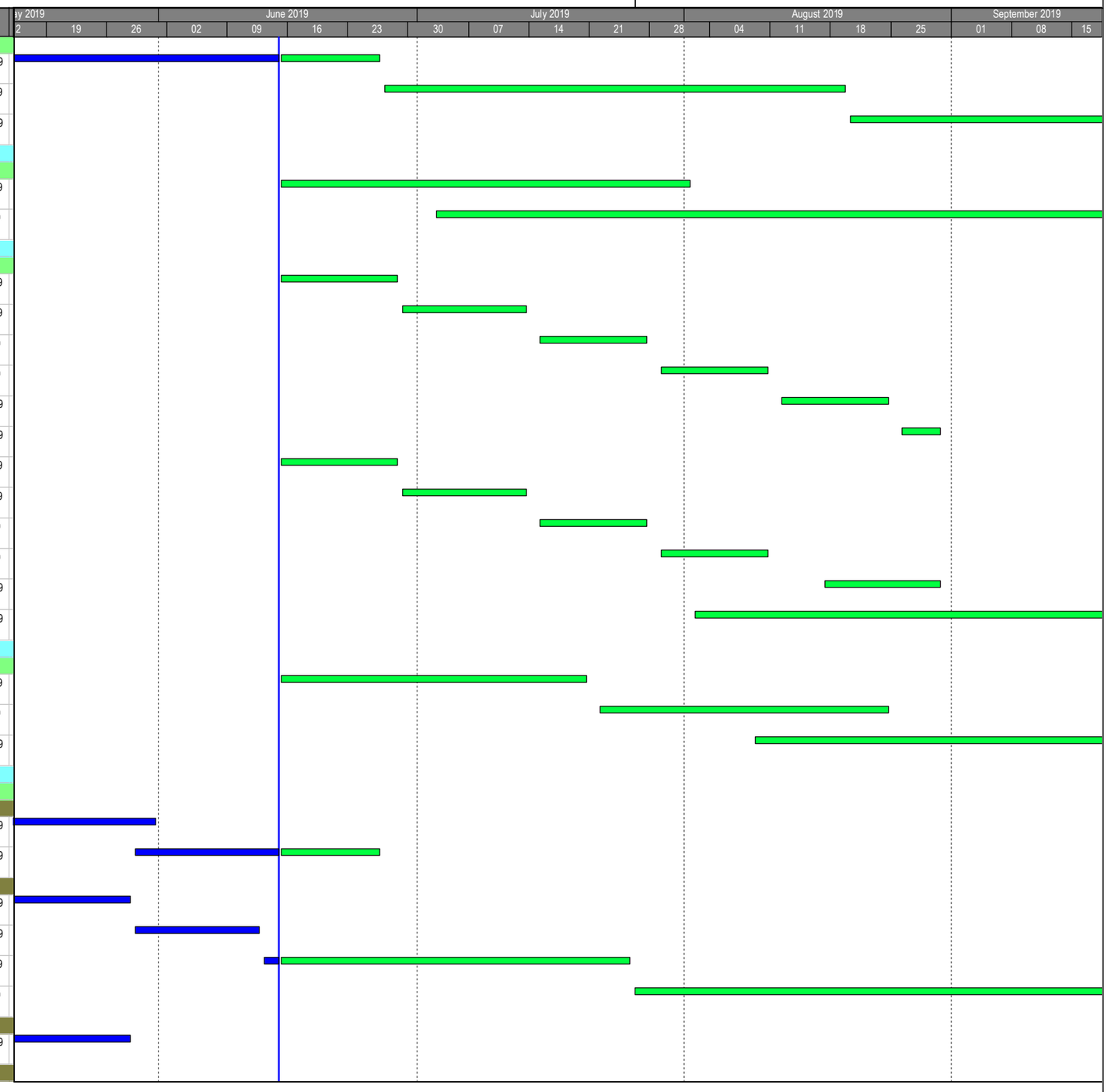
Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start
Site Formation						
ACB90010	B9 - Site Clearance in Portion B9	18d	28-Aug-18 08:00	17-Sep-18 18:00	36d	15-May-19 08:00 A
ACB90020	B9 - Site Formation in Portion B9	45d	18-Sep-18 08:00	12-Nov-18 18:00	45d	27-Jun-19 08:00
ACB90030	B9 - Construct New U-Channel (225U,525U and 675U; approx 70m) and Catchpits (4nos)	30d	13-Nov-18 08:00	17-Dec-18 18:00	30d	20-Aug-19 08:00
Portion B13						
Site Formation						
ACB13010	B13 - Site Clearance in Portion B13	40d	11-May-18 08:00	28-Jun-18 18:00	40d	15-Jun-19 08:00*
ACB13020	B13 - Site Formation for Portion B13	90d	29-Jun-18 08:00	15-Oct-18 18:00	90d	03-Jul-19 08:00
Portion C1b						
Site Formation						
ACC100110	C1b - Construct Surface Drainage, Catch Pits and Stairway at Slope A5 1	0d			12d	15-Jun-19 08:00
ACC100120	C1b - Construct Surface Drainage, Catch Pits and Stairway at Slope A5 2	0d			12d	29-Jun-19 08:00
ACC100130	C1b - Construct Surface Drainage, Catch Pits and Stairway at Slope A5 3	0d			12d	15-Jul-19 08:00
ACC100140	C1b - Construct Surface Drainage, Catch Pits and Stairway at Slope A5 1	0d			12d	29-Jul-19 08:00
ACC100150	C1b - Construct Surface Drainage, Catch Pits and Stairway at Slope A5 1	0d			12d	12-Aug-19 08:00
ACC100160	C1b - Construct Surface Drainage, Catch Pits and Stairway at Slope A5 1	0d			5d	26-Aug-19 08:00
ACC100210	C1b - Construct Manholes (5nos) and associated Sewerage Pipes 1	0d			12d	15-Jun-19 08:00
ACC100220	C1b - Construct Manholes (5nos) and associated Sewerage Pipes 2	0d			12d	29-Jun-19 08:00
ACC100230	C1b - Construct Manholes (5nos) and associated Sewerage Pipes 3	0d			12d	15-Jul-19 08:00
ACC100240	C1b - Construct Manholes (5nos) and associated Sewerage Pipes 4	0d			12d	29-Jul-19 08:00
ACC100250	C1b - Construct Manholes (5nos) and associated Sewerage Pipes 5	0d			12d	17-Aug-19 08:00
ACC10030	C1b - Upgrading Existing 225 to 450mm dia. and Re-construct Existing Manholes (5nos)	60d	08-Dec-18 08:00	22-Feb-19 18:00	60d	02-Aug-19 08:00
Portion C1c						
Site Formation						
ACC20010	C1c - Site Clearance in Portion C1c (Tentatively dependent on XP approval)	30d	14-Apr-18 08:00	19-May-18 18:00	30d	15-Jun-19 08:00*
ACC20020	C1c - Excavation of Supports of 400 dia. Exposed Pipeline and Cocnreting for Supports in Portion C1c	30d	21-May-18 08:00	26-Jun-18 18:00	30d	22-Jul-19 08:00
ACC20021	C1c - Install 400 dia. MS Exposed Pipe on Existing Soil Slope Surface and Cast Thrust Blocks alongside Pipeline	60d	09-Jun-18 08:00	20-Aug-18 18:00	60d	09-Aug-19 08:00
Portion D1						
Road Improvement at Po Lam Road						
Phase 1 Road Improvement Works (Location A)						
ACD10110A004	D1 - Phase 1A - Backfilling	0d			24d	04-May-19 08:00 A
ACD10120A001	D1 - Phase 1A - Re-align Kerb and Reinstate Footpath	0d			24d	29-May-19 08:00 A
Phase 1 Road Improvement Works (Location B)						
ACD10130A001	D1 - Phase 1B - Trial Pit Excavation	0d			12d	15-May-19 08:00 A
ACD10140A001	D1 - Phase 1B - Excavation to expose existing UU	0d			12d	29-May-19 08:00 A
ACD10150A001	D1 - Phase 1B - Confirm Proposed Location of Drawpits (Earth/E&M/ATC) and Light Signal Head	0d			36d	13-Jun-19 08:00 A
ACD10160A001	D1 - Phase 1B - Construct Proposed Drawpits	0d			66d	26-Jul-19 08:00*
Phase 2 Road Improvement Works						
ACD10210A001	D1 - Phase 2 - Backfilling	0d			12d	15-May-19 08:00 A
Phase 3 Road Improvement Works						



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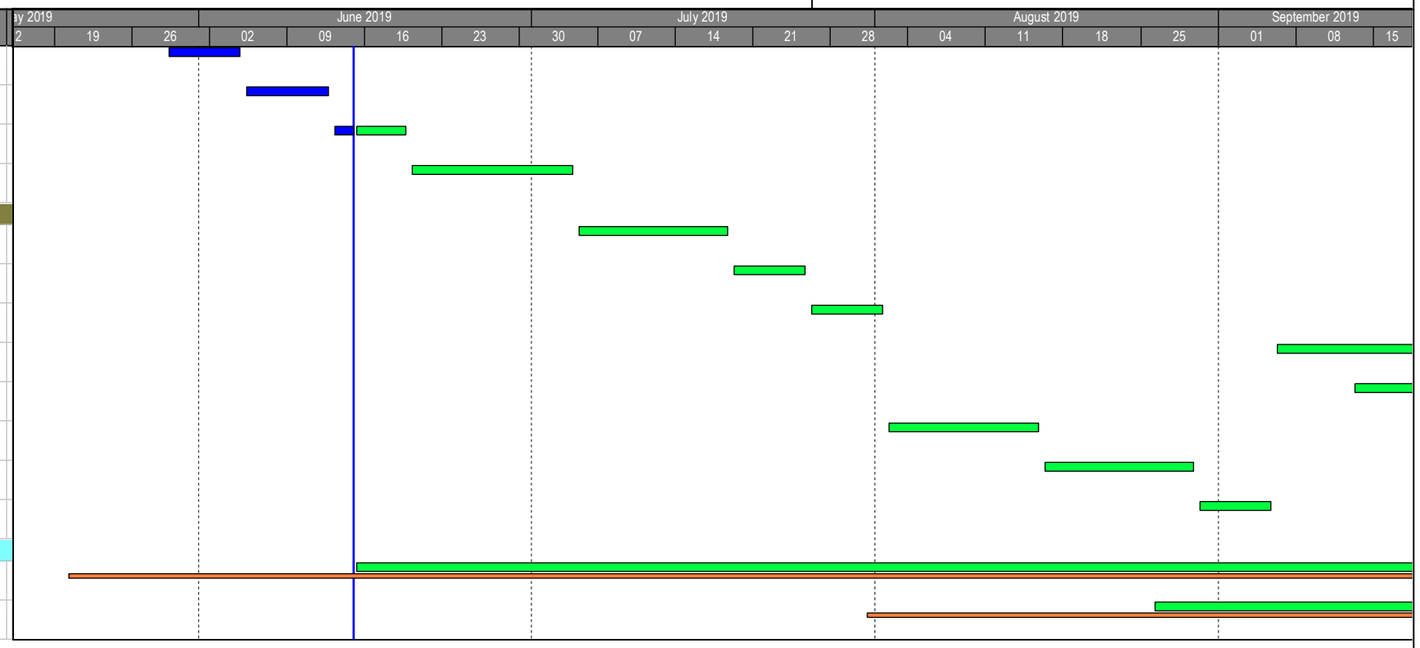
ACD10230A001	D1 - Phase 3 - Excavation	0d			6d	29-May-19 08:00 A
ACD10240A001	D1 - Phase 3 -Installation of Road Sign Post	0d			6d	05-Jun-19 08:00 A
ACD10250A001	D1 - Phase 3 - Reinstate Temporary Lighting	0d			6d	13-Jun-19 08:00 A
ACD10250A002	D1 - Phase 3 - Backfilling	0d			12d	20-Jun-19 08:00
Phase 4 Road Improvement Works						
ACD10220A001	D1 - Phase 4 - Excavation	0d			12d	05-Jul-19 08:00
ACD10260A001	D1 - Phase 4 - Remove Road Lighting Cable Ducts	0d			6d	19-Jul-19 08:00
ACD10270A001	D1 - Phase 4 - Divert Existing NWT Cable	0d			6d	26-Jul-19 08:00
ACD10280A002	D1 - Phase 4 - Install Water Main System	0d			24d	06-Sep-19 08:00
ACD10280A003	D1 - Phase 4 - Install Traffic Sign	0d			18d	13-Sep-19 08:00
ACD10280A010	D1 - Phase 4 - Install Stormwater Drainage System 1	0d			12d	02-Aug-19 08:00
ACD10280A020	D1 - Phase 4 - Install Stormwater Drainage System 2	0d			12d	16-Aug-19 08:00
ACD10280A030	D1 - Phase 4 - Install Stormwater Drainage System 3	0d			6d	30-Aug-19 08:00
Salt Water Mains as Dwg. No.60328348/SF&I/5722 - Subject to Excision						
ACO10010	A&E1 - Excavation of Trench for Laying DN300 DI Pipeline in Area A (toward CHU455)	150d	20-May-19 08:00	15-Nov-19 18:00	150d	15-Jun-19 08:00*
ACO10011	A&E1 - Laying DN300 DI Pipeline (Salt Water Mains) and Installation of Valves in Area A (toward CHU455)	150d	31-Jul-19 08:00	31-Jan-20 18:00	150d	26-Aug-19 08:00



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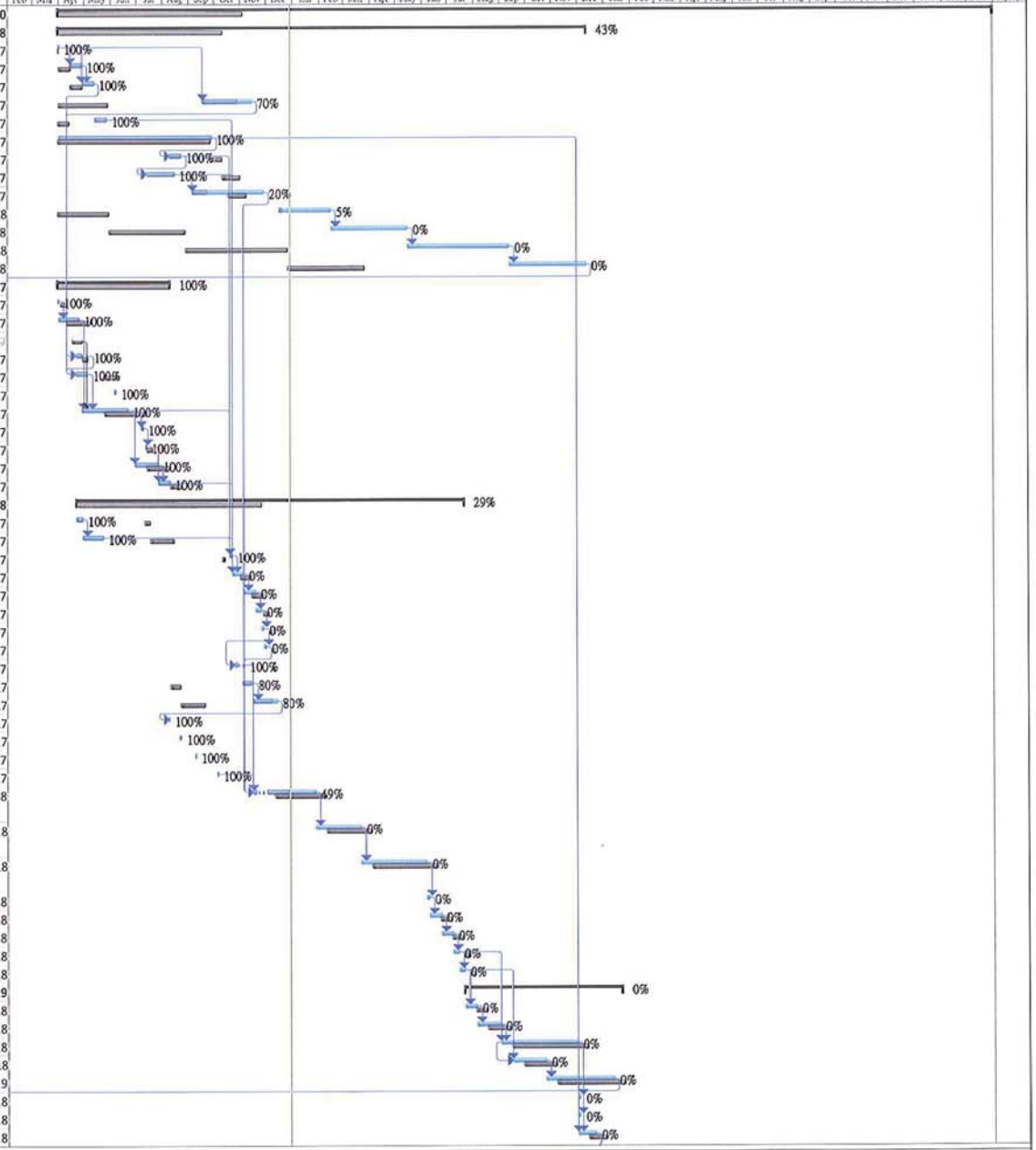
Contract 2 (NE/2016/05)

Revised programme for Section A-E1_Dec 17

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	A.1.1	**Section A, Portion 1 - Escalator (E1)**	**1096 days**	**986.55 days**	**Fri 31/3/17**	**Mon 30/3/20**
2	A.1.1.1	**Pre Construction Works**	**620 days**	**354.65 days**	**Fri 31/3/17**	**Mon 10/12/18**
3	A.1.1.1.1	Access Date for Portion 1	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	A.1.1.1.2	Site Clearance	14 days	0 days	Fri 14/4/17	Thu 27/4/17
5	A.1.1.1.3	Site Condition Survey	14 days	0 days	Fri 28/4/17	Thu 11/5/17
6	A.1.1.1.4	Initial site survey and submission	58 days	17.4 days	Sun 17/9/17	Mon 13/11/17
7	1.1.5	Carry out Tree Survey and Report Submission	14 days	0 days	Sat 13/5/17	Fri 26/5/17
8	A.1.1.1.5	Application for Excavation Permit (XP)	180 days	0 days	Sat 1/4/17	Wed 27/9/17
9	A.1.1.1.7	Implement TTA at Hiu Ming Street/Hiu Kwong Street	14 days	0 days	Wed 9/8/17	Tue 22/8/17
10	A.1.1.1.8	Erection of Hoarding	33 days	0 days	Thu 13/7/17	Mon 14/8/17
11	A.1.1.1.9	Tree Fell	84 days	67.2 days	Tue 5/9/17	Mon 27/11/17
12	A.1.1.1.10	Design submission of Escalator	60 days	57 days	Sat 16/12/17	Tue 13/2/18
13	A.1.1.1.11	Comment of design submission of Escalator	90 days	90 days	Wed 14/2/18	Mon 14/5/18
14	1.1.12	Second design submission of Escalator	120 days	120 days	Tue 15/5/18	Tue 11/9/18
15	1.1.13	Approval of design submission of Escalator	90 days	90 days	Wed 12/9/18	Mon 10/12/18
16	A.1.1.2	**Ground Investigation**	**132 days**	**0 days**	**Fri 31/3/17**	**Wed 9/8/17**
17	A.1.1.2.1	Proposal of ground investigation specialist	1 day	0 days	Fri 31/3/17	Fri 31/3/17
18	A.1.1.2.2	Approval of ground investigation specialist	24 days	0 days	Sat 1/4/17	Mon 24/4/17
19	~~A.1.1.2.3~~	~~Submission of Construction impact assessment~~	~~12 days~~	~~12 days~~	~~Mon 17/4/17~~	~~Fri 28/4/17~~
20	A.1.1.2.4	Establishment of Drilling rigs	7 days	0 days	Fri 21/4/17	Fri 5/5/17
21	A.1.1.2.5	Inspection Pits (10 nr)	14 days	0 days	Fri 21/4/17	Thu 4/5/17
22	1.2.6	Additional Inspection Pit (PMI 1 & PMI 2)	2 days	0 days	Mon 5/6/17	Tue 6/6/17
23	A.1.1.2.6	Predrilling (10 nr)	54 days	0 days	Fri 28/4/17	Tue 20/6/17
24	1.2.8	Additional Pre-drilling (PMI 3)	2 days	0 days	Fri 7/7/17	Sat 8/7/17
25	A.1.1.2.7	Demobilization of Drilling rigs	1 day	0 days	Wed 12/7/17	Wed 12/7/17
26	A.1.1.2.8	In-situ testing and result submission	28 days	0 days	Thu 29/6/17	Wed 26/7/17
27	A.1.1.2.9	Laboratory tests	14 days	0 days	Thu 27/7/17	Wed 9/8/17
28	A.1.1.3	**Piling Works (Pr-bored Socket H-Pile)**	**454.4 days**	**322.53 days**	**Sat 22/4/17**	**Fri 20/7/18**
29	A.1.1.3.1	Proposal of Piling Specialist	7 days	0 days	Sat 22/4/17	Fri 28/4/17
30	A.1.1.3.2	Approval of Piling Specialist	24 days	0 days	Sat 29/4/17	Mon 22/5/17
31	A.1.1.3.3	Establishment of Piling rigs (1 nr)	3 days	0 days	Thu 19/10/17	Sat 21/10/17
32	A.1.1.3.4	Construction of Preliminary Pile (1 nr)	13 days	13 days	Sun 22/10/17	Fri 3/11/17
33	A.1.1.3.5	Establishment of pile testing equipment	14 days	14 days	Sat 4/11/17	Fri 17/11/17
34	A.1.1.3.6	Load Test Preliminary Pile (1 nr)	7 days	7 days	Sat 18/11/17	Fri 24/11/17
35	A.1.1.3.7	Submission of Load Test Report (Preliminary Pile)	3 days	3 days	Sat 25/11/17	Mon 27/11/17
36	A.1.1.3.8	Review of Load Test result	3 days	3 days	Tue 28/11/17	Thu 30/11/17
37	A.1.1.3.9	Establishment of Piling rigs (1 nr)	3 days	0 days	Wed 25/10/17	Sat 4/11/17
38	A.1.1.3.10	Submission of temporary working platform design	12 days	2.4 days	Fri 3/11/17	Tue 14/11/17
39	A.1.1.3.11	Approval of temporary working platform design	28 days	5.6 days	Wed 15/11/17	Tue 12/12/17
40	A.1.1.3.11a	CCTV on uncharted Manhole (PMI 12)	1 day	0 days	Tue 8/8/17	Tue 8/8/17
41	A.1.1.3.11b	Demolition of Uncharted Manhole (PMI 15)	2 days	0 days	Mon 21/8/17	Tue 22/8/17
42	A.1.1.2.11c	Revised Pile Loading Schedule (PMI 17)	1 day	0 days	Fri 8/9/17	Fri 8/9/17
43	A.1.1.2.11d	Pile Sleeve Not Required For E1-RS1 & E1-PC1 (PMI 19)	1 day	0 days	Wed 4/10/17	Wed 4/10/17
44	A.1.1.3.12	Construction of Main Pile for pile cap E1-RS1 and E1-PC1(34nrs)	60 days	30.4 days	Wed 15/11/17	Fri 26/1/18
45	A.1.1.3.13	Construction of main pile for pile cap E1 PC6 and E1-PC5 (30 nrs)	53 days	53 days	Fri 26/1/18	Tue 20/3/18
46	A.1.1.3.14	Construction of main pile for pile cap E1 PC2, E1 PC3 and E1 PC4 (44nrs)	77 days	77 days	Tue 20/3/18	Tue 5/6/18
47	A.1.1.3.15	Establishment of Drilling rigs for proof drill (1 nr)	3 days	3 days	Tue 5/6/18	Fri 8/6/18
48	A.1.1.3.16	Selection and Carry out Proof drill (2 nrs)	14 days	14 days	Fri 8/6/18	Fri 22/6/18
49	A.1.1.3.17	Establishment of pile testing equipment	14 days	14 days	Fri 22/6/18	Fri 6/7/18
50	A.1.1.3.18	Selection and Carry Out Load Test Main Pile (1 nr)	7 days	7 days	Fri 6/7/18	Fri 13/7/18
51	A.1.1.3.19	Submission of Load Test Report (Main Pile)	7 days	7 days	Fri 13/7/18	Fri 20/7/18
52	A.1.1.4	**Pile Cap & Footing**	**184 days**	**184 days**	**Fri 20/7/18**	**Sun 20/1/19**
53	A.1.1.4.1	Submission of temporary works for ELS	14 days	14 days	Fri 20/7/18	Fri 3/8/18
54	A.1.1.4.2	Approval of temporary works for ELS	28 days	28 days	Fri 3/8/18	Fri 31/8/18
55	A.1.1.4.3	Installing ELS Works	90 days	90 days	Fri 31/8/18	Thu 29/11/18
56	A.1.1.4.4	Pile cap (E1-PC1 and E1-PC2)	39 days	39 days	Fri 14/9/18	Tue 23/10/18
57	A.1.1.4.5	Pile Cap (E1-PC3 ~ PC6)	79 days	79 days	Tue 23/10/18	Thu 10/1/19
58	A.1.1.4.5a	Interface detail E1-RS1 (PMI 30)	3 days	3 days	Thu 29/11/18	Sun 2/12/18
59	A.1.1.4.5b	Water Pipe Diversion (PMI 16)	3 days	3 days	Thu 29/11/18	Sun 2/12/18
60	A.1.1.4.6	Retaining structure (E1-RS1)	21 days	21 days	Thu 29/11/18	Thu 20/12/18



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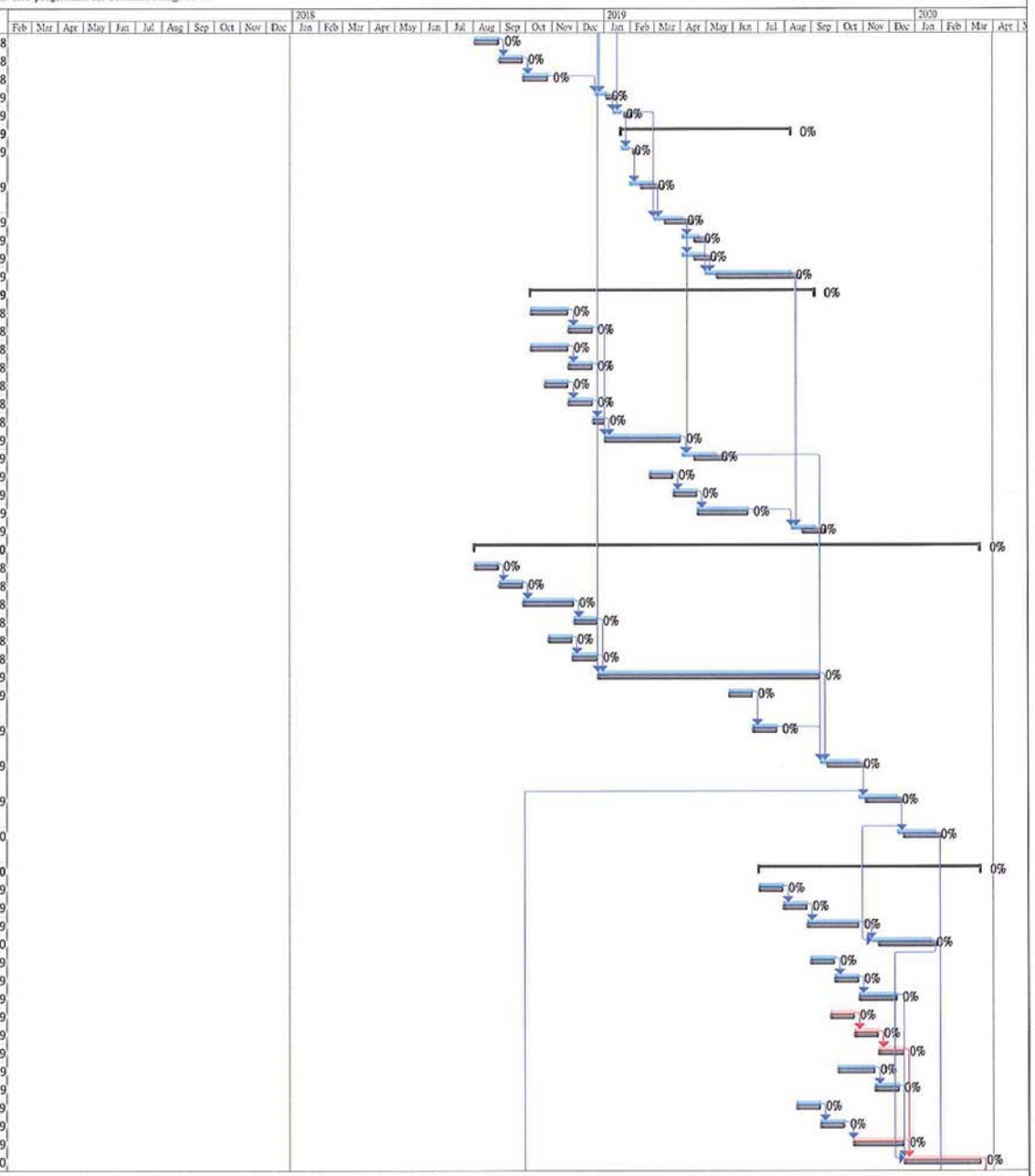
Revised programme for Section A-E1_Dec 17

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
61	A.1.1.4.7	Material submission of water proofing works	28 days	28 days	Thu 2/8/18	Wed 29/8/18
62	A.1.1.4.8	Approval of material of water proofing wroks	28 days	28 days	Thu 30/8/18	Wed 26/9/18
63	A.1.1.4.9	Procurement to delivery of water proofing material	30 days	30 days	Thu 27/9/18	Fri 26/10/18
64	A.1.1.4.10	Waterproofing Works	14 days	14 days	Thu 20/12/18	Thu 3/1/19
65	A.1.1.4.11	Backfilling	10 days	10 days	Thu 10/1/19	Sun 20/1/19
66	**A.1.1.5**	**Superstructures**	**199 days**	**199 days**	**Sun 20/1/19**	**Wed 7/8/19**
67	A.1.1.5.1	Submission of temporary work design and method for piers construction	10 days	10 days	Sun 20/1/19	Wed 30/1/19
68	A.1.1.5.2	Approval to temporary works design and method for piers construction	28 days	28 days	Wed 30/1/19	Wed 27/2/19
69	A.1.1.5.3	Construction of piers (E1-P1 ~ P5)	34 days	34 days	Wed 27/2/19	Tue 2/4/19
70	A.1.1.5.4	Conatruction of Ramp Structures	20 days	20 days	Tue 2/4/19	Mon 22/4/19
71	A.1.1.5.5	Construction of Abutment (E1-PC6)	27 days	27 days	Tue 2/4/19	Mon 29/4/19
72	A.1.1.5.6	Construction of deck slab with cast in items	100 days	100 days	Mon 29/4/19	Wed 7/8/19
73	**A.1.1.6**	**Construction of Bearings and Movement Joints**	**333.4 days**	**333.4 days**	**Sat 6/10/18**	**Wed 4/9/19**
74	A.1.1.6.1	Proposal of Bridge Bearing Specialist	45 days	45 days	Sat 6/10/18	Mon 19/11/18
75	A.1.1.6.2	Approval of Bridge Bearing Specialist	28 days	28 days	Tue 20/11/18	Mon 17/12/18
76	A.1.1.6.3	Design submission of Bridge Bearing	45 days	45 days	Sat 6/10/18	Mon 19/11/18
77	A.1.1.6.4	Approval of design submission of Bridge bearing	28 days	28 days	Tue 20/11/18	Mon 17/12/18
78	A.1.1.6.5	Material submission of Bridge Bearing	28 days	28 days	Tue 23/10/18	Mon 19/11/18
79	A.1.1.6.6	Approval of material submission to Bridge Bearing	28 days	28 days	Tue 20/11/18	Mon 17/12/18
80	A.1.1.6.7	Testing and submission of result of Bridge Bearing	14 days	14 days	Tue 18/12/18	Mon 31/12/18
81	A.1.1.6.8	Procurement and delivery of Bridge Bearing	90 days	90 days	Tue 1/1/19	Sun 31/3/19
82	A.1.1.6.9	Installation of Bearings (6 nr)	40 days	40 days	Tue 2/4/19	Sun 12/5/19
83	A.1.1.6.10	Material submission of movement joints	28 days	28 days	Sat 23/2/19	Fri 22/3/19
84	A.1.1.6.11	Approval of material submission of movement joints	28 days	28 days	Sat 23/3/19	Fri 19/4/19
85	A.1.1.6.12	Procurement to delivery of movement joints	60 days	60 days	Sat 20/4/19	Tue 18/6/19
86	A.1.1.6.13	Construction of MJ (3 nr)	28 days	28 days	Wed 7/8/19	Wed 4/9/19
87	**A.1.1.7**	**Installation of Escalators (E1-ES01 to ES-12)**	**592 days**	**592 days**	**Thu 2/8/18**	**Sun 15/3/20**
88	A.1.1.7.1	Proposal of Escalator Specialist	28 days	28 days	Thu 2/8/18	Wed 29/8/18
89	A.1.1.7.2	Approval of Escalator Specialist	28 days	28 days	Thu 30/8/18	Wed 26/9/18
90	A.1.1.7.3	Submission of Escalator E&M (SEM)	60 days	60 days	Thu 27/9/18	Sun 25/11/18
91	A.1.1.7.4	Approval of Escalator E&M (SEM)	28 days	28 days	Mon 26/11/18	Sun 23/12/18
92	A.1.1.7.5	Material submission of escalator	28 days	28 days	Sat 27/10/18	Fri 23/11/18
93	A.1.1.7.6	Approval of material submission of escalator	30 days	30 days	Sat 24/11/18	Sun 23/12/18
94	A.1.1.7.7	Procurement to delivery of escalator	260 days	260 days	Mon 24/12/18	Mon 9/9/19
95	A.1.1.7.8	Submission of method statement for installation of escalator	28 days	28 days	Mon 27/5/19	Sun 23/6/19
96	A.1.1.7.9	Approval of method statement for installation of escalator	28 days	28 days	Mon 24/6/19	Sun 21/7/19
97	A.1.1.7.10	Installation of escalators and associate works (E1-RS1 to E1-P2)	45 days	45 days	Tue 10/9/19	Thu 24/10/19
98	A.1.1.7.11	Installation of escalator and associate works (E1-P2 to E1 P4)	45 days	45 days	Fri 25/10/19	Sun 8/12/19
99	A.1.1.7.12	Escalator Installation and associate works (E1-P4 to E1-ABT)	45 days	45 days	Mon 9/12/19	Wed 22/1/20
100	**A.1.1.7.13**	**Parapet and Roofing**	**259 days**	**259 days**	**Mon 1/7/19**	**Sun 15/3/20**
101	A.1.1.7.14	Material submission of Plexiglass	28 days	28 days	Mon 1/7/19	Sun 28/7/19
102	A.1.1.7.15	Approval of material of Plexiglass	28 days	28 days	Mon 29/7/19	Sun 25/8/19
103	A.1.1.7.16	Procurement to delivery of Plexiglass	60 days	60 days	Mon 26/8/19	Thu 24/10/19
104	A.1.1.7.17	Construction of pedestrian Plexiglass parapet	70 days	70 days	Sat 9/11/19	Fri 17/1/20
105	A.1.1.7.18	Material submission of fall arrest system	28 days	28 days	Fri 30/8/19	Thu 26/9/19
106	A.1.1.7.19	Approval of material of fall arrrest system	28 days	28 days	Fri 27/9/19	Thu 24/10/19
107	A.1.1.7.20	Procurement of fall arrest system	45 days	45 days	Fri 25/10/19	Sun 8/12/19
108	A.1.1.7.21	Material submission of corrugated steel roof	28 days	28 days	Sun 22/9/19	Sat 19/10/19
109	A.1.1.7.22	Approval of material for corrugated steel roof	28 days	28 days	Sun 20/10/19	Sat 16/11/19
110	A.1.1.7.23	Procurement of corrugated steel roof	30 days	30 days	Sun 17/11/19	Mon 16/12/19
111	A.1.1.7.24	Design submission of roof system	44 days	44 days	Mon 30/9/19	Tue 12/11/19
112	A.1.1.7.25	Approval of design submission of roof system	28 days	28 days	Wed 13/11/19	Tue 10/12/19
113	A.1.1.7.26	Proposal of off site fabrication of steelworks	28 days	28 days	Tue 13/8/19	Mon 9/9/19
114	A.1.1.7.27	Approval of off site fabrication of steelworks	28 days	28 days	Tue 10/9/19	Mon 7/10/19
115	A.1.1.7.28	Fabrication of steelworks	60 days	60 days	Fri 18/10/19	Mon 16/12/19
116	A.1.1.7.29	Erect Canopy and roofing system	90 days	90 days	Tue 17/12/19	Sun 15/3/20



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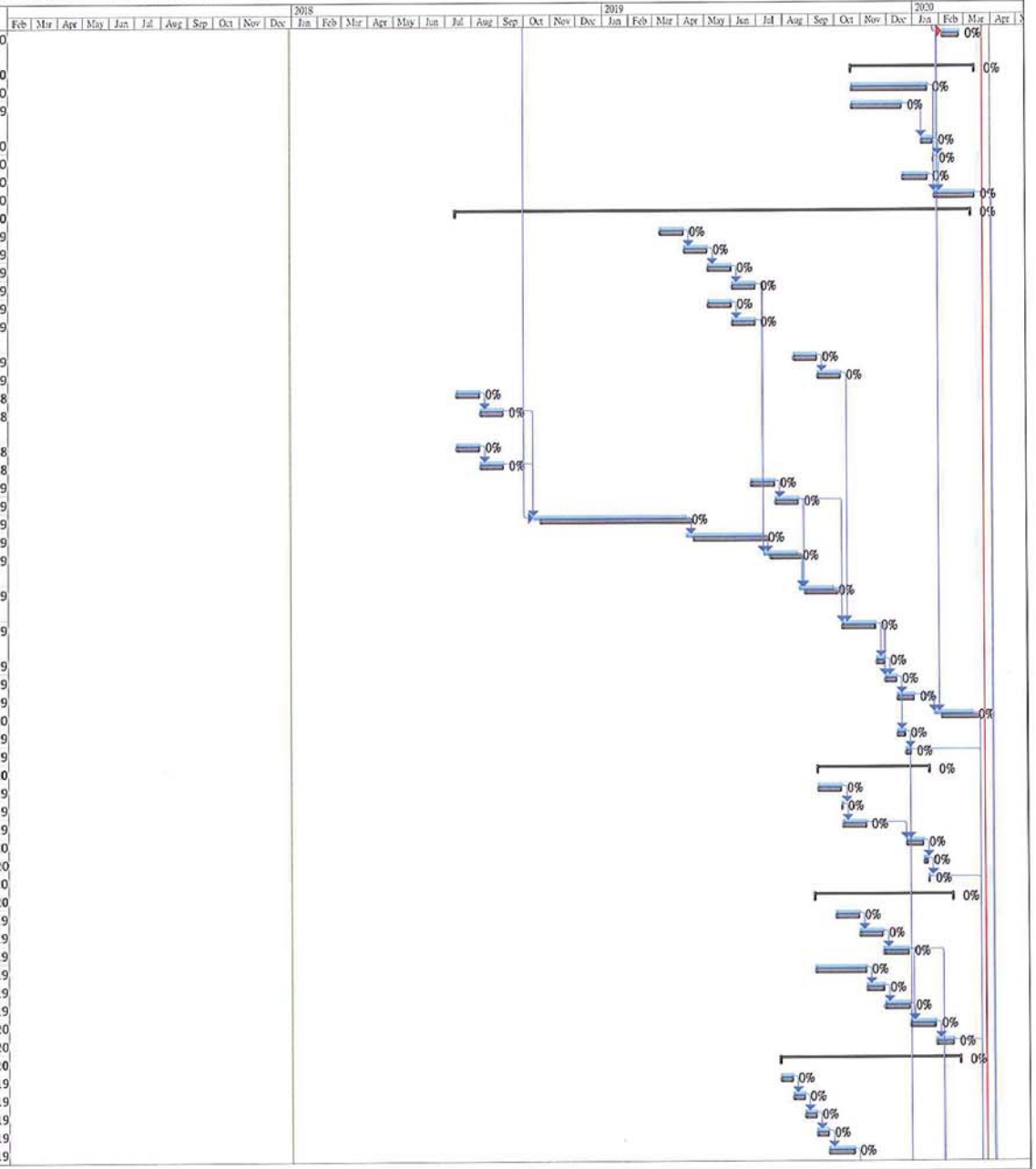
Summary
Manual Summary
Project Summary
External Tasks
External Milestone
Inactive Task
Inactive Milestone
Inactive Summary
Deadline

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
117	A.1.1.7.30	Decking construction connecting to existing footpath	20 days	20 days	Tue 4/2/20	Sun 23/2/20
118	**A.1.1.8**	**Drainage works construction**	**145 days**	**145 days**	**Sun 20/10/19**	**Thu 12/3/20**
119	A.1.1.8.1	Application of XP for carriageway of Hiu Ming Street	90 days	90 days	Sun 20/10/19	Fri 17/1/20
120	A.1.1.8.2	TTA application for drainage works at carriageway of Hiu Ming Street	60 days	60 days	Sun 20/10/19	Wed 18/12/19
121	A.1.1.8.3	Road works advice	14 days	14 days	Fri 10/1/20	Thu 23/1/20
122	A.1.1.8.4	Implementation of TTA	1 day	1 day	Fri 24/1/20	Fri 24/1/20
123	A.1.1.8.5	Procurement to delivery of material of drainage	30 days	30 days	Thu 19/12/19	Fri 17/1/20
124	A.1.1.8.6	Construction of drainage	48 days	48 days	Sat 25/1/20	Thu 12/3/20
125	**A.1.1.9**	**E & M Works**	**605 days**	**605 days**	**Thu 12/7/18**	**Sat 7/3/20**
126	A.1.1.9.1	Proposal of Specialist for E&M works	28 days	28 days	Sat 9/3/19	Fri 5/4/19
127	A.1.1.9.2	Approval of Specialist for E&M works	28 days	28 days	Sat 6/4/19	Fri 3/5/19
128	A.1.1.9.3	Material submission of cable tray	28 days	28 days	Sat 4/5/19	Fri 31/5/19
129	A.1.1.9.4	Approval of material submission of cable tray	28 days	28 days	Sat 1/6/19	Fri 28/6/19
130	A.1.1.9.5	Material submission of cables,conduits, fittings	28 days	28 days	Sat 4/5/19	Fri 31/5/19
131	A.1.1.9.6	Approval of material submission of cables, conduits, fittings	28 days	28 days	Sat 1/6/19	Fri 28/6/19
132	A.1.1.9.7	Material submission of lightings	28 days	28 days	Mon 12/8/19	Sun 8/9/19
133	A.1.1.9.8	Approval of material submission of lightings	28 days	28 days	Mon 9/9/19	Sun 6/10/19
134	A.1.1.9.9	Material submission of pillar box c/w accessories	28 days	28 days	Thu 12/7/18	Wed 8/8/18
135	A.1.1.9.10	Approval of material submission of pillar box c/w accessories	28 days	28 days	Thu 9/8/18	Wed 5/9/18
136	A.1.1.9.11	Material submission of MCB distribution board	28 days	28 days	Thu 12/7/18	Wed 8/8/18
137	A.1.1.9.12	Approval of MCB distribution board	28 days	28 days	Thu 9/8/18	Wed 5/9/18
138	A.1.1.9.13	Material submission of communication cables	28 days	28 days	Sun 23/6/19	Sat 20/7/19
139	A.1.1.9.14	Approval of communication cables	28 days	28 days	Sun 21/7/19	Sat 17/8/19
140	A.1.1.9.15	Positioning,/Construction/Installation of Pillar Box	180 days	180 days	Wed 10/10/18	Sun 7/4/19
141	A.1.1.9.16	Application of Power Supply	90 days	90 days	Mon 8/4/19	Sat 6/7/19
142	A.1.1.9.17	Trenching works and laying of ducting and power cables	40 days	40 days	Sun 7/7/19	Thu 15/8/19
143	A.1.1.9.18	Trenching works and laying of telecommunication cables	40 days	40 days	Sun 18/8/19	Thu 26/9/19
144	A.1.1.9.19	Trenching works and laying of lighting/communication cables	40 days	40 days	Mon 7/10/19	Fri 15/11/19
145	A.1.1.9.20	Connection of Telecommunication cables	10 days	10 days	Sat 16/11/19	Mon 25/11/19
146	A.1.1.9.21	Lighting/Communication connections	14 days	14 days	Tue 26/11/19	Mon 9/12/19
147	A.1.1.9.22	Finishing Works	21 days	21 days	Tue 10/12/19	Mon 30/12/19
148	A.1.1.9.23	T&C of Escalator and Submission of Form LE5 to EMSD	45 days	45 days	Thu 23/1/20	Sat 7/3/20
149	A.1.1.9.24	Reinstatement of footpath/stair	10 days	10 days	Tue 10/12/19	Thu 19/12/19
150	A.1.1.9.25	Demobilization and Clean up the Site	7 days	7 days	Fri 20/12/19	Thu 26/12/19
151	**A.1.1.10**	**Landscaping Works**	**131 days**	**131 days**	**Sun 8/9/19**	**Thu 16/1/20**
152	A.1.1.10.1	Submission of proposal of Landscape specialist	28 days	28 days	Sun 8/9/19	Sat 5/10/19
153	A.1.1.10.2	Nursery Inspection	1 day	1 day	Sun 6/10/19	Sun 6/10/19
154	A.1.1.10.3	Approval of proposal of Landscape specialist	28 days	28 days	Mon 7/10/19	Sun 3/11/19
155	A.1.1.10.4	Construction of hard and soft Landscape works	21 days	21 days	Fri 20/12/19	Thu 9/1/20
156	A.1.1.10.5	Rectification of detects	5 days	5 days	Fri 10/1/20	Tue 14/1/20
157	A.1.1.10.6	General tidy up	2 days	2 days	Wed 15/1/20	Thu 16/1/20
158	**A.1.1.11**	**Road and Pavings / traffic Signs**	**162 days**	**162 days**	**Wed 4/9/19**	**Wed 12/2/20**
159	A.1.1.11.1	Material submission of road pavers	28 days	28 days	Sat 28/9/19	Fri 25/10/19
160	A.1.1.11.2	Approval of material submission of road pavers	28 days	28 days	Sat 26/10/19	Fri 22/11/19
161	A.1.1.11.3	Procurement to delivery of road pavers	30 days	30 days	Sat 23/11/19	Sun 22/12/19
162	A.1.1.11.4	Ordering to delivery of concrete kerbs from CSD	60 days	60 days	Wed 4/9/19	Sat 2/11/19
163	A.1.1.11.5	Construction of kerbs	21 days	21 days	Sun 3/11/19	Sat 23/11/19
164	A.1.1.11.6	Construction of footpath	30 days	30 days	Sun 24/11/19	Mon 23/12/19
165	A.1.1.11.7	Construction of paved area	30 days	30 days	Tue 24/12/19	Wed 22/1/20
166	A.1.1.11.8	Installation of traffic/Directional Signs	21 days	21 days	Thu 23/1/20	Wed 12/2/20
167	**A.1.1.12**	**External Finishes**	**211 days**	**211 days**	**Thu 25/7/19**	**Thu 20/2/20**
168	A.1.1.12.1	Material submission of tiles	14 days	14 days	Thu 25/7/19	Wed 7/8/19
169	A.1.1.12.2	Comment of material submission of tiles	14 days	14 days	Thu 8/8/19	Wed 21/8/19
170	A.1.1.12.3	2nd submission of material of tiles	14 days	14 days	Thu 22/8/19	Wed 4/9/19
171	A.1.1.12.4	Approval of material of tiles	14 days	14 days	Thu 5/9/19	Wed 18/9/19
172	A.1.1.12.5	Procurement to delivery of tiles	30 days	30 days	Thu 19/9/19	Fri 18/10/19



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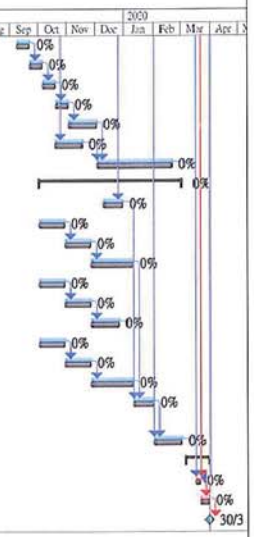
Revised programme for Section A-E1_Dec 17

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
173	A.1.1.12.6	Material submission of paint	14 days	14 days	Sun 8/9/19	Sat 21/9/19
174	A.1.1.12.7	Comment of matreial submission of paint	14 days	14 days	Sun 22/9/19	Sat 5/10/19
175	A.1.1.12.8	2nd submission of paints	14 days	14 days	Sun 6/10/19	Sat 19/10/19
176	A.1.1.12.9	Approval of material submission of paints	14 days	14 days	Sun 20/10/19	Sat 2/11/19
177	A.1.1.12.10	Procurement to delivery of paints	30 days	30 days	Sun 3/11/19	Mon 2/12/19
178	A.1.1.12.11	Construction of Tactile/Cermaric/Concrete Tiles	30 days	30 days	Sat 19/10/19	Sun 17/11/19
179	A.1.1.12.12	Texture Spray/Fungus Resistant Paint	80 days	80 days	Tue 3/12/19	Thu 20/2/20
180	**A.1.1.13**	**Construction of Sau Mau Ping Memorial Park**	**152 days**	**152 days**	**Wed 2/10/19**	**Sun 1/3/20**
181	A.1.1.13.1	Slope improvement work (11NE-D/CR222)	21 days	21 days	Tue 10/12/19	Mon 30/12/19
182	A.1.1.13.2	Material submission of Pavillion	28 days	28 days	Wed 2/10/19	Tue 29/10/19
183	A.1.1.13.3	Approval ot material submission of Pavillion	28 days	28 days	Wed 30/10/19	Tue 26/11/19
184	A.1.1.13.4	Procurement to delivery of Pavillion	45 days	45 days	Wed 27/11/19	Fri 10/1/20
185	A.1.1.13.5	Material submission of Bench	28 days	28 days	Wed 2/10/19	Tue 29/10/19
186	A.1.1.13.6	Approval to material submission of Bench	28 days	28 days	Wed 30/10/19	Tue 26/11/19
187	A.1.1.13.7	Procument to delivery of Bench	30 days	30 days	Wed 27/11/19	Thu 26/12/19
188	A.1.1.13.8	Material submission of Pole Light	28 days	28 days	Wed 2/10/19	Tue 29/10/19
189	A.1.1.13.9	Approval of material submission of Pole Light	28 days	28 days	Wed 30/10/19	Tue 26/11/19
190	A.1.1.13.10	Procurement to delivery of Pole light	45 days	45 days	Wed 27/11/19	Fri 10/1/20
191	A.1.1.13.11	Construction of Pavillon/Bench/Pole Light with ducting	21 days	21 days	Sat 11/1/20	Fri 31/1/20
192	A.1.1.13.12	Construction of Pavers	30 days	30 days	Sat 1/2/20	Sun 1/3/20
193	**A.1.1.14**	**General Inspection and Tidy up of Portion 1**	**25 days**	**25 days**	**Fri 6/3/20**	**Mon 30/3/20**
194	A.1.1.14.1	General Inspection and tidy up of Portion 1	5 days	5 days	Mon 16/3/20	Fri 20/3/20
195	A.1.1.14.2	Allowabale Terminal Float	10 days	10 days	Sat 21/3/20	Mon 30/3/20
196	A.1.1.14.3	Completion of works	0 days	0 days	Mon 30/3/20	Mon 30/3/20



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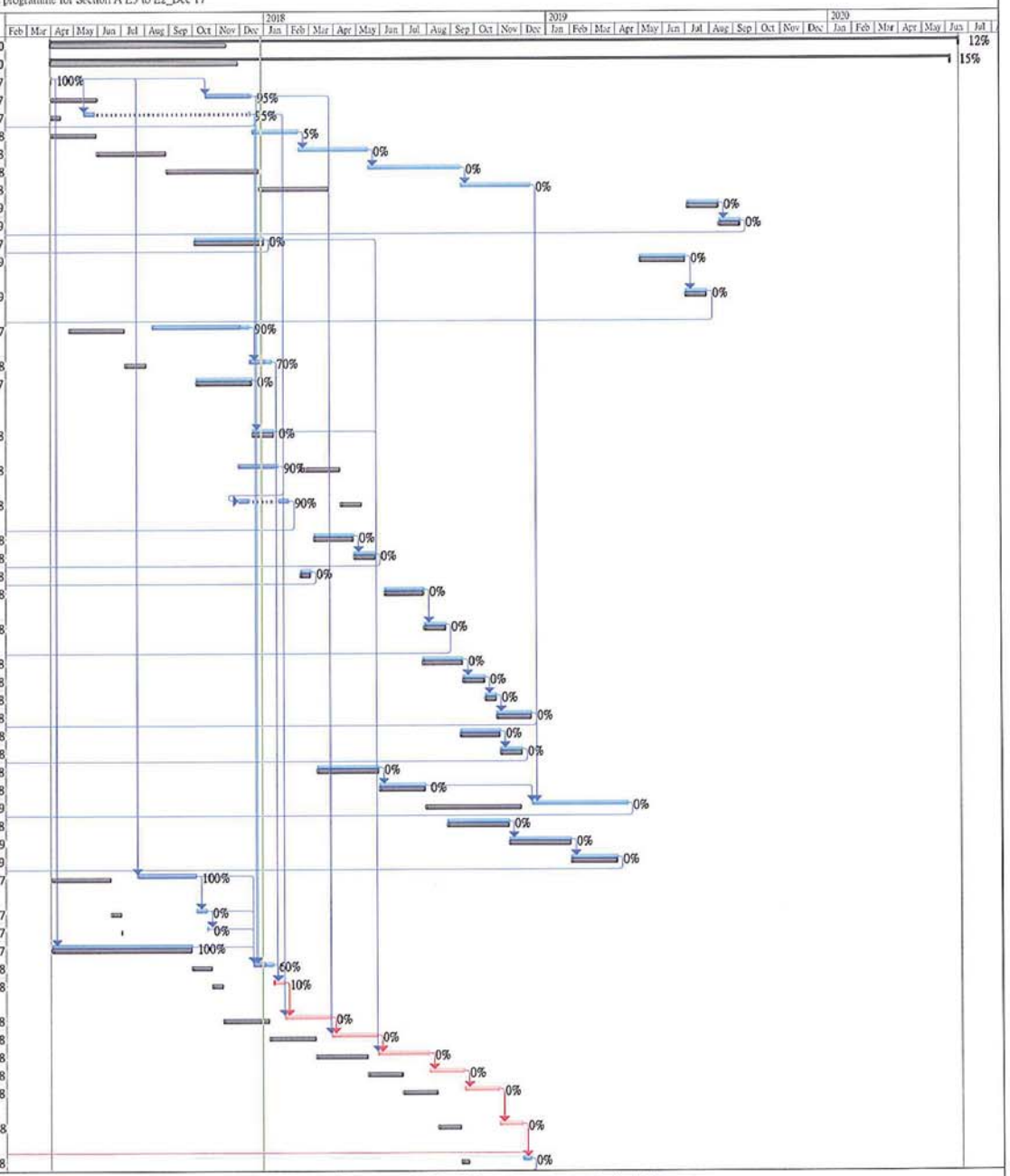
Revised programme for Section A E3 to E2_Dec 17

ID	Task Name	Duration	Remaining Duration	Start	Finish
A.2.1	Section A	1175 days	1039.17 days	Fri 31/3/17	Wed 17/6/20
A.2.1.1	E3 and E2 Footbridge and lift Tower	1164 days	994.66 days	Fri 31/3/17	Sat 6/6/20
A.2.1.1.1	Access Date of Portion 2	1 day	0 days	Fri 31/3/17	Fri 31/3/17
A.2.1.1.2	Initial Site survey	60 days	3 days	Tue 17/10/17	Fri 15/12/17
A.2.1.1.3	Initial Tree survey	15 days	0.75 days	Sat 13/5/17	Wed 13/12/17
A.2.1.1.4	Design submission of lift	60 days	57 days	Sat 16/12/17	Tue 13/2/18
A.2.1.1.5	Comment of design submission of lift	90 days	90 days	Wed 14/2/18	Mon 14/5/18
A.2.1.1.5a	Second design submission of lift	120 days	120 days	Tue 15/5/18	Tue 11/9/18
A.2.1.1.5b	Approval of design submission of lift	90 days	90 days	Wed 12/9/18	Mon 10/12/18
A.2.1.1.6	Design submission of lighting at footbridge	41 days	41 days	Tue 2/7/19	Sun 11/8/19
A.2.1.1.7	Approval of design submission of lighting for footbridge	28 days	28 days	Mon 12/8/19	Sun 8/9/19
A.2.1.1.8	Proposal of Concrete Batching Plant and mixes	90 days	90 days	Tue 3/10/17	Sun 31/12/17
A.2.1.1.9	Submission of shop drawing for irrigation system and submersible pump for the footbridge	60 days	60 days	Wed 1/5/19	Sat 29/6/19
A.2.1.1.10	Acceptance of shop drawing for irrigation system and submersible pump system	28 days	28 days	Sun 30/6/19	Sat 27/7/19
A.2.1.1.11	Method Statement submission for excavation of rock for bridge tower E3-ST1 and approval	126 days	12.6 days	Wed 9/8/17	Tue 12/12/17
A.2.1.1.12	Approval of method statement of excavation of rock	28 days	8.4 days	Wed 13/12/17	Tue 9/1/18
A.2.1.1.13	Method Statement Submission for installation and Temporary works design for concreting of bridge tower E3-ST1	72 days	72 days	Thu 5/10/17	Fri 15/12/17
A.2.1.1.14	Approval of method statement of temporary works design for concreting of bridge tower of bridge tower E3-ST1	28 days	28 days	Sat 16/12/17	Fri 12/1/18
A.2.1.1.15	Method Statement submission for installation of socket H piles including predrill location and Proof Drill location	52 days	5.2 days	Tue 28/11/17	Thu 18/1/18
A.2.1.1.16	Approval of method statement for installation of socket H piles including predrill and proof drill location	28 days	2.8 days	Tue 28/11/17	Thu 1/2/18
A.2.1.1.17	Submission of Method statement for testing of socket H piles	52 days	52 days	Mon 5/3/18	Wed 25/4/18
A.2.1.1.18	Approval of method statement for testing of socket H piles	28 days	28 days	Thu 26/4/18	Wed 23/5/18
A.2.1.1.19	Submission of construction impact assessment	14 days	14 days	Fri 16/2/18	Thu 1/3/18
A.2.1.1.20	Submission of method statement for formwork design for casting the bridge piers footing and bridge piers	52 days	52 days	Mon 4/6/18	Wed 25/7/18
A.2.1.1.21	Approval of method statement for formwork design for casting bridge piers footing and piers	28 days	28 days	Thu 26/7/18	Wed 22/8/18
A.2.1.1.22	Design and Material Submission of proposed bridge bearings	52 days	52 days	Tue 24/7/18	Thu 13/9/18
A.2.1.1.23	Approval of design and material of bridge bearing	28 days	28 days	Fri 14/9/18	Thu 11/10/18
A.2.1.1.24	Testing and result submission of bridge bearing	15 days	15 days	Fri 12/10/18	Fri 26/10/18
A.2.1.1.25	Procurement, ordering and delivery of bridge bearings	45 days	45 days	Sat 27/10/18	Mon 10/12/18
A.2.1.1.26	Submission of method statement for erection of steel truss	52 days	52 days	Mon 10/9/18	Wed 31/10/18
A.2.1.1.27	Approval of method statement for erection of steel truss	28 days	28 days	Thu 1/11/18	Wed 28/11/18
A.2.1.1.28	Method statement submission for proposed lift installation	80 days	80 days	Fri 9/3/18	Sun 27/5/18
A.2.1.1.29	Material Submission of Proposed Lift	60 days	60 days	Mon 28/5/18	Thu 26/7/18
A.2.1.1.30	Procurement, ordering & delivery of proposed lift	124 days	124 days	Tue 11/12/18	Sat 13/4/19
A.2.1.1.31	Design and Material Submission of glazing and louvres	80 days	80 days	Fri 24/8/18	Sun 11/11/18
A.2.1.1.32	Method Statement of glazing and louvre installation	80 days	80 days	Mon 12/11/18	Wed 30/1/19
A.2.1.1.33	Procurement, ordering and delivery of louvres & glazing	60 days	60 days	Thu 31/1/19	Sun 31/3/19
A.2.1.1.35	Approval of TTA to block FP of Hiu Ming St and Hiu Kwong Street for erection of Hoarding	76 days	0 days	Thu 20/7/17	Tue 3/10/17
A.2.1.1.36	Road Works Advice	14 days	14 days	Wed 4/10/17	Tue 17/10/17
A.2.1.1.37	Implementation of TTA	1 day	1 day	Wed 18/10/17	Wed 18/10/17
A.2.1.1.38	Application of Excavation permit	180 days	0 days	Sat 1/4/17	Wed 27/9/17
A.2.1.1.39	Erection of Hoardings for footbridge E3, E2	26 days	10.4 days	Sat 16/12/17	Wed 10/1/18
A.2.1.1.40	Mobilisation of excavator for breaking of rock for escalator tower E3-ST1	14 days	12.6 days	Thu 11/1/18	Wed 24/1/18
A.2.1.1.41	Breaking of 50% of rock for escalator tower E3-ST1	60 days	60 days	Thu 25/1/18	Sun 25/3/18
A.2.1.1.42	Breaking of remaining 50% of rock for escalator tower E3-ST1	60 days	60 days	Mon 26/3/18	Thu 24/5/18
A.2.1.1.43	Construction of E3-ST1 substructure E3-PC1	67 days	67 days	Fri 25/5/18	Mon 30/7/18
A.2.1.1.44	Construction E3 superstructure E3 -ST1up to level 34mPD	45 days	45 days	Tue 31/7/18	Thu 13/9/18
A.2.1.1.45	Contruction of E3 superstructure E3-ST1 from 34mPD to 43.6mPD	45 days	45 days	Fri 14/9/18	Sun 28/10/18
A.2.1.1.46	Infill the space with no fine concrete between rock slope and edge of E3-ST1	30 days	30 days	Mon 29/10/18	Tue 27/11/18
A.2.1.1.47	Erect tubular platform for rock slope survey	10 days	10 days	Wed 28/11/18	Fri 7/12/18



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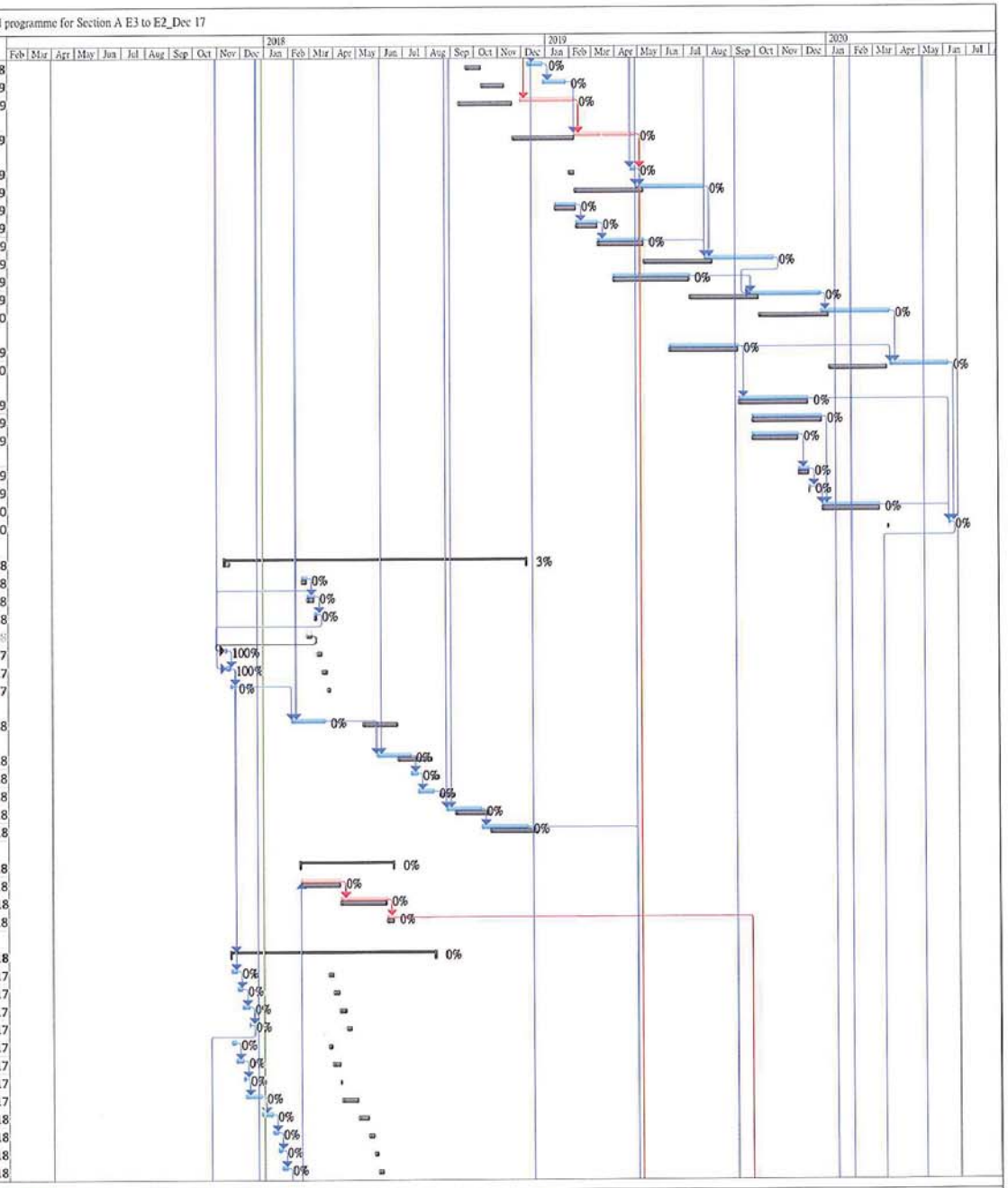
Revised programme for Section A E3 to E2_Dec 17

ID	Task Name	Duration	Remaining Duration	Start	Finish
A.2.1.1.48	Rock slope survey	20 days	20 days	Sat 8/12/18	Thu 27/12/18
A.2.1.1.49	Rock slope stabilization works to be instructed	30 days	30 days	Fri 28/12/18	Sat 26/1/19
A.2.1.1.50	Construction of E3 Superstructure E3-ST1 from 43.6mPD to 59.7mPD	70 days	70 days	Wed 28/11/18	Tue 5/2/19
A.2.1.1.51	Construction of E3 Superstructure E3-ST1 from 59.7mPD to 71.2mPD	80 days	80 days	Wed 6/2/19	Fri 26/4/19
A.2.1.1.52	Installation of bridge bearing	7 days	7 days	Sat 20/4/19	Fri 26/4/19
A.2.1.1.53	Installation of lift (3nrs)	90 days	90 days	Sat 27/4/19	Thu 25/7/19
A.2.1.1.54	Design of glazing and louver	28 days	28 days	Sat 12/1/19	Fri 8/2/19
A.2.1.1.55	Approval of design for glazing and louver	28 days	28 days	Sat 9/2/19	Fri 8/3/19
A.2.1.1.56	Procurement to delivery of glazing and louver	60 days	60 days	Sat 9/3/19	Tue 7/5/19
A.2.1.1.57	Installation of glazing and louver	90 days	90 days	Fri 26/7/19	Wed 23/10/19
A.2.1.1.58	Application of telecommunication lines	100 days	100 days	Fri 29/3/19	Sat 6/7/19
A.2.1.1.59	Installation of E&M for the lift towers	90 days	90 days	Tue 24/9/19	Sun 22/12/19
A.2.1.1.60	Positioning, Construction, installation and connection of pillar box	90 days	90 days	Mon 23/12/19	Sat 21/3/20
A.2.1.1.61	Application and connection of power supply	90 days	90 days	Mon 10/6/19	Sat 7/9/19
A.2.1.1.62	Testing and comminissioning of lifts and submission of form LE5 to EMSD	75 days	75 days	Sun 22/3/20	Thu 4/6/20
A.2.1.1.63	Decoration and Finishings works for E3-ST1	90 days	90 days	Sun 8/9/19	Fri 6/12/19
A.2.1.1.64	Application of XP for Drainage works at Hiu Ming Street	90 days	90 days	Wed 25/9/19	Mon 23/12/19
A.2.1.1.65	Approval of TTA for construction of Drainage works at Hiu Ming Street	60 days	60 days	Wed 25/9/19	Sat 23/11/19
A.2.1.1.66	Road Works Advice	14 days	14 days	Sun 24/11/19	Sat 7/12/19
A.2.1.1.67	Implementation of TTA	1 day	1 day	Sun 8/12/19	Sun 8/12/19
A.2.1.1.68	Drainage works at Hiu Ming Street	75 days	75 days	Tue 24/12/19	Sat 7/3/20
A.2.1.1.69	General tidy up	2 days	2 days	Fri 5/6/20	Sat 6/6/20
A.2.1.2	**Pile Cap E3-PC3 and E3 Abutment**	**392 days**	**379.8 days**	**Thu 9/11/17**	**Wed 5/12/18**
A.2.1.2.1	Set up tubular platform for removal of soil nails at Slope E3b	7 days	7 days	Fri 16/2/18	Thu 22/2/18
A.2.1.2.2	Removal of soil nails (19nrs) at slope E3b	10 days	10 days	Fri 23/2/18	Sun 4/3/18
A.2.1.2.3	Removal of tubular platform	3 days	3 days	Mon 5/3/18	Wed 7/3/18
~~A.2.1.2.4~~	~~Mobilization of plants for predrilling for pile cap E3-PC-3~~	~~2 days~~	~~2 days~~	~~Fri 23/2/18~~	~~Thu 1/3/18~~
A.2.1.2.5	Setting up of plants for predrill for pile cap E3-PC3	2 days	0 days	Thu 9/11/17	Fri 10/11/17
A.2.1.2.6	Predrill for pile cap E3-PC3	6 days	0 days	Fri 10/11/17	Wed 15/11/17
A.2.1.2.7	Mobilization of plants for drilling for installation of pre-bored socket H piles (9 nrs) for pile cap E3-PC3	4 days	4 days	Thu 16/11/17	Sun 19/11/17
A.2.1.2.8	Drilling and installation of pre-bored socket H piles (9 nrs)for pile cap E3-PC3	45 days	45 days	Fri 2/2/18	Sun 18/3/18
A.2.1.2.9	Testing of piles	45 days	45 days	Thu 24/5/18	Sat 7/7/18
A.2.1.2.10	Proof Drilling	9 days	9 days	Sun 8/7/18	Mon 16/7/18
A.2.1.2.11	Excavation with temporary shoring for pile cap E3-PC3	21 days	21 days	Tue 17/7/18	Mon 6/8/18
A.2.1.2.12	Construction of Pile caps E3-PC3	45 days	45 days	Thu 23/8/18	Sat 6/10/18
A.2.1.2.13	Construction of E3 Abutment	60 days	60 days	Sun 7/10/18	Wed 5/12/18
A.2.1.3	**Substructure of Covered Walkway**	**122 days**	**122 days**	**Wed 14/2/18**	**Fri 15/6/18**
A.2.1.3.1	Excavation of footing of covered walkway footing	52 days	52 days	Wed 14/2/18	Fri 6/4/18
A.2.1.3.2	Construction of footing of covered walkway footing	60 days	60 days	Sat 7/4/18	Tue 5/6/18
A.2.1.3.3	Backfill the footing of the covered walkway	10 days	10 days	Wed 6/6/18	Fri 15/6/18
A.2.1.4	**Pile Cap E3-PC2 and column**	**266 days**	**266 days**	**Thu 16/11/17**	**Wed 8/8/18**
A.2.1.4.1	Mobilization of plants for predrilling for pile cap E3-PC 2	7 days	7 days	Thu 16/11/17	Wed 22/11/17
A.2.1.4.2	Setting up of plants for predrill for pile cap E3-PC2	7 days	7 days	Thu 23/11/17	Wed 29/11/17
A.2.1.4.3	Predrill for pile cap E3-PC2	9 days	9 days	Thu 30/11/17	Fri 8/12/17
A.2.1.4.4	Demobilization of predrill rig	1 day	1 day	Sat 9/12/17	Sat 9/12/17
A.2.1.4.5	Site clearance for soil nails for zone 1	5 days	5 days	Thu 16/11/17	Mon 20/11/17
A.2.1.4.6	Erection of tubular scaffold platform for soil nails for zone 1	10 days	10 days	Tue 21/11/17	Thu 30/11/17
A.2.1.4.7	Setting out of soil nails	2 days	2 days	Fri 1/12/17	Sat 2/12/17
A.2.1.4.8	Construction of soil nails (29nrs)	21 days	21 days	Sun 3/12/17	Sat 23/12/17
A.2.1.4.9	Construction of soil nails heads (29nrs)	14 days	14 days	Sun 24/12/17	Sat 6/1/18
A.2.1.4.10	Removal of tubular scaffold platform	7 days	7 days	Sun 7/1/18	Sat 13/1/18
A.2.1.4.11	Site clearance for soil nails for zone 2	5 days	5 days	Sun 14/1/18	Thu 18/1/18
A.2.1.4.12	Erection of tubular scaffold platform for soil nails for zone 2	7 days	7 days	Fri 19/1/18	Thu 25/1/18



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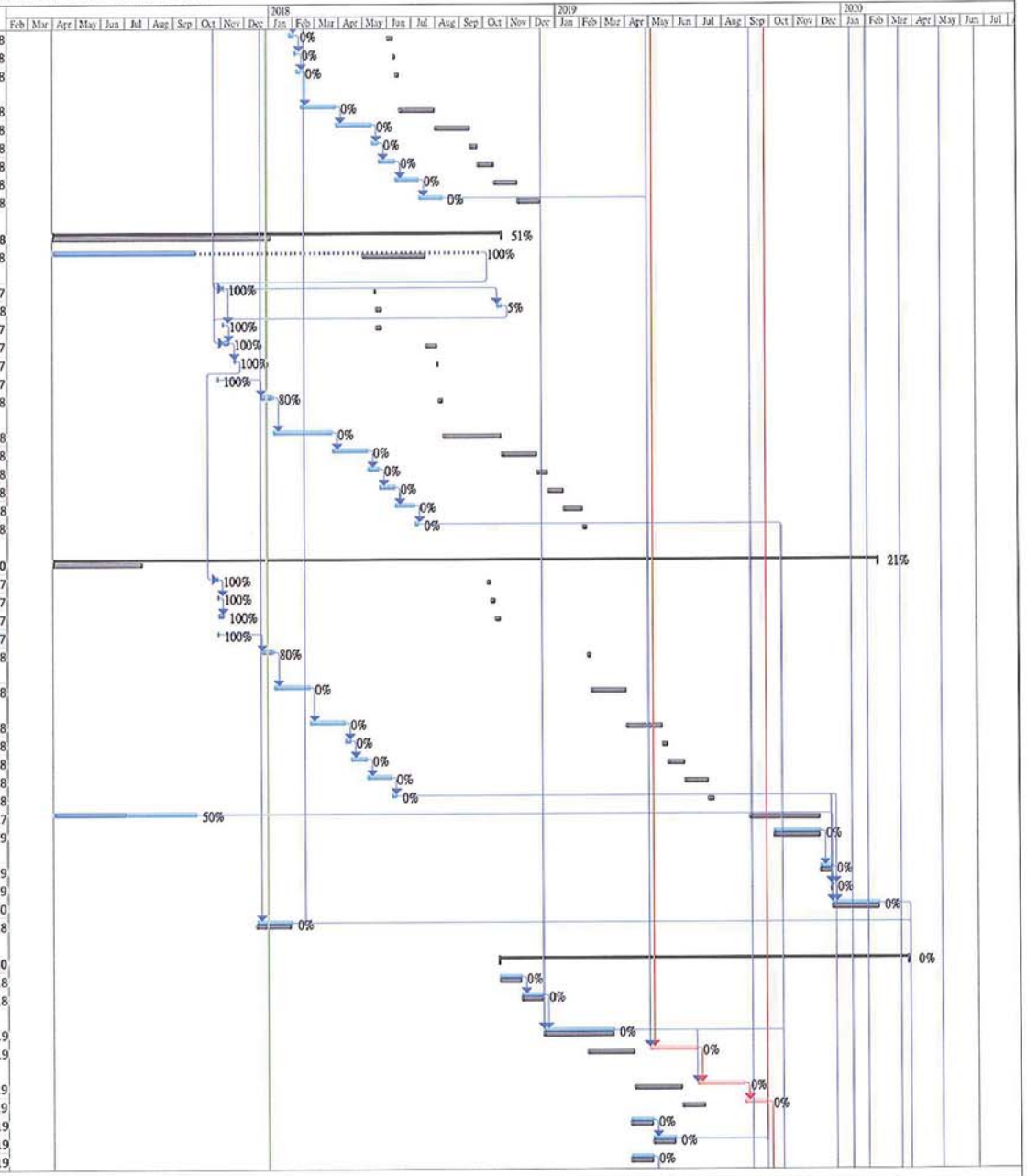
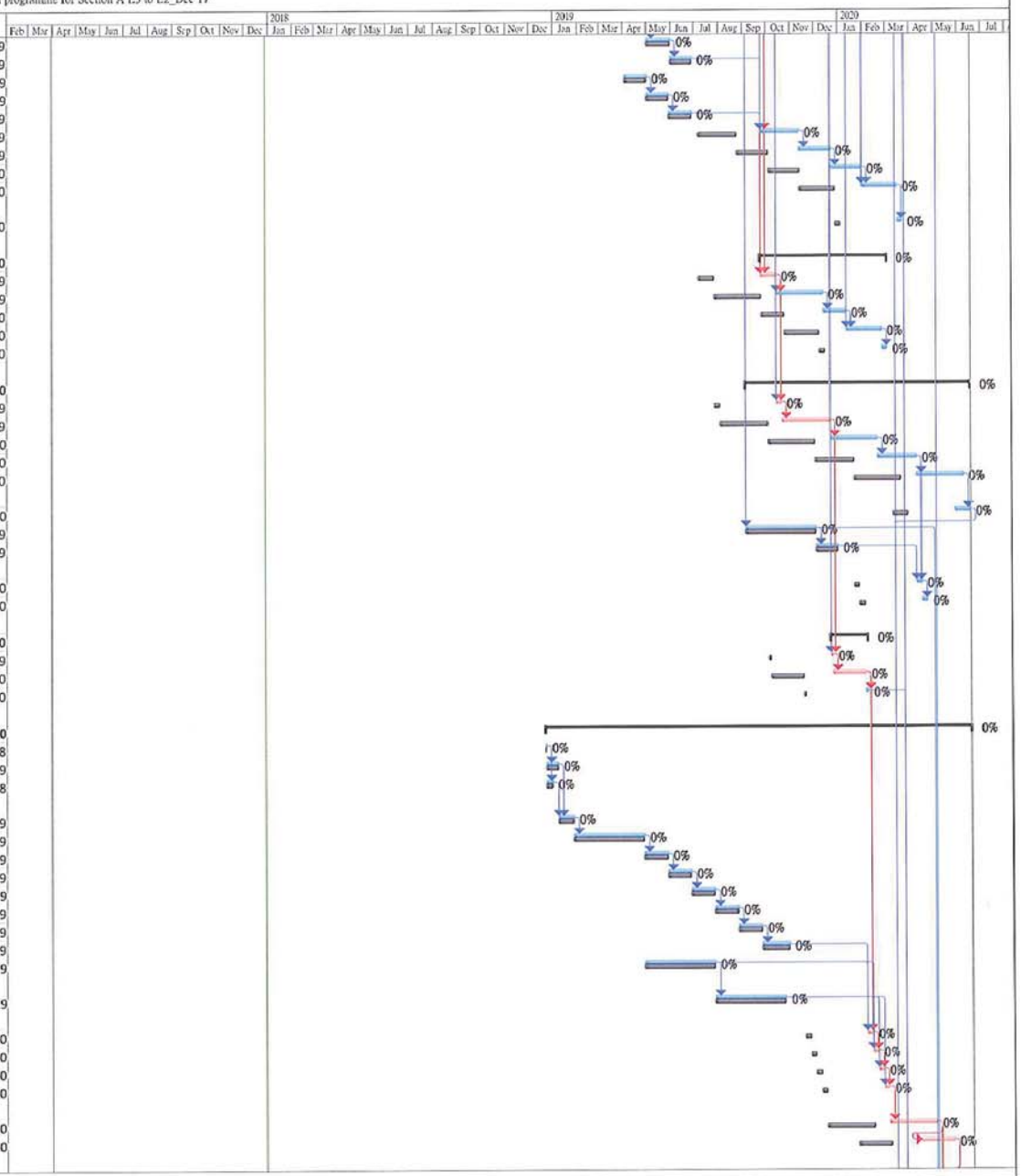
ID	Task Name	Duration	Remaining Duration	Start	Finish
A.2.1.4.13	Removal of soil nails (7nrs)	7 days	7 days	Fri 26/1/18	Thu 1/2/18
A.2.1.4.14	Removal of tubular scaffold platform from zone 2	3 days	3 days	Fri 2/2/18	Sun 4/2/18
A.2.1.4.15	Mobilization of plant for drilling and installation of pre-bored socket H piles	5 days	5 days	Mon 5/2/18	Fri 9/2/18
A.2.1.4.16	Drilling and construction of pre-bored socket H piles (9nrs)	45 days	45 days	Sat 10/2/18	Mon 26/3/18
A.2.1.4.17	Testing of piles	45 days	45 days	Tue 27/3/18	Thu 10/5/18
A.2.1.4.18	Proof Drilling	9 days	9 days	Fri 11/5/18	Sat 19/5/18
A.2.1.4.19	Excavation with shoring for construction of pile cap E3-PC2	21 days	21 days	Sun 20/5/18	Sat 9/6/18
A.2.1.4.20	Construction of pile cap E3-PC2	30 days	30 days	Sun 10/6/18	Mon 9/7/18
A.2.1.4.21	Construction of Column E3-P1	30 days	30 days	Tue 10/7/18	Wed 8/8/18
A.2.1.5	**Pile Cap E2-PC1**	**571 days**	**278.11 days**	**Sat 1/4/17**	**Tue 23/10/18**
A.2.1.5.1	Application of Excavation permit for area occupied by pile cap E2-PC1	180 days	0 days	Sat 1/4/17	Thu 27/9/18
A.2.1.5.2	Mobilization of plant for predrill for pile cap E2-PC1	1 day	0 days	Thu 2/11/17	Thu 2/11/17
A.2.1.5.3	Initial site survey	7 days	6.65 days	Wed 17/10/18	Tue 23/10/18
A.2.1.5.4	Setting up plant for predrill for pile cap E2-PC1	1 day	0 days	Thu 2/11/17	Fri 3/11/17
A.2.1.5.5	Predrill for pile cap E2-PC1	7 days	0 days	Fri 3/11/17	Thu 9/11/17
A.2.1.5.6	Demobilization of predrill rig	1 day	0 days	Fri 17/11/17	Fri 17/11/17
A.2.1.5.6a	Pile Sleeve Not Required for E2-PC1 & PC2 (PMI 20)	1 day	0 days	Thu 26/10/17	Thu 26/10/17
A.2.1.5.7	Mobilization of plant for drilling and installation of pre-bored socket H piles	16 days	3.2 days	Thu 21/12/17	Fri 5/1/18
A.2.1.5.8	Drilling and construction for pre-bored socket H piles(35nrs)	75 days	75 days	Sat 6/1/18	Wed 21/3/18
A.2.1.5.9	Testing of piles	45 days	45 days	Thu 22/3/18	Sat 5/5/18
A.2.1.5.10	Proof Drilling	14 days	14 days	Sun 6/5/18	Sat 19/5/18
A.2.1.5.11	Excavation with temporary shoring for pile cap E2-PC1	20 days	20 days	Sun 20/5/18	Fri 8/6/18
A.2.1.5.12	Construction of pile cap E2-PC1	25 days	25 days	Sat 9/6/18	Tue 3/7/18
A.2.1.5.13	Backfill the pile cap E2-PC1	5 days	5 days	Wed 4/7/18	Sun 8/7/18
A.2.1.6	**Substructure E2-PC2**	**1049 days**	**831.43 days**	**Sat 1/4/17**	**Thu 13/2/20**
A.2.1.6.1	Mobilization of plants for predrilling for pile cap E2-PC 2	1 day	0 days	Wed 25/10/17	Wed 25/10/17
A.2.1.6.2	Setting up plant for predrill for pile pile cap E2-PC2	1 day	0 days	Thu 26/10/17	Thu 26/10/17
A.2.1.6.3	Predrill for pile cap E2-PC2	7 days	0 days	Fri 27/10/17	Thu 2/11/17
A2.1.6.3a	Pile Sleeve Not Required for E2-PC1 & PC2 (PMI 20)	1 day	0 days	Thu 26/10/17	Thu 26/10/17
A.2.1.6.4	Mobilization of plants for drilling and installation of pre-bored socket H Ples for pile cap E2-PC2	15 days	3 days	Fri 22/12/17	Fri 5/1/18
A.2.1.6.5	Drilling and installation of pre-bored socket H piles for pile cap E2-PC2	45 days	45 days	Sat 6/1/18	Mon 19/2/18
A.2.1.6.6	Testing of piles	45 days	45 days	Tue 20/2/18	Thu 5/4/18
A.2.1.6.7	Proof Drilling	7 days	7 days	Fri 6/4/18	Thu 12/4/18
A.2.1.6.8	Excavation with shoring for pile cap E2-PC2	21 days	21 days	Fri 13/4/18	Thu 3/5/18
A.2.1.6.9	Construction of pile cap E2-PC2	30 days	30 days	Fri 4/5/18	Sat 2/6/18
A.2.1.6.10	Backfill the pile cap E2-PC2	7 days	7 days	Sun 3/6/18	Sat 9/6/18
A.2.1.6.11	Application of XP for Drainage works at Hiu Kwong Street	180 days	90 days	Sat 1/4/17	Wed 27/9/17
A.2.1.6.12	Approval of TTA for construction of Drainage works at Hiu Kwong Street	60 days	60 days	Wed 2/10/19	Sat 30/11/19
A.2.1.6.13	Road Works Advice	14 days	14 days	Sun 1/12/19	Sat 14/12/19
A.2.1.6.14	Implementation of TTA	1 day	1 day	Sun 15/12/19	Sun 15/12/19
A.2.1.6.15	Construction of Drainage works at Hiu Kwong Street	60 days	60 days	Mon 16/12/19	Thu 13/2/20
A.2.1.6.16	Trees felling works between E3-ST1 and E3 abutment	45 days	45 days	Thu 14/12/17	Sat 27/1/18
A.2.1.7	**Steel Bridge between E3-ST1 and E3 Abutment**	**522 days**	**522 days**	**Thu 18/10/18**	**Sun 22/3/20**
A.2.1.7.1	Proposal of off site fabrication of steelworks for E2 and E3	28 days	28 days	Thu 18/10/18	Wed 14/11/18
A.2.1.7.2	Approval of off site fabrication of steelworks for bridge E2 and E3	28 days	28 days	Thu 15/11/18	Wed 12/12/18
A.2.1.7.3	Fabbrication and Delivery of fabricated steelworks	90 days	90 days	Thu 13/12/18	Tue 12/3/19
A.2.1.7.4	Construction of launching platform for steel bridge between E3-ST1 and E3 abutment	60 days	60 days	Sat 27/4/19	Tue 25/6/19
A.2.1.7.5	Assembly of steel truss between E3 tower and E3 abutment	60 days	60 days	Wed 26/6/19	Sat 24/8/19
A.2.1.7.6	Bridge launching between E3-ST1 and E3 Abutment	29 days	29 days	Sun 25/8/19	Sun 22/9/19
A.2.1.7.7	Design submission of roof system	28 days	28 days	Wed 3/4/19	Tue 30/4/19
A.2.1.7.8	Approval of design of roof system	28 days	28 days	Wed 1/5/19	Tue 28/5/19
A.2.1.7.9	Material submission of corrugated steel roof	28 days	28 days	Wed 3/4/19	Tue 30/4/19



Critical | Task | Manual Task | Duration-only | Baseline Milestone | Summary | External Tasks | Inactive Milestone
Critical Split | Split | Start-only | Baseline | Milestone | Manual Summary | External Milestone | Inactive Summary
Critical Progress | Task Progress | Finish-only | Baseline Split | Summary Progress | Project Summary | Inactive Task | Deadline

ID	Task Name	Duration	Remaining Duration	Start	Finish
A.2.1.7.10	Approval of corrugated steel roof	30 days	30 days	Wed 1/5/19	Thu 30/5/19
A.2.1.7.11	Procurement to delivery of corrugated steel roof	28 days	28 days	Fri 31/5/19	Thu 27/6/19
A.2.1.7.12	Material submission of fall arrest system	28 days	28 days	Wed 3/4/19	Tue 30/4/19
A.2.1.7.13	Approval of fall arrest system	28 days	28 days	Wed 1/5/19	Tue 28/5/19
A.2.1.7.14	Procurement to delivery of fall arrest system	30 days	30 days	Wed 29/5/19	Thu 27/6/19
A.2.1.7.15	Roof construction of the steel truss E3-ST1 to E3 abutment	50 days	50 days	Mon 23/9/19	Mon 11/11/19
A.2.1.7.16	Construction of screeding and paving blocks	40 days	40 days	Tue 12/11/19	Sat 21/12/19
A.2.1.7.17	Installation of parapets and planters	40 days	40 days	Sun 22/12/19	Thu 30/1/20
A.2.1.7.18	Installation of lightings to steel truss between E3 tower and E3 abutment	45 days	45 days	Fri 31/1/20	Sun 15/3/20
A.2.1.7.19	Installation of irrigation pipe and water point	7 days	7 days	Mon 16/3/20	Sun 22/3/20
A.2.1.8	**Superstructure of Covered Walkway**	**162 days**	**162 days**	**Mon 23/9/19**	**Mon 2/3/20**
A.2.1.8.1	Expose the substructure of the Covered Walkway	20 days	20 days	Mon 23/9/19	Sat 12/10/19
A.2.1.8.2	Construction of columns and beams for covered walkway	60 days	60 days	Sun 13/10/19	Wed 11/12/19
A.2.1.8.3	Installation of steel sheet roof for the covered walkway	30 days	30 days	Thu 12/12/19	Fri 10/1/20
A.2.1.8.4	Installation of Lighting to covered walkway	45 days	45 days	Sat 11/1/20	Mon 24/2/20
A.2.1.8.5	Installation of irrigation pipe	7 days	7 days	Tue 25/2/20	Mon 2/3/20
A.2.1.9	**Superstructure of E2-LT1 and Lift**	**287 days**	**287 days**	**Wed 4/9/19**	**Tue 16/6/20**
A.2.1.9.1	Excavation to expose footing E2-PC1	7 days	7 days	Sun 13/10/19	Sat 19/10/19
A.2.1.9.2	Construction of superstructure of lift tower E2-LT1	62 days	62 days	Sun 20/10/19	Fri 20/12/19
A.2.1.9.3	Installation of lift (2nrs)	60 days	60 days	Sat 21/12/19	Tue 18/2/20
A.2.1.9.4	Installation of E&M for the lift towers and Pillar Box	50 days	50 days	Wed 19/2/20	Wed 8/4/20
A.2.1.9.5	Testing and comminissioning of lifts and submission of form LE5 to EMSD	60 days	60 days	Thu 9/4/20	Sun 7/6/20
A.2.1.9.6	Installation of louver and finishing works	20 days	20 days	Thu 28/5/20	Tue 16/6/20
A.2.1.9.7	Application for connection to existing water mains	90 days	90 days	Wed 4/9/19	Mon 2/12/19
A.2.1.9.8	Trenching works for connection of existing water connection point	28 days	28 days	Tue 3/12/19	Mon 30/12/19
A.2.1.9.9	Installation of water meter box	7 days	7 days	Thu 9/4/20	Wed 15/4/20
A.2.1.9.10	Planting works on bridge	7 days	7 days	Thu 16/4/20	Wed 22/4/20
A.2.1.10	**Superstructure of E2-P1**	**48 days**	**48 days**	**Sat 21/12/19**	**Thu 6/2/20**
A.2.1.10.1	Excavation to expose Pile cap E2-PC2 for column E2-P1	3 days	3 days	Sat 21/12/19	Mon 23/12/19
A.2.1.10.2	Construction of column for E2-P1	42 days	42 days	Tue 24/12/19	Mon 3/2/20
A.2.1.10.3	General tidy up	3 days	3 days	Tue 4/2/20	Thu 6/2/20
A.3.1.11	**Bridge between E2-P1 to E2-P3**	**545 days**	**545 days**	**Fri 21/12/18**	**Wed 17/6/20**
A.3.1.11.1	Access date of E2 between Pier E2-P2 to E2-P3 (Portion 3)	1 day	1 day	Fri 21/12/18	Fri 21/12/18
A.3.1.11.2	Initial site survey	15 days	15 days	Sat 22/12/18	Sat 5/1/19
A.3.1.11.3	Erection of Hoarding at South bound footpath of Hiu Kwong St	8 days	8 days	Sat 22/12/18	Sat 29/12/18
A.3.1.11.4	Excavation of inspection pits to locate utilities	20 days	20 days	Sun 6/1/19	Fri 25/1/19
A.3.1.11.5	Diversion of utilities by UU	90 days	90 days	Sat 26/1/19	Thu 25/4/19
A.3.1.11.6	Excavation with shoring for construction of E2-F3	30 days	30 days	Fri 26/4/19	Sat 25/5/19
A.3.1.11.7	Construction of pad footing of E2-F3	30 days	30 days	Sun 26/5/19	Mon 24/6/19
A.3.1.11.8	Construction of column for E2-P2	30 days	30 days	Tue 25/6/19	Wed 24/7/19
A.3.1.11.9	Excavation with shoring for construction of E2-F4	30 days	30 days	Thu 25/7/19	Fri 23/8/19
A.3.1.11.10	Construction of pad footing of E2-F4	30 days	30 days	Sat 24/8/19	Sun 22/9/19
A.3.1.11.11	Construction of column for E2-P3 and the bridge deck	35 days	35 days	Mon 23/9/19	Sun 27/10/19
A.3.1.11.12	Off site Fabrication of Steel deck truss between E2-LT1 to E2-P1, E2-P1 to E2-P2	90 days	90 days	Fri 26/4/19	Wed 24/7/19
A.3.1.11.13	Off site Fabrication of Steel deck truss between E2-P2 to E2-P3 and E2-P3 to bridge constructed by others	90 days	90 days	Thu 25/7/19	Tue 22/10/19
A.3.1.11.14	Lifting of steel truss between E2-LT1 to E2-P1	7 days	7 days	Tue 4/2/20	Mon 10/2/20
A.3.1.11.15	Lifting of steel truss between E2-P1 to E2-P2	7 days	7 days	Tue 11/2/20	Mon 17/2/20
A.3.1.11.16	Lifting of Truss between E2-P2 to E2-P3	7 days	7 days	Tue 18/2/20	Mon 24/2/20
A.3.1.11.17	Lifting of truss for E2-P3 to connect to bridge constructed by others	7 days	7 days	Tue 25/2/20	Mon 2/3/20
A.3.1.11.18	Roof installation of the bridge from E2-LT1 to E2-P3	60 days	60 days	Tue 3/3/20	Fri 1/5/20
A.3.1.11.19	Screeding and paving blocks for the bridge from E2-LT1 to E2-P3	42 days	42 days	Sun 12/4/20	Sat 23/5/20



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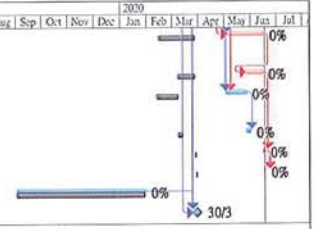
Revised programme for Section A E3 to E2_Dec 17

ID	Task Name	Duration	Remaining Duration	Start	Finish
A.3.1.11.20	Electrical installation and lighting works for bridge from E2-LT1 to E2-P3	42 days	42 days	Mon 4/5/20	Sun 14/6/20
A.3.1.11.21	Tubular handrail and planter on bridge from E2-LT1 to E2-P3	20 days	20 days	Tue 26/5/20	Sun 14/6/20
A.3.1.11.22	Trenching works for connection of existing water connection point	25 days	25 days	Sat 2/5/20	Tue 26/5/20
A.3.1.11.23	Water meter box and water point construction	5 days	5 days	Wed 27/5/20	Sun 31/5/20
A.3.1.11.24	Planting works on bridge	2 days	2 days	Mon 15/6/20	Tue 16/6/20
A.3.1.11.25	General tidy up for Portion 3	1 day	1 day	Wed 17/6/20	Wed 17/6/20
A.3.1.11.26	Overall landscape works	150 days	150 days	Mon 2/9/19	Wed 29/1/20
A.3.1.11.27	Completion of works	0 days	0 days	Mon 30/3/20	Mon 30/3/20



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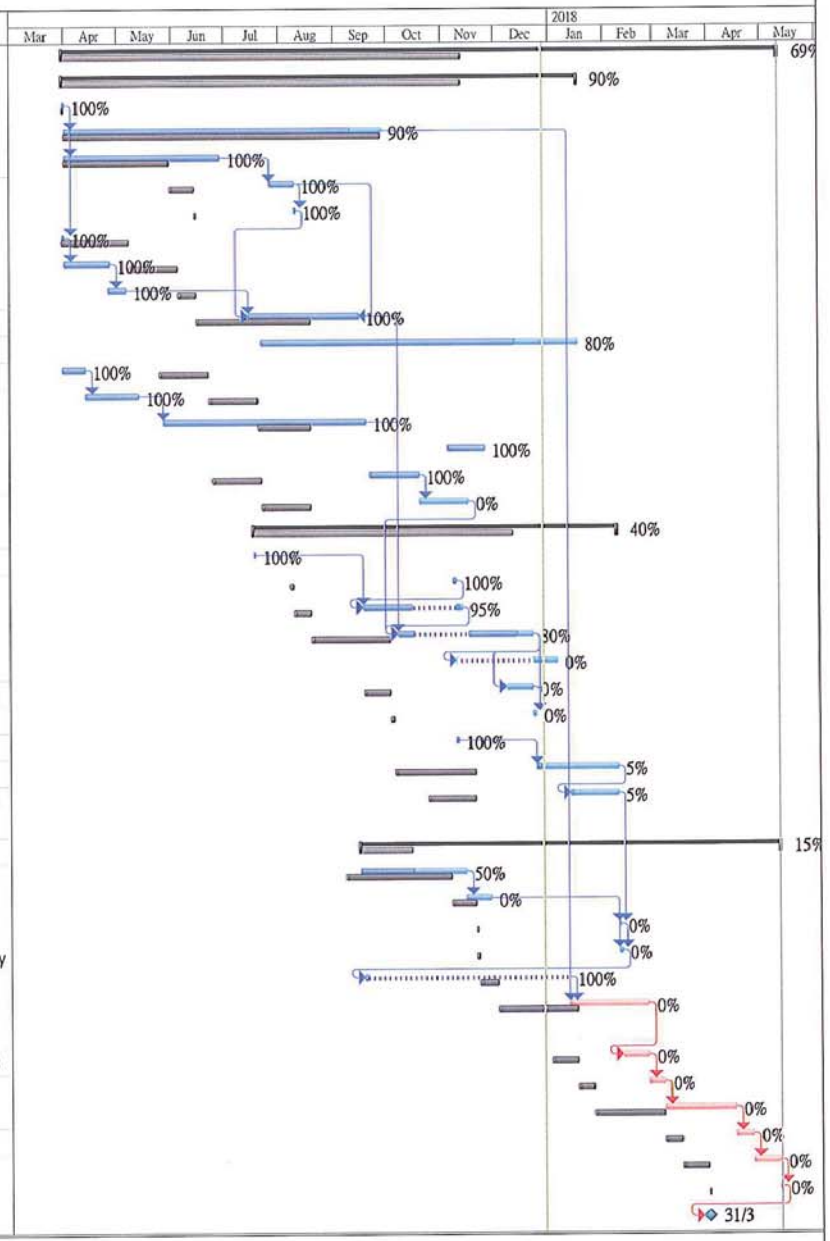
Critical Progress | Task Progress | Finish-only | Baseline Split | Summary Progress | Project Summary | Inactive Task | Deadline

Revised programme for Section B_Dec 17

ID	Task Name	Duration	Remaining Duration	Start	Finish	Predecessors
B.4.1	**SECTION B - CONSTRUCTION OF SLIP ROAD**	**406 days**	**127.14 days**	**Fri 31/3/17**	**Thu 10/5/18**	
B.4.1.1	**PRE CONSTRUCTION WORKS**	**292 days**	**29.97 days**	**Fri 31/3/17**	**Tue 16/1/18**	
B.4.1.1.1	Access Date of Portion 4	1 day	0 days	Fri 31/3/17	Fri 31/3/17	
B.4.1.1.2	Application of Excavation Permit	180 days	18 days	Sat 1/4/17	Wed 27/9/17	3
B.4.1.1.3	Application of TTA and approval	88 days	0 days	Sat 1/4/17	Tue 27/6/17	3
B.4.1.1.4	Road works advice	14 days	0 days	Wed 26/7/17	Tue 8/8/17	5
B.4.1.1.5	Implementation of TTA for ingress and egress	1 day	0 days	Wed 9/8/17	Wed 9/8/17	6
B.4.1.1.6	Proposal of landscape specialist	1 day	0 days	Fri 31/3/17	Fri 31/3/17	3FS-1 day
B.4.1.1.7	Approval to proposal of landscape specialist	26 days	0 days	Sat 1/4/17	Wed 26/4/17	8
B.4.1.1.10	Tree survey	10 days	0 days	Wed 26/4/17	Fri 5/5/17	9
B.4.1.1.11	Trees Transplant	63 days	0 days	Fri 14/7/17	Thu 14/9/17	10,6FF,7
B.4.1.1.11a	Landscaping Works (PMI 9)	180 days	36 days	Fri 21/7/17	Tue 16/1/18	
B.4.1.1.12	Submission of material for drainage works	13 days	0 days	Fri 31/3/17	Wed 12/4/17	
B.4.1.1.13	Approval of submission for drainage works	30 days	0 days	Thu 13/4/17	Fri 12/5/17	13
B.4.1.1.16	Procurement and delivery of drainage pipes and material	115 days	0 days	Sat 27/5/17	Mon 18/9/17	14
1.1.14	Material Test for Drainage Pipe (PMI 21)	21 days	0 days	Sat 4/11/17	Fri 24/11/17	
B.4.1.1.17	Submission of method statement for Drainage works	28 days	0 days	Thu 21/9/17	Wed 18/10/17	
B.4.1.1.18	Approval of method statement for drainage works	28 days	28 days	Thu 19/10/17	Wed 15/11/17	17
B.4.1.2	**First Stage Works**	**206 days**	**124.1 days**	**Mon 17/7/17**	**Wed 7/2/18**	
B.4.1.2.1	Utilities Detection	1 day	0 days	Mon 17/7/17	Mon 17/7/17	
B.4.1.2.2	Survey of existing drainage	2 days	0 days	Tue 7/11/17	Wed 8/11/17	
B.4.1.2.3	Initial site survey	31 days	1.55 days	Sun 17/9/17	Sun 12/11/17	21,20
B.4.1.2.4	Drainage works at first stage	45 days	9 days	Sat 7/10/17	Thu 21/12/17	11,15,22,18
B.4.1.2.4a	Revised Drainage Works (PMI 26)	14 days	13.95 days	Thu 9/11/17	Thu 4/1/18	23
B.4.1.2.5	Draw pits construction	15 days	15 days	Thu 7/12/17	Thu 21/12/17	23FS-15 days
B.4.1.2.6	Laying street lighting cables	2 days	2 days	Fri 22/12/17	Sat 23/12/17	23,25
B.4.1.2.6a	Revised Setting Out amd Vertical Road Profile (PMI 25)	1 day	0 days	Thu 9/11/17	Thu 9/11/17	
B.4.1.2.7	Road works	46 days	43.7 days	Sun 24/12/17	Wed 7/2/18	27
B.4.1.2.8	Construct Temporary road before implementation of road closure	27 days	25.65 days	Fri 12/1/18	Wed 7/2/18	28FS-27 days
B.4.1.3	**Second Stage Works**	**238 days**	**202.41 days**	**Fri 15/9/17**	**Thu 10/5/18**	
B.4.1.3.1	Application of TTA to divert traffic of existing slip road	60 days	30 days	Fri 15/9/17	Mon 13/11/17	
B.4.1.3.2	Road Works advice	14 days	14 days	Tue 14/11/17	Mon 27/11/17	31
B.4.1.3.3	Implementation of TTA to divert traffic to Temp slip road	1 day	1 day	Thu 8/2/18	Thu 8/2/18	32,29
B.4.1.3.4	Utilities detection and Suirvey of existing drainage	2 days	2 days	Thu 8/2/18	Fri 9/2/18	32,33FS-1 day
B.4.1.3.5	Initial site survey	2 days	0 days	Sun 17/9/17	Wed 10/1/18	34
B.4.1.3.6	Drainage works at entrance of existing slip road (D101+ others)	45 days	45 days	Thu 11/1/18	Sat 24/2/18	35,4
B.4.1.3.7	Draw pits construction	15 days	15 days	Sat 10/2/18	Sat 24/2/18	36FS-15 days
B.4.1.3.8	Laying street lighting cables	9 days	9 days	Sun 25/2/18	Mon 5/3/18	37
B.4.1.3.9	Road works	40 days	40 days	Tue 6/3/18	Sat 14/4/18	38
B.4.1.3.10	Remaining clash barriers and road markings	10 days	10 days	Sun 15/4/18	Tue 24/4/18	39
B.4.1.3.11	Reinstate works area	15 days	15 days	Wed 25/4/18	Wed 9/5/18	40
B.4.1.3.12	General tidy up	1 day	1 day	Thu 10/5/18	Thu 10/5/18	41
B.4.1.3.13	Completion of works	0 days	0 days	Sat 31/3/18	Sat 31/3/18	42



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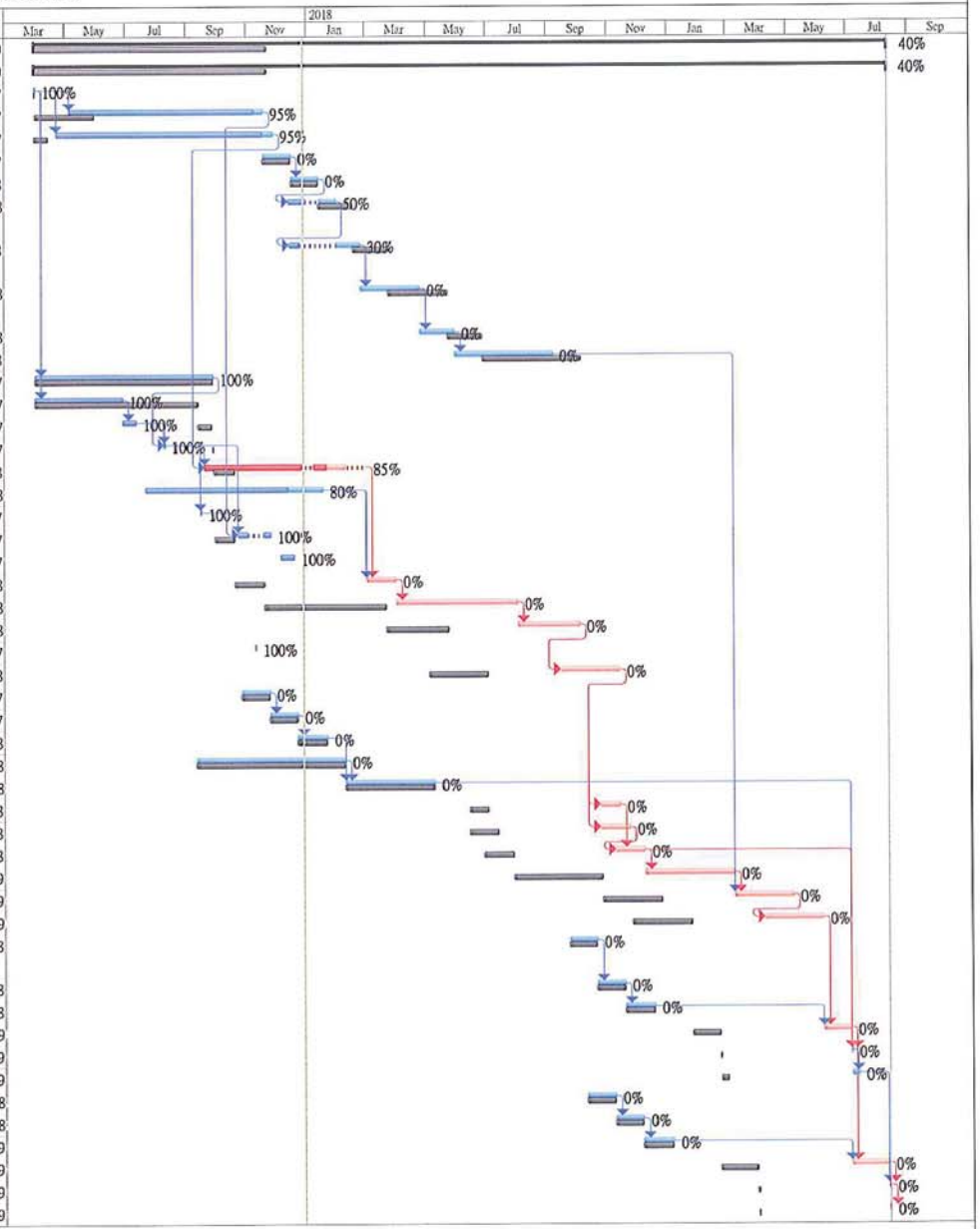
Revised programme for Section C_Dec 17

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	C.5.1	**SECTION C - CONSTRUCTION OF BUS BUS INTERCHANGE**	**863.75 days**	**520.28 days**	**Fri 31/3/17**	**Sun 11/8/19**
2	C.5.1.1	**Works not within TKOT carriageway**	**863.75 days**	**520.28 days**	**Fri 31/3/17**	**Sun 11/8/19**
3	C.5.1.1.1	Access Date of Portion 5	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	C.5.1.1.2	Initial Site Survey	197 days	9.85 days	Fri 5/5/17	Fri 17/11/17
5	C.5.1.1.3	Tree survey	220 days	11 days	Sat 22/4/17	Mon 27/11/17
6	C.5.1.1.4	Proposal of strucutral steel erectors	28 days	28 days	Sat 18/11/17	Fri 15/12/17
7	C.5.1.1.5	Approval of structural steel erectors	28 days	28 days	Sat 16/12/17	Fri 12/1/18
8	C.5.1.1.6	Submission of method statement of construction of covered walkway	35 days	17.5 days	Wed 13/12/17	Tue 30/1/18
9	C.5.1.1.7	Approval of method statement of construction of covered walkway	35 days	24.5 days	Thu 14/12/17	Fri 23/2/18
10	C.5.1.1.8	Submission of offsite fabrication of steel for covered walkway	60 days	60 days	Sat 24/2/18	Tue 24/4/18
11	C.5.1.1.9	Approval of proposal offsite fabrication of covered walkway	35 days	35 days	Wed 25/4/18	Tue 29/5/18
12	C.5.1.1.10	Fabrication of covered walkway	100 days	100 days	Wed 30/5/18	Thu 6/9/18
13	C.5.1.1.11	Application of XP	180 days	0 days	Sat 1/4/17	Wed 27/9/17
14	C.5.1.1.12	Application of TTA for loading and unloading area	88 days	0 days	Sat 1/4/17	Tue 27/6/17
15	C.5.1.1.13	Road works advice	14 days	0 days	Wed 28/6/17	Tue 11/7/17
16	C.5.1.1.14	Implementation of TTA	1 day	0 days	Wed 9/8/17	Wed 9/8/17
17	C.5.1.1.15	Tree Fellings	131 days	19.65 days	Tue 19/9/17	Thu 1/3/18
18	C.5.1.1.15a	Landscaping Works (PMI 9)	180 days	36 days	Fri 21/7/17	Tue 16/1/18
19	C.5.1.1.16	Utilities detection	1 day	0 days	Fri 15/9/17	Fri 15/9/17
20	C.5.1.1.17	Excavation of inpsection pit for locating existing utilities	17 days	0 days	Mon 23/10/17	Fri 24/11/17
21	C.5.1.1.17a	Excavation of inpsection pit for locating existing TCS (PMI 32)	14 days	0 days	Tue 5/12/17	Mon 18/12/17
22	C.5.1.1.18	Arrangement with UU companies for diversion of UU	30 days	30 days	Thu 1/3/18	Sat 31/3/18
23	C.5.1.1.19	Diversion of utilities	123 days	123 days	Sat 31/3/18	Wed 1/8/18
24	C.5.1.1.20	Construction of footing of covered walkway	63 days	63 days	Wed 1/8/18	Wed 3/10/18
25	C.5.1.1.20a	Revised Drainage Works at Portion 4 & 5 (PMI 26)	1 day	0 days	Thu 9/11/17	Thu 9/11/17
26	C.5.1.1.21	Drainage works D201 to D207 above the footing	60 days	60 days	Thu 13/9/18	Mon 12/11/18
27	C.5.1.1.22	Material submission of Pillar box c.w accessories	28 days	28 days	Fri 27/10/17	Thu 23/11/17
28	C.5.1.1.23	Approval of material submission of Pillar box c/w accessories	28 days	28 days	Fri 24/11/17	Thu 21/12/17
29	C.5.1.1.24	Procurement to delivery of pillar box and accessories	30 days	30 days	Fri 22/12/17	Sat 20/1/18
30	C.5.1.1.25	Positioning and construction of pillar box	150 days	150 days	Mon 11/9/17	Wed 7/2/18
31	C.5.1.1.26	Application of Power Supply	90 days	90 days	Thu 8/2/18	Tue 8/5/18
32	C.5.1.1.27	Construct draw pits	20 days	20 days	Tue 23/10/18	Mon 12/11/18
33	C.5.1.1.28	Laying of TCS cables by others	30 days	30 days	Tue 23/10/18	Thu 22/11/18
34	C.5.1.1.29	Laying of cables for lighting	30 days	30 days	Wed 7/11/18	Fri 7/12/18
35	C.5.1.1.30	Construction of new high mast lighting and other lightings	90 days	90 days	Fri 7/12/18	Thu 7/3/19
36	C.5.1.1.31	Installation of posts and beams for covered walkway	60 days	60 days	Thu 7/3/19	Mon 6/5/19
37	C.5.1.1.32	Installation of glass cover for covered walkway	60 days	60 days	Sat 6/4/19	Wed 5/6/19
38	C.5.1.1.33	Material submission of fittings and lighting for covered walkway	28 days	28 days	Sat 22/9/18	Fri 19/10/18
39	C.5.1.1.34	Approval of fitting and lightings for covered walkway	28 days	28 days	Sat 20/10/18	Fri 16/11/18
40	C.5.1.1.35	Procurement to delivery of lightings	30 days	30 days	Sat 17/11/18	Sun 16/12/18
41	C.5.1.1.36	Installation of lighting of covered walkway	28 days	28 days	Wed 5/6/19	Wed 3/7/19
42	C.5.1.1.37	Connection of power supply to lightings	1 day	1 day	Wed 3/7/19	Thu 4/7/19
43	C.5.1.1.38	Testing and commissioning of electrical works	7 days	7 days	Thu 4/7/19	Thu 11/7/19
44	C.5.1.1.39	Material submission of paver blocks	28 days	28 days	Wed 10/10/18	Tue 6/11/18
45	C.5.1.1.40	Approval to submission of paver blocks	28 days	28 days	Wed 7/11/18	Tue 4/12/18
46	C.5.1.1.41	Procurement to delivery of paver blocks	30 days	30 days	Wed 5/12/18	Thu 3/1/19
47	C.5.1.1.42	Construction of paving blocks for covered walkway	37 days	37 days	Wed 3/7/19	Fri 9/8/19
48	C.5.1.1.43	General tidy up	2 days	2 days	Fri 9/8/19	Sun 11/8/19
49	C.5.1.1.44	Completion of Works	1 day	1 day	Sat 10/8/19	Sun 11/8/19



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Baseline Split
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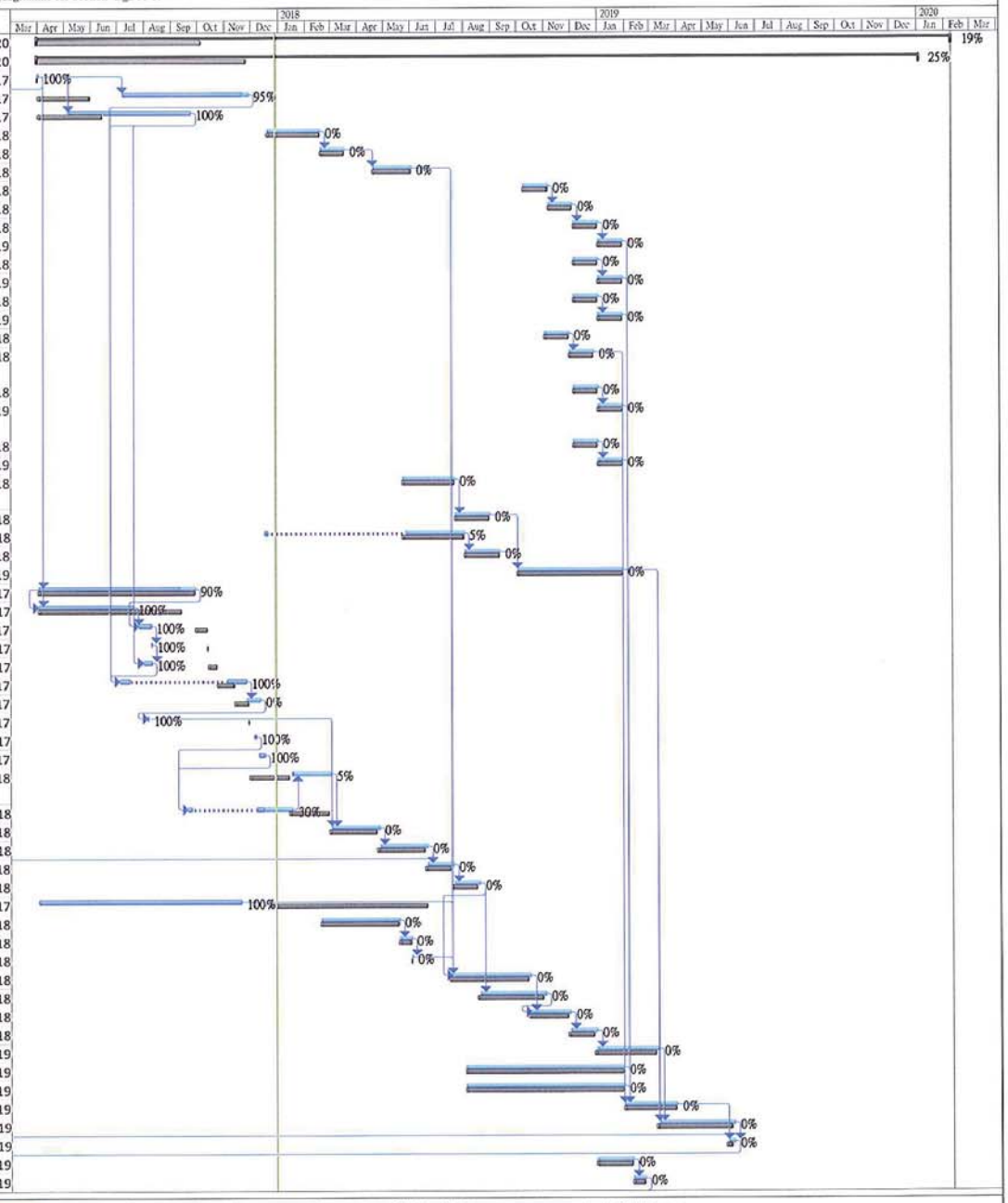
Milestone
Summary Progress
Summary
Manual Summary
Project Summary
External Tasks
External Milestone
Inactive Task
Inactive Milestone
Inactive Summary
Deadline

Revised programme for Section D_Dec 17

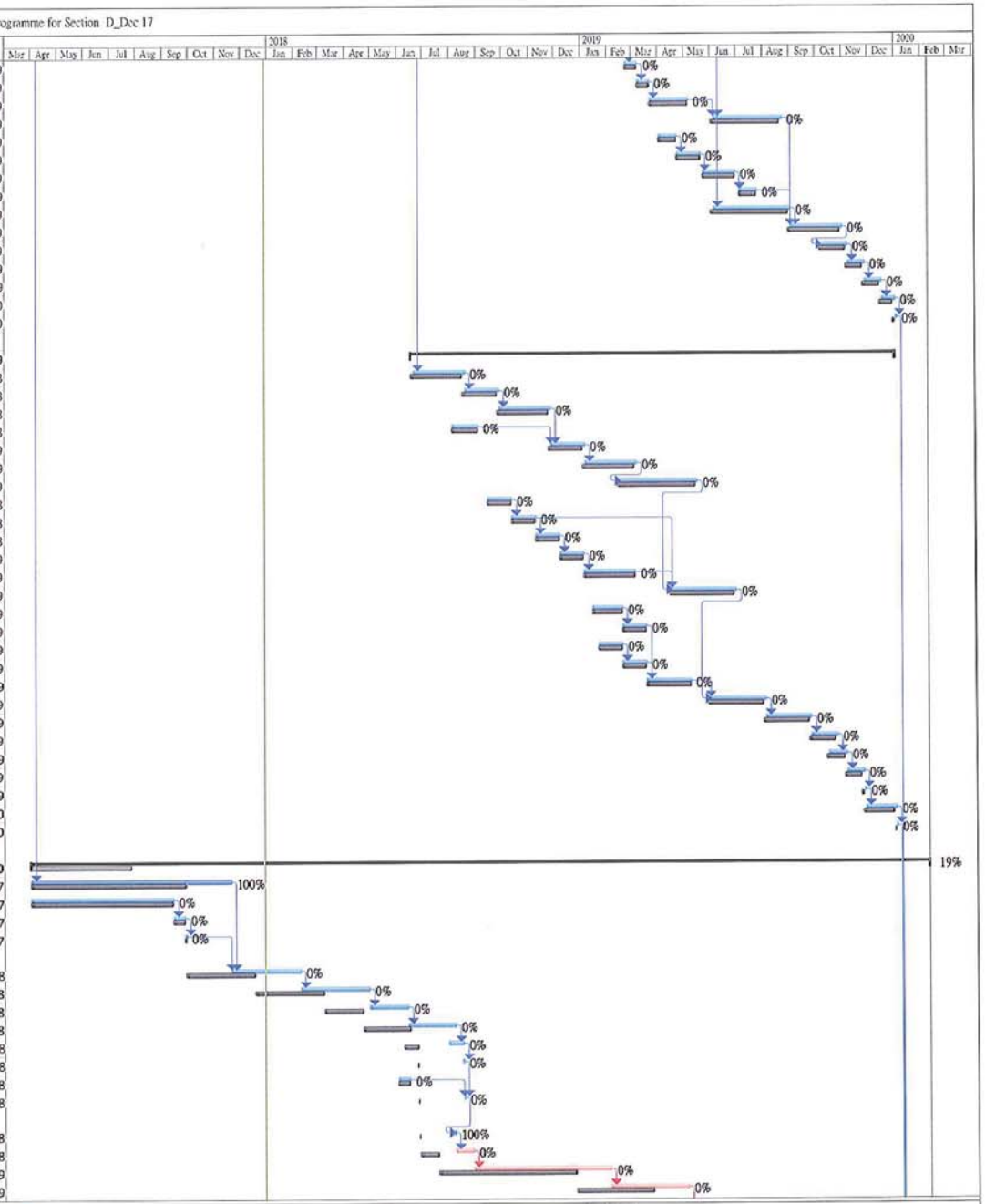
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	D.6.1	**Section D**	**1045 days**	**851.52 days**	**Fri 31/3/17**	**Sat 8/2/20**
2	D.6.1.1	**Construction E12 Footbridge and Lift Tower**	**1008.5 days**	**756.87 days**	**Fri 31/3/17**	**Fri 3/1/20**
3	D.6.1.1.1	Access Date for Portion 6	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	D.6.1.1.2	Initial Site Survey	145 days	7.25 days	Thu 6/7/17	Mon 27/11/17
5	D.6.1.1.3	Tree survey	141 days	0 days	Fri 5/5/17	Fri 22/9/17
6	D.6.1.1.4	Submission of material for water mains	60 days	60 days	Tue 19/12/17	Fri 16/2/18
7	D.6.1.1.5	Approval to submission of water mains	28 days	28 days	Sat 17/2/18	Fri 16/3/18
8	D.6.1.1.6	Procurement to Delivery of water mains material	45 days	45 days	Wed 18/4/18	Fri 1/6/18
9	D.6.1.1.7	Proposal of E&M Specialist	28 days	28 days	Mon 8/10/18	Sun 4/11/18
10	D.6.1.1.8	Approval of E&M Specialist	28 days	28 days	Mon 5/11/18	Sun 2/12/18
11	D.6.1.1.9	Material submission of cable tray	28 days	28 days	Tue 4/12/18	Mon 31/12/18
12	D.6.1.1.10	Approval of material submission of cable tray	28 days	28 days	Tue 1/1/19	Mon 28/1/19
13	D.6.1.1.11	Material submission of cables, conduit, fittings	28 days	28 days	Tue 4/12/18	Mon 31/12/18
14	D.6.1.1.12	Approval of material submission of cables conduit, fittings	28 days	28 days	Tue 1/1/19	Mon 28/1/19
15	D.6.1.1.13	Material submission of proposed lightings	28 days	28 days	Tue 4/12/18	Mon 31/12/18
16	D.6.1.1.14	Approval of proposed lighting	28 days	28 days	Tue 1/1/19	Mon 28/1/19
17	D.6.1.1.15	Material submission of pillar box c/w accessories	28 days	28 days	Thu 1/11/18	Wed 28/11/18
18	D.6.1.1.16	Approval of material submission of pillar box c/w accessories	28 days	28 days	Thu 29/11/18	Wed 26/12/18
19	D.6.1.1.17	Material submission of MCB distribution board	28 days	28 days	Tue 4/12/18	Mon 31/12/18
20	D.6.1.1.18	Approval of material submission of MCB distribution board	28 days	28 days	Tue 1/1/19	Mon 28/1/19
21	D.6.1.1.15	Material submission of communication cables	28 days	28 days	Tue 4/12/18	Mon 31/12/18
22	D.6.1.1.14	Approval of submission of communication cables	28 days	28 days	Tue 1/1/19	Mon 28/1/19
23	D.6.1.1.15	Submission of Lift Structural E&M (SEM), layout and installation drawings	60 days	60 days	Tue 22/5/18	Fri 20/7/18
24	D.6.1.1.14	Approval of Lift's SEM, layout and installation drawings	40 days	40 days	Sat 21/7/18	Wed 29/8/18
25	D.6.1.1.15	Material submission of proposed lifts	71 days	67.45 days	Sat 16/12/17	Tue 31/7/18
26	D.6.1.1.14	Approval of submission of proposed lift	41 days	41 days	Wed 1/8/18	Mon 10/9/18
27	D.6.1.1.12	Procurement to delivery of lift	120 days	120 days	Mon 1/10/18	Mon 28/1/19
28	D.6.1.1.13	Excavation Permit	180 days	18 days	Sat 1/4/17	Wed 27/9/17
29	D.6.1.1.14	Application of TTA for loading and unloading area	109 days	0 days	Sat 1/4/17	Tue 18/7/17
30	D.6.1.1.15	Road Works advice	14 days	0 days	Tue 25/7/17	Mon 7/8/17
31	D.6.1.1.16	Implementation of TTA	1 day	0 days	Tue 8/8/17	Tue 8/8/17
32	D.6.1.1.17	Erection of hoarding	10 days	0 days	Sun 30/7/17	Tue 8/8/17
33	D.6.1.1.18	Site Clearance and Tree felling	34 days	0 days	Mon 3/7/17	Fri 24/11/17
34	D.6.1.1.19	Construct temporary drainage systems	16 days	16 days	Sat 25/11/17	Sun 10/12/17
35	D.6.1.1.20	Utilities Detection	1 day	0 days	Fri 4/8/17	Fri 4/8/17
36	D.6.1.1.20a	CCTV Inspection on uncharted Leachate pipes (PMI 27)	2 days	0 days	Mon 4/12/17	Tue 5/12/17
37	D.6.1.1.20b	Revised RWE12 level (PMI 34)	7 days	0 days	Sat 9/12/17	Fri 15/12/17
38	D.6.1.1.21	Predrill for Excavation of rocks from retaining wall CH97.5 to CH45	45 days	42.75 days	Mon 15/1/18	Thu 1/3/18
39	D.6.1.1.22	Predrill for Excavation of rocks from retaining wall CH45 to CH0	45 days	31.5 days	Tue 19/9/17	Tue 16/1/18
40	D.6.1.1.23	Excavation of rock from retaining wall chainage CH97.5 to CH45	55 days	55 days	Thu 1/3/18	Wed 25/4/18
41	D.6.1.1.22	Excavation of rock from retaining wall chainage CH45 to CH0	55 days	55 days	Wed 25/4/18	Tue 19/6/18
42	D.6.1.1.23	Construction of Retaining walls chainage CH97.5 to CH 45	30 days	30 days	Tue 19/6/18	Thu 19/7/18
43	D.6.1.1.24	Construction of Retaining walls chainage CH45 to CH 0	30 days	30 days	Thu 19/7/18	Sat 18/8/18
44	D.6.1.1.25	XP application for works in TKOT carriageway	232 days	0 days	Sat 1/4/17	Sat 18/11/17
45	D.6.1.1.26	Application of TTA for diversion of water mains	90 days	90 days	Sat 17/2/18	Thu 17/5/18
46	D.6.1.1.27	Road works advice	14 days	14 days	Fri 18/5/18	Thu 31/5/18
47	D.6.1.1.28	Implementation of TTA for water mains diversion	1 day	1 day	Fri 1/6/18	Fri 1/6/18
48	D.6.1.1.29	Diversion of water mains	90 days	90 days	Tue 17/7/18	Mon 15/10/18
49	D.6.1.1.30	Rock slope treatment	75 days	75 days	Sat 18/8/18	Thu 1/11/18
50	D.6.1.1.31	Construction of substructure of lift tower	45 days	45 days	Mon 15/10/18	Thu 29/11/18
51	D.6.1.1.32	Construction E12-P1, E12, P2	30 days	30 days	Thu 29/11/18	Sat 29/12/18
52	D.6.1.1.33	Construction of lift tower superstructures	70 days	70 days	Sat 29/12/18	Sat 9/3/19
53	D.6.1.1.34	Application of Power Supply	180 days	180 days	Thu 2/8/18	Mon 28/1/19
54	D.6.1.1.35	Positioning/Construction/installation of Pillar Box	180 days	180 days	Thu 2/8/18	Mon 28/1/19
55	D.6.1.1.36	Trenching works for laying cables and communication cables	60 days	60 days	Tue 29/1/19	Fri 29/3/19
56	D.6.1.1.37	Lift car installations	87 days	87 days	Sat 9/3/19	Tue 4/6/19
57	D.6.1.1.38	Connection of cables and communication cables to lift car	7 days	7 days	Tue 28/5/19	Tue 4/6/19
58	D.6.1.1.39	Submission of material for glazing and louver	41 days	41 days	Sat 29/12/18	Thu 7/2/19
59	D.6.1.1.40	Comment of submission for glazing and louver	14 days	14 days	Fri 8/2/19	Thu 21/2/19



Critical | Task | Manual Task | Duration-only | Baseline Milestone | Summary | External Tasks | Inactive Milestone
Critical Split | Split | Start-only | Baseline | Milestone | Manual Summary | External Milestone | Inactive Summary
Critical Progress | Task Progress | Finish-only | Baseline Split | Summary Progress | Project Summary | Inactive Task | Deadline

Revised programme for Section D_Dec 17

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
60	D.6.1.1.41	Second submission of proposal of glazing and louver	14 days	14 days	Fri 22/2/19	Thu 7/3/19
61	D.6.1.1.42	Approval of glazing and louver	14 days	14 days	Fri 8/3/19	Thu 21/3/19
62	D.6.1.1.43	Procurement to delivery of glazing and louver	45 days	45 days	Fri 22/3/19	Sun 5/5/19
63	D.6.1.1.44	Glazing and louvers installation	80 days	80 days	Tue 4/6/19	Fri 23/8/19
64	D.6.1.1.45	Submission of sump pump system	21 days	21 days	Tue 2/4/19	Mon 22/4/19
65	D.6.1.1.46	Approval to submission of sump pump system	28 days	28 days	Tue 23/4/19	Mon 20/5/19
66	D.6.1.1.47	Procurement to delivery of sump pump	38 days	38 days	Thu 23/5/19	Sat 29/6/19
67	D.6.1.1.48	Installation of sump pump system	20 days	20 days	Fri 5/7/19	Wed 24/7/19
68	D.6.1.1.49	Installation of E&M works	90 days	90 days	Tue 4/6/19	Mon 2/9/19
69	D.6.1.1.50	T&C for lift and submission of form LE5 to EMSD	60 days	60 days	Mon 2/9/19	Fri 1/11/19
70	D.6.1.1.51	Construction of staircase footing	30 days	30 days	Tue 8/10/19	Thu 7/11/19
71	D.6.1.1.52	Construction of staircase	20 days	20 days	Thu 7/11/19	Wed 27/11/19
72	D.6.1.1.53	construction of cover for staircase	20 days	20 days	Wed 27/11/19	Tue 17/12/19
73	D.6.1.1.54	Installation of lighting to staircase	15 days	15 days	Tue 17/12/19	Wed 1/1/20
74	D.6.1.1.55	General tidy up	2 days	2 days	Wed 1/1/20	Fri 3/1/20
75						
76	**D.6.1.2**	**Covered Walkway**	**563 days**	**563 days**	**Sun 17/6/18**	**Tue 31/12/19**
77	D.6.1.2.1	Construction of footing BB1-SB-F4	60 days	60 days	Tue 19/6/18	Sat 18/8/18
78	D.6.1.2.2	Construction of footing BB1-SB-F3	40 days	40 days	Sat 18/8/18	Thu 27/9/18
79	D.6.1.2.3	Construction of tooting BB1-SB-F2, BB1-SB-F1	60 days	60 days	Thu 27/9/18	Mon 26/11/18
80	D.6.1.2.4	Procurement to delivery of drainage material	30 days	30 days	Sat 4/8/18	Sun 2/9/18
81	D.6.1.2.5	Construct the drainage from Manhole D701 to D702	40 days	40 days	Mon 26/11/18	Sat 5/1/19
82	D.6.1.2.6	Construct the drainage from Manhole D702 to D803	60 days	60 days	Sat 5/1/19	Wed 6/3/19
83	D.6.1.2.7	Relocation of street lighting cables and lighting	90 days	90 days	Fri 15/2/19	Thu 16/5/19
84	D.6.1.2.8	Proposal of steel works specialist	28 days	28 days	Fri 14/9/18	Thu 11/10/18
85	D.6.1.2.9	Approval of steelworks specialist	28 days	28 days	Fri 12/10/18	Thu 8/11/18
86	D.6.1.2.10	Submission of off site fabrication of steelworks	28 days	28 days	Fri 9/11/18	Thu 6/12/18
87	D.6.1.2.11	Approval of off site fabrication of steel works	28 days	28 days	Fri 7/12/18	Thu 3/1/19
88	D.6.1.2.12	Off site fabrication of steelworks	60 days	60 days	Fri 4/1/19	Mon 4/3/19
89	D.6.1.2.13	construction of columns for covered walkway	75 days	75 days	Tue 16/4/19	Sun 30/6/19
90	D.6.1.2.14	Design submission of roof structure	35 days	35 days	Mon 14/1/19	Sun 17/2/19
91	D.6.1.2.15	Approval to design of roof structure	28 days	28 days	Mon 18/2/19	Sun 17/3/19
92	D.6.1.2.16	Material submission of roof panels	28 days	28 days	Mon 21/1/19	Sun 17/2/19
93	D.6.1.2.17	Approval of material submission of roof panels	28 days	28 days	Mon 18/2/19	Sun 17/3/19
94	D.6.1.2.18	Procurement to delivery of roof panels	51 days	51 days	Mon 18/3/19	Tue 7/5/19
95	D.6.1.2.19	construction of roof structures of covered walkway	64 days	64 days	Fri 31/5/19	Sat 3/8/19
96	D.6.1.2.20	construction of paving blocks to covered walkway	53 days	53 days	Sat 3/8/19	Wed 25/9/19
97	D.6.1.2.21	Installation of lighting to covered walkway and bridges	30 days	30 days	Wed 25/9/19	Fri 25/10/19
98	D.6.1.2.22	Connection of bridge drainage to manholes	21 days	21 days	Tue 15/10/19	Tue 5/11/19
99	D.6.1.2.23	Construction of water points	20 days	20 days	Tue 5/11/19	Mon 25/11/19
100	D.6.1.2.24	Connection of water to irrigation pipes	2 days	2 days	Mon 25/11/19	Wed 27/11/19
101	D.6.1.2.25	Construction of Paving blocks to other area	35 days	35 days	Wed 27/11/19	Wed 1/1/20
102	D.6.1.2.26	General tidy up	1 day	1 day	Wed 1/1/20	Thu 2/1/20
103						
104	**D.6.1.3**	**Works in TKOT Carriageway**	**1044 days**	**850.79 days**	**Sat 1/4/17**	**Sat 8/2/20**
105	D.6.1.3.1	Excavation Permit for drainage works in TKOT carriageway	232 days	0 days	Sat 1/4/17	Sat 18/11/17
106	D.6.1.3.2	Application of TTA for drainage works in TKOT carriageway	165 days	165 days	Sat 1/4/17	Tue 12/9/17
107	D.6.1.3.3	Road works advice	14 days	14 days	Wed 13/9/17	Tue 26/9/17
108	D.6.1.3.4	Implementation of TTA for drainage works in Southbound carriageway	1 day	1 day	Wed 27/9/17	Wed 27/9/17
109	D.6.1.3.5	Drainage from Manhole D601 to D607	80 days	80 days	Sun 19/11/17	Tue 6/2/18
110	D.6.1.3.6	Drainage works from Manhole D607 to D803	80 days	80 days	Wed 7/2/18	Fri 27/4/18
111	D.6.1.3.7	Construction of bus bay island	45 days	45 days	Sat 28/4/18	Mon 11/6/18
112	D.6.1.3.8	Reconstruction of Concrete Pavement	55 days	55 days	Tue 12/6/18	Sun 5/8/18
113	D.6.1.3.9	Road Marking	17 days	17 days	Sun 29/7/18	Tue 14/8/18
114	D.6.1.3.10	completion of works in TKOT Southbound carriageway	1 day	1 day	Tue 14/8/18	Tue 14/8/18
115	D.6.1.311	Road Works Advice for TTA in Northbound carriageway	14 days	14 days	Thu 31/5/18	Wed 13/6/18
116	D.6.1.3.12	Implementation of TTA for drainage works in Northbound carriageway	1 day	1 day	Wed 15/8/18	Wed 15/8/18
117	D.6.1.3.13	Utilitiies Detection	1 day	0 days	Sat 4/8/18	Sat 4/8/18
118	D.6.1.3.14	Inspection Pit to locate existing utilities	21 days	21 days	Sun 5/8/18	Sat 25/8/18
119	D.6.1.3.15	Diversion of utilities	160 days	160 days	Sun 26/8/18	Fri 1/2/19
120	D.6.1.3.16	Drainage works D401 to D410	90 days	90 days	Sat 2/2/19	Thu 2/5/19



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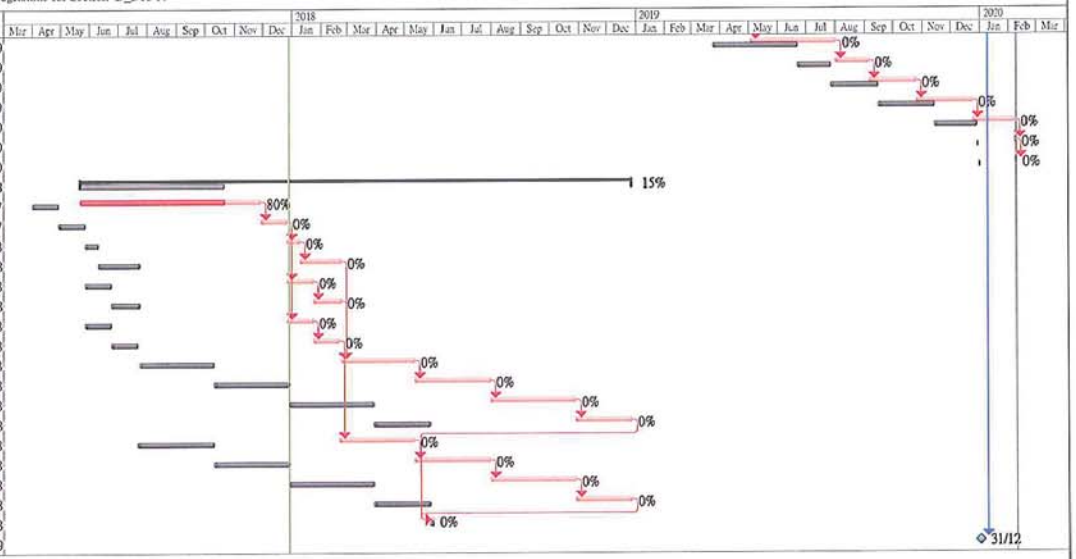
Revised programme for Section D_Dec 17

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
121	D.6.1.3.17	Drainage works D410 to D419	90 days	90 days	Fri 3/5/19	Wed 31/7/19
122	D.6.1.3.18	Drainage works D301	35 days	35 days	Thu 1/8/19	Wed 4/9/19
123	D.6.1.3.19	Construction of kerb for Bus Bay kerb island	50 days	50 days	Thu 5/9/19	Thu 24/10/19
124	D.6.1.3.20	Laying of Subbase and pavement for Bus Bay	60 days	60 days	Fri 25/10/19	Mon 23/12/19
125	D.6.1.3.21	Remaining Road Marking and signage	45 days	45 days	Tue 24/12/19	Thu 6/2/20
126	D.6.1.3.22	General tidy up	1 day	1 day	Fri 7/2/20	Fri 7/2/20
127	D.6.1.3.23	Completion of Works	1 day	1 day	Sat 8/2/20	Sat 8/2/20
128	**D.6.1.4**	**AUTOTOLL**	**584 days**	**496.2 days**	**Mon 22/5/17**	**Wed 26/12/18**
129	D.6.1.4.1	Proposal of Specialist for MTC and ETC system	190 days	38 days	Mon 22/5/17	Mon 27/11/17
130	D.6.1.4.2	Approval of Specialist for MTC and ETC system	28 days	28 days	Tue 28/11/17	Mon 25/12/17
131	D.6.1.4.3	Material submission of Autotoll System	14 days	14 days	Tue 26/12/17	Mon 8/1/18
132	D.6.1.4.4	Approval of material submission of autotoll system	44 days	44 days	Tue 9/1/18	Wed 21/2/18
133	D.6.1.4.5	Statuory submission of Auto Toll system	28 days	28 days	Tue 26/12/17	Mon 22/1/18
134	D.6.1.4.6	Approval of Auto Toll System	30 days	30 days	Tue 23/1/18	Wed 21/2/18
135	D.6.1.4.7	Method statement submission of Swapping of autotoll system	28 days	28 days	Tue 26/12/17	Mon 22/1/18
136	D.6.1.4.8	Approval of method statement of swapping of autotoll system	28 days	28 days	Tue 23/1/18	Mon 19/2/18
137	D.6.1.4.9	Activation of manual toll system of Lane 2	78 days	78 days	Thu 22/2/18	Thu 10/5/18
138	D.6.1.4.10	Deactivation of autotoll system in Lane 2	80 days	80 days	Fri 11/5/18	Sun 29/7/18
139	D.6.1.4.11	Inatallation and activation of autotoll system in Lane 1	90 days	90 days	Mon 30/7/18	Sat 27/10/18
140	D.6.1.4.12	Testing and commissioning of autotoll and manual toll system	60 days	60 days	Sun 28/10/18	Wed 26/12/18
141	D.6.1.4.13	Activation of manual toll system of Lane 11	80 days	80 days	Tue 20/2/18	Thu 10/5/18
142	D.6.1.4.14	Deactivation of autotoll system in Lane 11	80 days	80 days	Fri 11/5/18	Sun 29/7/18
143	D.6.1.4.15	Inatallation and activation of autotoll system in Lane 1	90 days	90 days	Mon 30/7/18	Sat 27/10/18
144	D.6.1.4.16	Testing and commissioning of autotoll and manual toll system	60 days	60 days	Sun 28/10/18	Wed 26/12/18
145	D.6.1.4.17	General tidy up	3 days	3 days	Mon 28/5/18	Wed 30/5/18
146	D.6.1.4.18	Completion of works	0 days	0 days	Tue 31/12/19	Tue 31/12/19



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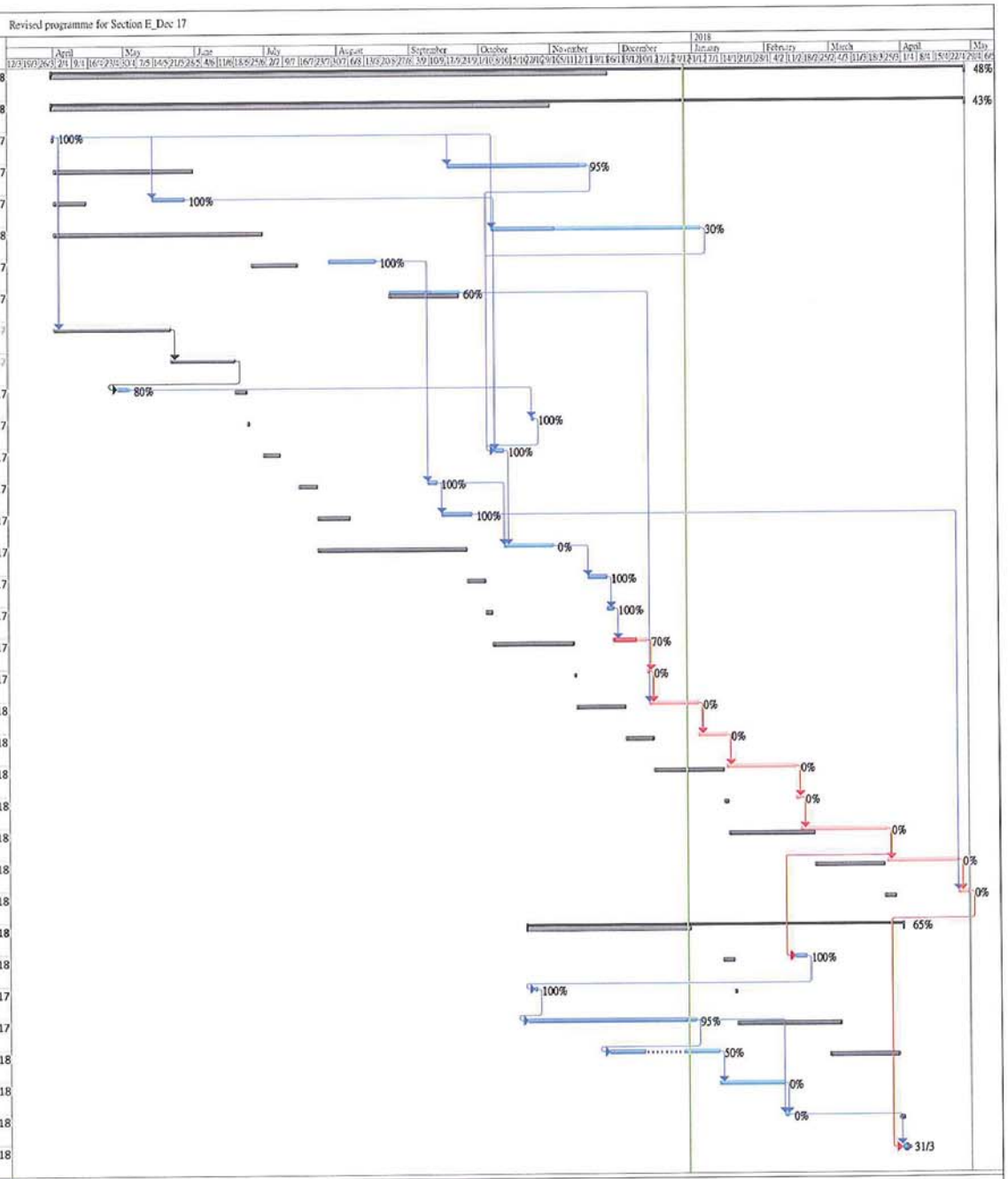
Revised programme for Section E_Dec 17

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	E.7.1	**SECTION E - HIKING TRAILS (JORDAN SECTION & CHOI WAN SECTION)**	**393 days**	**202.63 days**	**Fri 31/3/17**	**Fri 27/4/18**
2	E.7.1.1	**CONSTRUCTION OF HIKING TRAIL (Jordan section)**	**393 days**	**223.44 days**	**Fri 31/3/17**	**Fri 27/4/18**
3	E.7.1.1.1	Access Date of Portion 7	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	E.7.1.1.2	Initial Survey of Site (Jordan and Choi Wan Section)	60 days	3 days	Sun 17/9/17	Wed 15/11/17
5	E.7.1.1.3	Tree survey and submission (Jordan and Choi Wan Section)	14 days	0 days	Sat 13/5/17	Fri 26/5/17
6	E.7.1.1.4	Mobilization of plant, access , equipment, material	90 days	63 days	Fri 6/10/17	Wed 3/1/18
7	E.7.1.1.5	Submission of construction impact assessment	20 days	0 days	Fri 28/7/17	Wed 16/8/17
8	E.7.1.1.6	Procurement to delivery of soil nails	30 days	12 days	Wed 23/8/17	Thu 21/9/17
9	E.7.1.1.7	Submission of method statement of excavation of slope	50 days	50 days	Sat 1/4/17	Sat 20/5/17
10	E.7.1.1.8	Approval of Method Statement of excavation of slope	28 days	28 days	Sun 21/5/17	Sat 17/6/17
11	E.7.1.1.9	Construction of Hoarding	5 days	1 day	Fri 28/4/17	Tue 2/5/17
12	E.7.1.1.10	Utilities detection	1 day	0 days	Mon 23/10/17	Mon 23/10/17
13	E.7.1.1.11	Construction of confirmation Trial Pit TP1	4 days	0 days	Sat 7/10/17	Tue 10/10/17
14	E.7.1.1.12	Construction of confirmation borehole J1-BH1	4 days	0 days	Fri 8/9/17	Mon 11/9/17
15	E.7.1.1.13	Construct borehole J1-BH2 and test samples	13 days	0 days	Thu 14/9/17	Tue 26/9/17
16	E.7.1.1.14	Excavation of slope and drainage construction	21 days	21 days	Wed 11/10/17	Tue 31/10/17
17	E.7.1.1.15	Erection of tubular platform for soil nails	8 days	0 days	Thu 16/11/17	Thu 23/11/17
18	E.7.1.1.16	Setting out of soil nails	3 days	0 days	Fri 24/11/17	Sun 26/11/17
19	E.7.1.1.17	Construction of Test nails TN1 and TN2	14 days	4.2 days	Mon 27/11/17	Sun 10/12/17
20	E.7.1.1.18	Pull out tests for TN1 and TN2	1 day	1 day	Mon 11/12/17	Mon 11/12/17
21	E.7.1.1.19	Construction of soil nails (45nrs)	21 days	21 days	Tue 12/12/17	Mon 1/1/18
22	E.7.1.1.20	Construction of soil nail heads	12 days	12 days	Tue 2/1/18	Sat 13/1/18
23	E.7.1.1.21	Construction of staircase	30 days	30 days	Sun 14/1/18	Mon 12/2/18
24	E.7.1.1.22	Hydroseeding of slope	2 days	2 days	Tue 13/2/18	Wed 14/2/18
25	E.7.1.1.23	Construction of hiking trail	37 days	37 days	Thu 15/2/18	Fri 23/3/18
26	E.7.1.1.24	Construction of Planter walls with planting	30 days	30 days	Sat 24/3/18	Sun 22/4/18
27	E.7.1.1.25	General tidy up	5 days	5 days	Mon 23/4/18	Fri 27/4/18
28	E.7.1.2	**CONSTRUCTION OF HIKING TRAIL (Choi Wan section)**	**162 days**	**57.05 days**	**Fri 20/10/17**	**Sat 31/3/18**
29	E.7.1.2.1	Erection of hoarding	5 days	0 days	Mon 12/2/18	Fri 16/2/18
30	E.7.1.2.2	Utilities detection	1 day	0 days	Mon 23/10/17	Mon 23/10/17
31	E.7.1.2.3	Construction of hiking trail	72 days	3.6 days	Fri 20/10/17	Sat 30/12/17
32	E.7.1.2.4	Construction of planter walls with planting	30 days	15 days	Fri 24/11/17	Tue 9/1/18
33	E.7.1.2.4a	Landscaping Works (PMI 33)	28 days	28 days	Wed 10/1/18	Tue 6/2/18
34	E.7.1.2.5	General tidy up	2 days	2 days	Wed 7/2/18	Thu 8/2/18
35	E.7.1.2.6	Completion of Works	0 days	0 days	Sat 31/3/18	Sat 31/3/18



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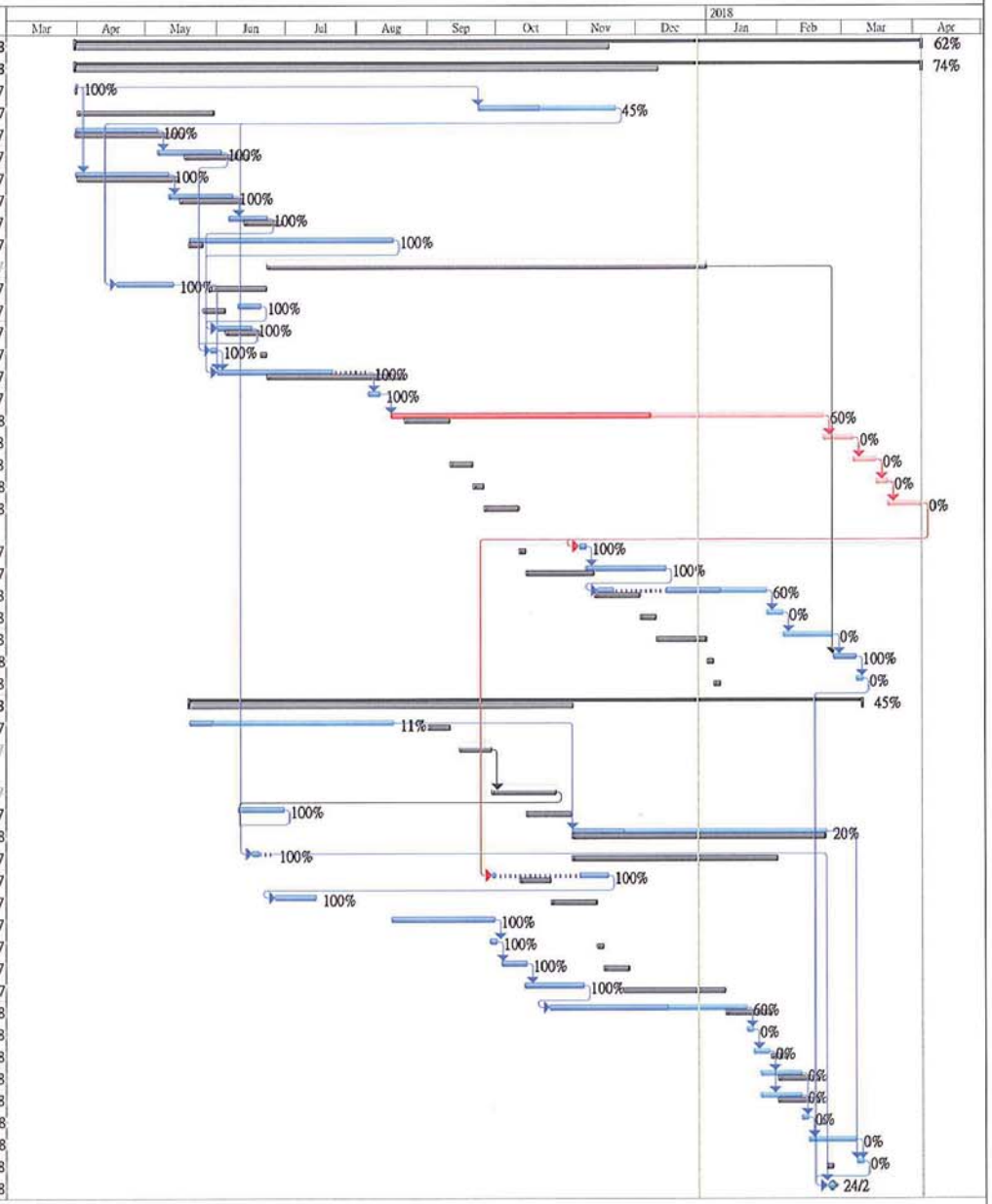
Revised programme for Section F_Dec 17

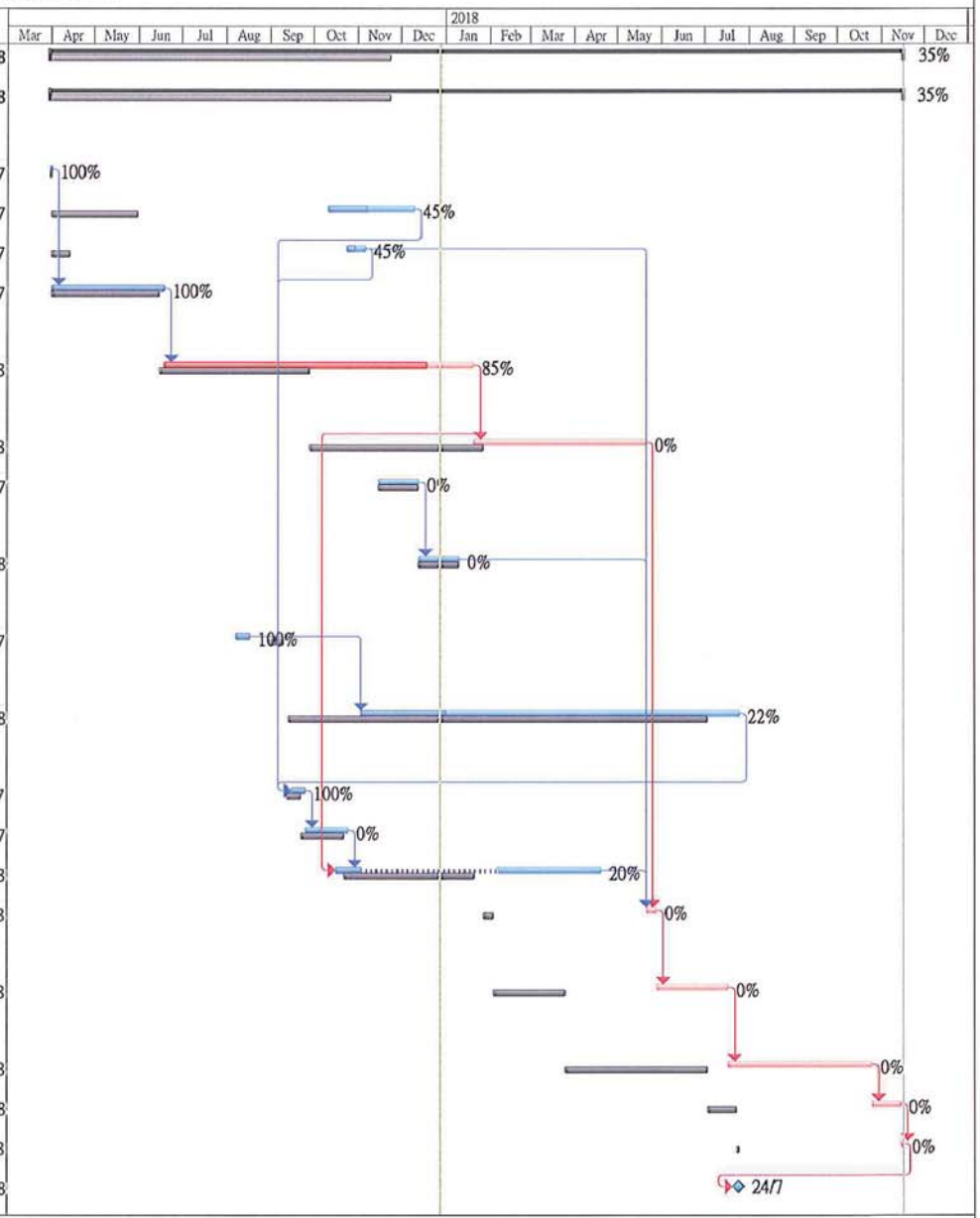
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	F.8.1	**SECTION F - ENTRUSTED SLOPES (SITE A & SITE B)**	**370 days**	**139.57 days**	**Fri 31/3/17**	**Wed 4/4/18**
2	F.8.1.1	**CONSTRUCTION OF SOIL NAILS IN SITE B**	**370 days**	**97.85 days**	**Fri 31/3/17**	**Wed 4/4/18**
3	F.8.1.1.1	Access Date of Portion 8	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	F.8.1.1.2	Initial Site Survey for site A and Site B	60 days	33 days	Sat 23/9/17	Tue 21/11/17
5	F.8.1.1.3	Submission of method statement of soil nailing works	36 days	0 days	Fri 31/3/17	Fri 5/5/17
6	F.8.1.1.4	Approval of method statement of soil nailing works	28 days	0 days	Sat 6/5/17	Fri 2/6/17
7	F.8.1.1.5	Material submission of soil nailing system	41 days	0 days	Fri 31/3/17	Wed 10/5/17
8	F.8.1.1.6	Approval of material for soil nailing system	28 days	0 days	Thu 11/5/17	Wed 7/6/17
9	F.8.1.1.7	Procurement to delivery of soil nails system	17 days	0 days	Tue 6/6/17	Thu 22/6/17
10	F.8.1.1.8	Submission of Construction Impact Assessment	89 days	0 days	Sat 20/5/17	Wed 16/8/17
~~11~~	~~F.8.1.1.9~~	~~Monitoring of ground movement and ground water~~	~~192 days~~	~~192 days~~	~~Fri 23/6/17~~	~~Sun 31/12/17~~
12	F.8.1.1.10	General site clrearance	25 days	0 days	Tue 18/4/17	Fri 12/5/17
13	F.8.1.1.11	Tree Survey for slope features 11NE-D/C709, C714, C711	10 days	0 days	Sat 10/6/17	Mon 19/6/17
14	F.8.1.1.12	Erection of tubular Scaffold for slope 11NE-D/C709, C714	15 days	0 days	Thu 1/6/17	Thu 15/6/17
15	F.8.1.1.13	Setting out of soil nails	3 days	0 days	Mon 29/5/17	Wed 31/5/17
16	F.8.1.1.14	Construction of soil nail (198nrs)	50.4 days	0 days	Thu 1/6/17	Sat 5/8/17
17	F.8.1.1.14a	Additional soil nail (13nrs) (PMI 22)	5 days	0 days	Sun 6/8/17	Thu 10/8/17
18	F.8.1.1.15	Construction of soil nail heads	189 days	75.6 days	Wed 16/8/17	Tue 20/2/18
19	F.8.1.1.15a	Additional soil nail heads (13nrs) (PMI 22)	13 days	13 days	Wed 21/2/18	Mon 5/3/18
20	F.8.1.1.16	Construction of sprayed concrete	10 days	10 days	Tue 6/3/18	Thu 15/3/18
21	F.8.1.1.17	Removal of tubular scaffold and tidy up	5 days	5 days	Fri 16/3/18	Tue 20/3/18
22	F.8.1.1.18	Erection of tubular scaffold for slope feature 11NE-D/C711	15 days	15 days	Wed 21/3/18	Wed 4/4/18
23	F.8.1.1.19	Setting out of soil nails	3 days	0 days	Mon 6/11/17	Wed 8/11/17
24	F.8.1.1.20	Construction of soil nails (82nrs)	35 days	0 days	Thu 9/11/17	Wed 13/12/17
25	F.8.1.1.21	Construction of soil nails heads	51 days	20.4 days	Tue 14/11/17	Fri 26/1/18
26	F.8.1.1.22	Removal of tubular scaffold and tidy up	7 days	7 days	Sat 27/1/18	Fri 2/2/18
27	F.8.1.1.23	Laying of non-biodegradable control mat	22 days	22 days	Sat 3/2/18	Sat 24/2/18
28	F.8.1.1.24	hydroseeding of slope	10 days	0 days	Sun 25/2/18	Tue 6/3/18
29	F.8.1.1.25	General tidy up site	3 days	3 days	Wed 7/3/18	Fri 9/3/18
30	F.8.1.2	**CONSTRUCTION OF SOIL NAILS IN SITE A**	**294 days**	**162.14 days**	**Sat 20/5/17**	**Fri 9/3/18**
31	F.8.1.2.1	Submission of Construction Impact Assessment	89 days	79 days	Sat 20/5/17	Wed 16/8/17
~~32~~	~~F.8.1.2.2~~	~~Submission of method statement of demolition of terrace~~	~~14 days~~	~~14 days~~	~~Fri 15/9/17~~	~~Thu 28/9/17~~
~~33~~	~~F.8.1.2.3~~	~~Approval to method statement of demolition of terrace~~	~~28 days~~	~~28 days~~	~~Fri 29/9/17~~	~~Thu 26/10/17~~
34	F.8.1.2.4	Tree Survey	20 days	0 days	Sat 10/6/17	Thu 29/6/17
35	F.8.1.2.5	Monitoring of ground movement and ground water	111 days	88.8 days	Fri 3/11/17	Wed 21/2/18
36	F.8.1.2.6	Demolition of existing terrace structure	3 days	0 days	Fri 16/6/17	Sat 24/6/17
37	F.8.1.2.7	Erection of Tubular Platform	14 days	0 days	Fri 29/9/17	Sat 18/11/17
38	F.8.1.2.8	Stripping of 500mm thick top soil	18 days	0 days	Mon 26/6/17	Thu 13/7/17
39	F.8.1.2.8a	Verification Inspection Pits (PMI 14)	45 days	0 days	Wed 16/8/17	Fri 29/9/17
40	F.8.1.2.9	Setting out of soil nails	3 days	0 days	Thu 28/9/17	Sat 30/9/17
41	F.8.1.2.10	Pull Out Test (4 nrs)	11 days	0 days	Tue 3/10/17	Fri 13/10/17
42	F.8.1.2.11	Construction of soil nail (162nrs)	26 days	0 days	Fri 13/10/17	Tue 7/11/17
43	F.8.1.2.12	Construction of soil nail heads	86 days	34.4 days	Tue 24/10/17	Wed 17/1/18
44	F.8.1.2.12a	Remove of Dead Tree Stump (PMI 28)	3 days	3 days	Thu 18/1/18	Sat 20/1/18
45	F.8.1.2.13	Removal of tubular scaffold and tidy up	7 days	7 days	Sun 21/1/18	Sat 27/1/18
46	F.8.1.2.14	Laying of biodegradable control mat	18 days	18 days	Wed 24/1/18	Sat 10/2/18
47	F.8.1.2.15	Construction of granite stone wall	18 days	18 days	Wed 24/1/18	Sat 10/2/18
48	F.8.1.2.16	Hydroseeding of slope	3 days	3 days	Sun 11/2/18	Tue 13/2/18
49	F.8.1.2.16a	Erection of Chain Fence	21 days	21 days	Wed 14/2/18	Tue 6/3/18
50	F.8.1.2.17	General tidy up site	3 days	3 days	Wed 7/3/18	Fri 9/3/18
51	F.8.1.2.18	Completion of Works	0 days	0 days	Sat 24/2/18	Sat 24/2/18



Critical | Task | Manual Task | Duration-only | Baseline Milestone | Summary | External Tasks | Inactive Milestone
Critical Split | Split | Start-only | Baseline | Milestone | Manual Summary | External Milestone | Inactive Summary
Critical Progress | Task Progress | Finish-only | Baseline Split | Summary Progress | Project Summary | Inactive Task | Deadline

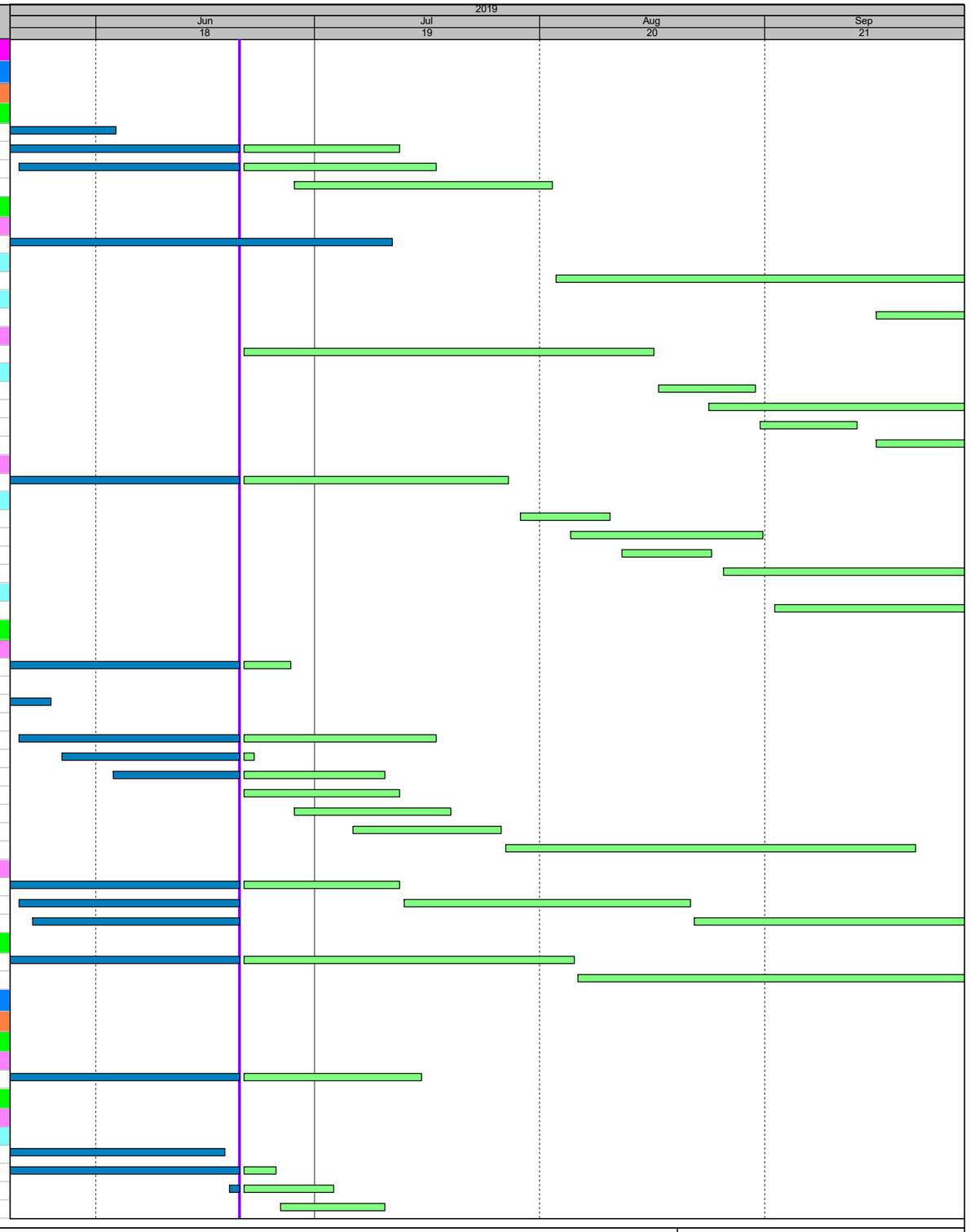
Revised programme for Section F1_Dec 17

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	F1.9.1	**SECTION F1 - FLEXIBLE BARRIER**	**595 days**	**388.28 days**	**Fri 31/3/17**	**Thu 15/11/18**
2	F1.9.1.1	**CONSTRUCTION OF Flexible barriers near Tiu King Leng**	**595 days**	**388.28 days**	**Fri 31/3/17**	**Thu 15/11/18**
3	F1.9.1.1.1	Access Date for Portion 9	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	F1.9.1.1.2	Initial Site Survey	60 days	33 days	Wed 11/10/17	Sat 9/12/17
5	F1.9.1.1.3	Initial Tree Survey	13 days	7.15 days	Tue 24/10/17	Sun 5/11/17
6	F1.9.1.1.4	Material and design submission for flexible barrier systems	78 days	0 days	Sat 1/4/17	Sat 17/6/17
7	F1.9.1.1.5	Approval to material and design submission for flexible barrier system	216 days	32.4 days	Sun 18/6/17	Fri 19/1/18
8	F1.9.1.1.6	Procurement of flexible barriers	121 days	121 days	Sat 20/1/18	Sun 20/5/18
9	F1.9.1.1.7	Submission of method statement for Flexible barrier construction	28 days	28 days	Wed 15/11/17	Tue 12/12/17
10	F1.9.1.1.8	Approval of method statement for flexible barrier construction	28 days	28 days	Wed 13/12/17	Tue 9/1/18
11	F1.9.1.1.9	Submission of construction impact assessment	10 days	0 days	Mon 7/8/17	Wed 16/8/17
12	F1.9.1.1.10	Monitoring of vibration and ground water level	264 days	205.4 days	Fri 3/11/17	Tue 24/7/18
13	F1.9.1.1.11	Construction of piezometers (2nr) (PMI 4)	10 days	0 days	Fri 15/9/17	Sun 24/9/17
14	F1.9.1.1.12	Ground Investigation works	30 days	30 days	Mon 25/9/17	Tue 24/10/17
15	F1.9.1.1.13	Construction of Baffles	91 days	72.8 days	Mon 16/10/17	Wed 18/4/18
16	F1.9.1.1.14	General site clearance for Flexible barriers	7 days	7 days	Mon 21/5/18	Sun 27/5/18
17	F1.9.1.1.15	Erection of tubular platform for flexible barrier construction	50 days	50 days	Mon 28/5/18	Mon 16/7/18
18	F1.9.1.1.16	Erection of flexible barriers	100 days	100 days	Tue 17/7/18	Wed 24/10/18
19	F1.9.1.1.17	Removal of platform	20 days	20 days	Thu 25/10/18	Tue 13/11/18
20	F1.9.1.1.18	General tidy up	2 days	2 days	Wed 14/11/18	Thu 15/11/18
21	F1.9.1.1.19	Completion of works	0 days	0 days	Tue 24/7/18	Tue 24/7/18



Contract 3 (NE/2017/03)

Activity ID	Activity Name	Duration	Start	Finish
NE2017/03 - ARQ PHASE 2A - Monthly Programme Update (201906)-0 _190617		1071	15-Nov-18 A	08-Oct-22
Road Improvement Works Location 1 (RIW1)		568	14-Dec-18 A	19-Jan-21
Construction Works		568	14-Dec-18 A	19-Jan-21
Preliminary Works		132	21-Feb-19 A	02-Aug-19
CON10010	Install monitoring & instrumentation at portion A	33	21-Feb-19 A	03-Jun-19 A
CON110610	Preparation works & erect working platform for non-destructive test for the Lee	60	17-May-19 A	12-Jul-19
CON10240	Trees transplant at portion A	48	21-May-19 A	17-Jul-19
CON11080	Non-destructive test for the Lee On Road Flyover	30	28-Jun-19	02-Aug-19
Slope Works and Retaining Wall RWC2 Works		486	29-Apr-19 A	19-Jan-21
Workfront 1 (RWC2 CH452 to CH270)		164	29-Apr-19 A	17-Dec-19
CON10120	Form haul road (RWC2 CH452 to CH270)	60	29-Apr-19 A	11-Jul-19 A
Foundation Works (RWC2 CH452 to CH270)		78	03-Aug-19	05-Nov-19
CON10230	Cut slope works (RWC2 CH452 to CH270)	78	03-Aug-19	05-Nov-19
Structure Works (RWC2 CH452 to CH270)		78	16-Sep-19	17-Dec-19
CON10260	Construct RW footing (RWC2 CH452 to CH270)	78	16-Sep-19	17-Dec-19
Workfront 2 (RWC2 CH98 to CH-9)		472	21-Jun-19	19-Jan-21
CON10100	Form haul road (RWC2 CH98 to CH-9)	48	21-Jun-19	16-Aug-19
Foundation Works (RWC2 CH98 to CH-9)		424	17-Aug-19	19-Jan-21
CON10150	Hack-off existing road surface (RWC2 CH98 to CH-9)	12	17-Aug-19	30-Aug-19
CON10310	Install sheet pile (RWC2 CH98 to CH-9)	36	24-Aug-19	08-Oct-19
CON10180	Moblishion works for socket H-pile works (RWC2 CH98 to CH-9)	12	31-Aug-19	13-Sep-19
CON10210	Pre-drill & construct socket H-pile works (RWC2 CH98 to CH-9; 200nos, 6d/nc	400	16-Sep-19	19-Jan-21
Workfront 3 (RWC2 CH270 to CH98)		469	17-May-19 A	29-Dec-20
CON10080	Form haul road (RWC2 CH270 to CH98)	48	17-May-19 A	27-Jul-19
Foundation Works (RWC2 CH270 to CH98)		424	29-Jul-19	29-Dec-20
CON10140	Hack-off existing road surface (RWC2 CH270 to CH98)	12	29-Jul-19	10-Aug-19
CON10160	Install sheet pile (RWC2 CH270 to CH98; 5m/d)	24	05-Aug-19	31-Aug-19
CON10170	Moblishion works for socket H-pile works (RWC2 CH270 to CH98)	12	12-Aug-19	24-Aug-19
CON10200	Pre-drill & construct socket H-pile works (RWC2 CH270 to CH98; 200nos, 6d/	400	26-Aug-19	29-Dec-20
Structure Works (RWC2 CH270 to CH98)		96	02-Sep-19	27-Dec-19
CON10220	Construct RW footing (RWC2 CH270 to CH98)	96	02-Sep-19	27-Dec-19
Noise Barrier Works		357	14-Dec-18 A	10-Mar-20
Works in Slip Road 2		357	14-Dec-18 A	10-Mar-20
CON101320	Reviewing road design on slip road 2	145	14-Dec-18 A	27-Jun-19
CON10130	duration summary of slip road 2	357	14-Dec-18 A	10-Mar-20
CON101932	Awaiting DC member attend site inspection of trial run at slip road 2	18	29-Apr-19 A	25-May-19 A
DUR1010	Working duration of before lay the gasmain	73	29-Apr-19 A	26-Jul-19
CON101340	New town-gas-main planning works (by town-gas company, 8wk request by tc	48	21-May-19 A	17-Jul-19
CON101940	Formation works for slip road 2 _stage 1	18	27-May-19 A	22-Jun-19
CON101950	Utilities works, drainage works for slip road 2 _stage 1	18	03-Jun-19 A	10-Jul-19
CON101960	Road works for slip road 2 _stage 1	18	21-Jun-19	12-Jul-19
CON101970	Formation works for slip road 2 _stage 2	18	28-Jun-19	19-Jul-19
CON101980	ELS works for trench for new town-gas-main on slip road 2 _stage 2	18	06-Jul-19	26-Jul-19
CON101990	Lay new town-gas-main on new slip road 2 _stage 3 (by town-gas contractor,	48	27-Jul-19	21-Sep-19
NBW (CT5-PC1 ~ CT5-PC3)		183	06-Apr-19 A	16-Nov-19
CON105610	EWN #17_Awaiting LCSD on planting arrangement issue confirmation	60	06-Apr-19 A	12-Jul-19
CON10570	Site formation works & form haul road (CT5)	60	21-May-19 A	21-Aug-19
CON10590	Pre-drill & construct socket H-pile works (CT5-PC1 ~ CT5-PC3) (12nos, 6d/no	72	23-May-19 A	16-Nov-19
Works in Subway KS27		160	15-Apr-19 A	28-Nov-19
CON101910	Site clearance at KS27	90	15-Apr-19 A	05-Aug-19
CON102000	Tree transplant at KS27	96	06-Aug-19	28-Nov-19
Road Improvement Works Location 2 (RIW2)		1071	15-Nov-18 A	08-Oct-22
Construction Works in Slope C3 (Portion B)		266	23-Mar-19 A	15-Feb-20
Preliminary Works		72	15-Apr-19 A	15-Jul-19
Site Set-up Works		72	15-Apr-19 A	15-Jul-19
CON20044	PMI #23 & EWN #30 Transplant Aquilaria Sinensis at portion B	72	15-Apr-19 A	15-Jul-19
Slope Works at Portion B		266	23-Mar-19 A	15-Feb-20
Earth Works		266	23-Mar-19 A	15-Feb-20
Haul Road & Soil Nail Works		266	23-Mar-19 A	15-Feb-20
CON20150	Form haul road @P4 to P3	66	23-Mar-19 A	18-Jun-19 A
CON201510	Form haul road @P1	36	10-May-19 A	25-Jun-19
CON20180	Moblization & setup for soil nails works @P3	12	19-Jun-19 A	03-Jul-19
CON202030	Moblization & setup for soil nails works @P1	12	26-Jun-19	10-Jul-19



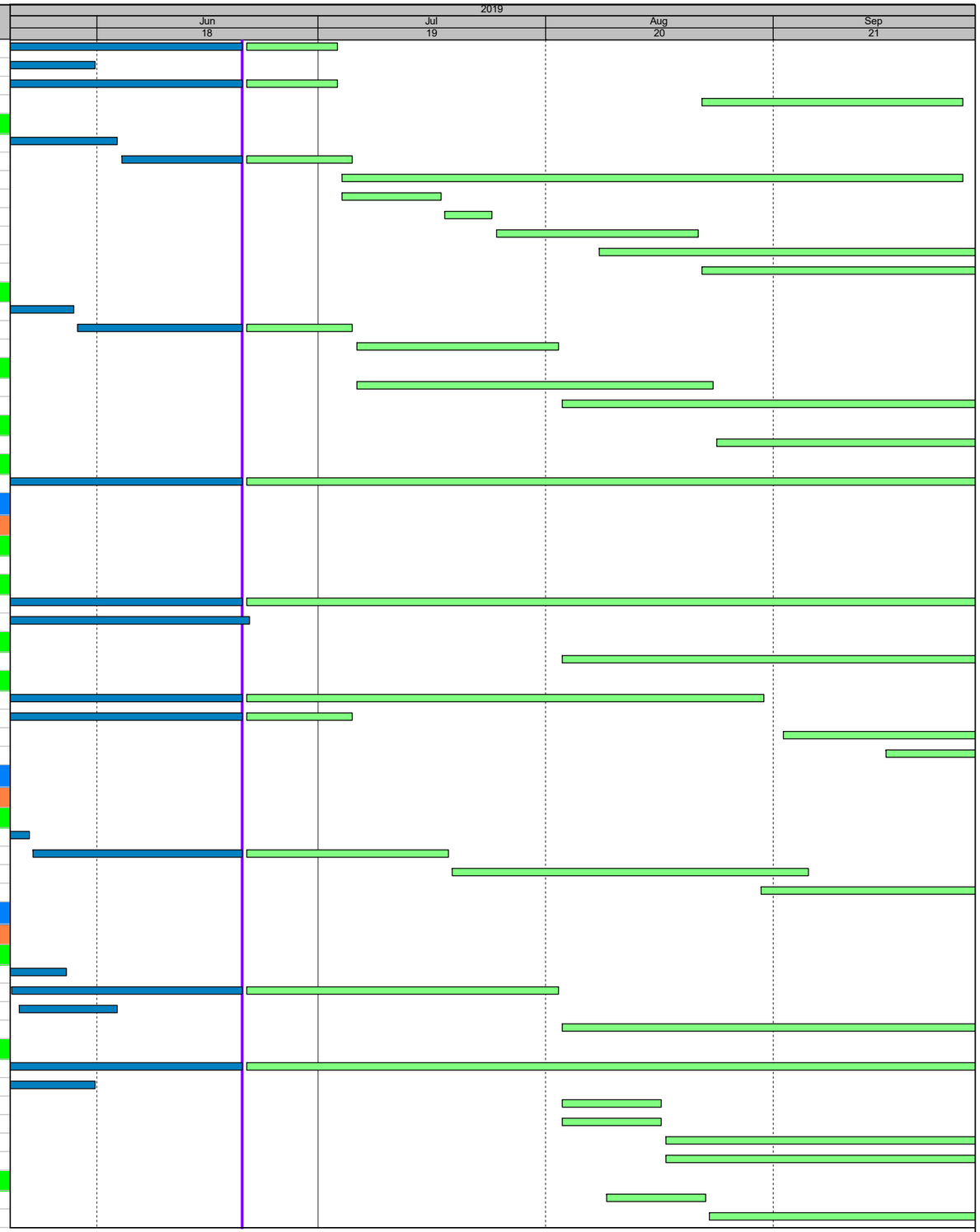
Actual Work
Remaining Work
Milestone

NE/2017/03 Development of Anderson Road Quarry Site - Investigation Design & Construction
Development of Anderson Road Quarry Site Road - Improvement Works & Pedestrian Connectivity Facilities Works Phase 2A
3-Month Rolling Programme

Activity ID	Activity Name	Duration	Start	Finish
CON20200	Drill & install soil nails (P3a, 55nos 8m dp, 3d/no, 3 team)	66	04-Jul-19	19-Sep-19
CON202040	Drill & install soil nails (P1, 55nos 8m dp, 3d/no, 3 team)	60	11-Jul-19	19-Sep-19
CON201520	Form haul road @P2	36	16-Jul-19	26-Aug-19
CON20210	Drill & install soil nails (P2, 92nos 10m dp, 3d/no, 3 team)	96	20-Sep-19	15-Jan-20
CON202010	Drill & install soil nails (P3b & P3c, 119nos 8m dp, 3d/no, 3 team)	120	20-Sep-19	15-Feb-20
Cut Slope & Fill Slope Works		78	21-Jun-19	21-Sep-19
CON20510	Install sheet pile to RW bay 9 to bay 13	18	21-Jun-19	12-Jul-19
CON20530	ELS to RW bay 9 to bay 13 formation	60	13-Jul-19	21-Sep-19
Construction Noise Semi-Enclosure SE2 (Portion C)		1071	15-Nov-18 A	08-Oct-22
Preliminary Works		1012	06-Mar-19 A	08-Oct-22
Site Set-up Works		1012	06-Mar-19 A	08-Oct-22
CON20051	Trees preservation duration works period at portion C	1012	06-Mar-19 A	08-Oct-22
Construction Works		318	15-Nov-18 A	18-Jan-20
Road Works		190	15-Nov-18 A	15-Aug-19
CON201120	Relocation of existing HyD lighting (by CLPE's contractor)	126	15-Nov-18 A	27-May-19 A
CON201150	Remove existing central median - stage 2	35	11-Mar-19 A	05-Jul-19
CON201170	Remove existing central median - stage 3	25	25-Mar-19 A	26-Jul-19
CON200310	Preparation works and TTA procedure for relocation	18	16-May-19 A	27-Jun-19
CON201140	Install temporary lighting - stage 1	9	28-May-19 A	06-Jun-19 A
CON201160	Install temporary lighting - stage 2	6	11-Jun-19 A	17-Jun-19 A
CON20100	Site clearance for new location of District Welcome Signboard	18	20-Jun-19 A	11-Jul-19
CON20120	Construct haul road near junction at clear water bay road	18	21-Jun-19	12-Jul-19
CON201010	Construct footing of District Welcome Signboard at new location	10	12-Jul-19	23-Jul-19
CON201020	District Welcome Signboard relocation	12	24-Jul-19	06-Aug-19
CON201030	Make good works for District Welcome Signboard relocation	8	07-Aug-19	15-Aug-19
Noise Semi-Enclosure Sub-structure Works		145	27-Jul-19	18-Jan-20
Phase 1 (CT4, SE2 Bay4 to Bay12)		145	27-Jul-19	18-Jan-20
CON20130	Traffic diversion for phase 1 (CT4, SE2 Bay4 to Bay12)	0	27-Jul-19	
CON20140	Site formation works (CT4, SE2 Bay4 to Bay12; L=110m)	37	27-Jul-19	07-Sep-19
CON20160	Pre-drill & construct piling fdn (CT4, SE2 Bay4 to Bay12)	108	09-Sep-19	18-Jan-20
Road Improvement Works Location 3 (RIW3)		503	11-Dec-18 A	13-Aug-20
Construction Works		503	11-Dec-18 A	13-Aug-20
Works in Slope D1		408	23-Apr-19 A	13-Aug-20
Preparation Works		60	23-Apr-19 A	05-Aug-19
CON30012	Install monitoring & instrumentation (Slope D1)	60	23-Apr-19 A	05-Aug-19
CON30011	Form haul road (Slope D1 Access road A)	54	25-Apr-19 A	31-Jul-19
Slope Works (Slope D1)		360	30-May-19 A	13-Aug-20
CON30060	Slope works at slope D1 (stage 1)	360	30-May-19 A	13-Aug-20
CON30160	Cut slope works & form haul road B	72	07-Jun-19 A	31-Aug-19
CON30070	Soil nail works	72	02-Sep-19	27-Nov-19
Construction of Retaining Wall RWD1		173	26-Jun-19	21-Jan-20
Foundation Works (RWD1)		173	26-Jun-19	21-Jan-20
CON30190	Pre-drill & construct socket H-pile works at RWD1 (144nos, 6d/no, 5 teams)	173	26-Jun-19	21-Jan-20
CON30200	Pre-drill & construct bored pile (CH94~CH130, 5nos, 16d/no, team 1)	80	25-Jul-19	29-Oct-19
Road Works (Slope D1)		94	26-Aug-19	16-Dec-19
CON30930	Watermain works on Sau Man Ping Road toward Lam Tim (Section 1)	94	26-Aug-19	16-Dec-19
Works in Slope D2		120	21-Jun-19	12-Nov-19
Construction of Retaining Wall RWD2		120	21-Jun-19	12-Nov-19
CON30022	Install monitoring & instrumentation (Slope D2)	60	21-Jun-19	30-Aug-19
CON30080	Install sheet pile, support & slope works at slope D2 (L=75m)	90	27-Jul-19	12-Nov-19
Works in Slope D3		437	11-Dec-18 A	06-Jul-20
Slope Works (Slope D3)		437	11-Dec-18 A	06-Jul-20
CON300120	Relocation of existing HyD lighting (by CLPE's contractor) (RIW3)	135	11-Dec-18 A	15-Jun-19 A
CON30029	Install monitoring & instrumentation (Slope D3)	60	07-May-19 A	18-Jul-19
CON300310	Awaiting DC member / Stakeholder site inspection	18	07-May-19 A	22-May-19 A
CON30120	Cut slope works (CH0 to CH115) (L=115m, 14000m3, 44m3/d)	318	23-May-19 A	06-Jul-20
CON301210	Construct RWD3 (CH0 to CH60)	150	07-Sep-19	10-Mar-20
Pedestrian Connectivity Facility (PC-E8)		354	21-Feb-19 A	16-Jun-20
Construction Works		354	21-Feb-19 A	16-Jun-20
Preparation Works		347	21-Feb-19 A	16-Jun-20
Trees Works		347	01-Apr-19 A	16-Jun-20
CON400810	Trees preservation duration works period at portion G	347	01-Apr-19 A	16-Jun-20
Hoarding Works & Site Set-up		123	21-Feb-19 A	26-Sep-19

Actual Work
Remaining Work
◆ Milestone

Activity ID	Activity Name	Duration	Start	Finish
CON401530	Relocate existing street lighting (AA6955) at Hiu Yuk Path (by CLPE's contract	106	21-Feb-19 A	03-Jul-19
CON400720	Erect hoarding & safety fencing (at football pitch)	17	11-Apr-19 A	31-May-19 A
CON40150	Form haul road (from Hiu Yuk Path site access to PC E8-F4)	60	06-May-19 A	03-Jul-19
CON40090	Erect temporary staircase along E8-ABT & diversion	30	22-Aug-19	26-Sep-19
Earth Works		151	14-May-19 A	11-Nov-19
CON40180	ELS to E8-F2 (approx 225m3, @80m3/d + 2wk for ELS)	15	14-May-19 A	03-Jun-19 A
CON40190	ELS to E8-F3 (approx 200m3, @80m3/d + 2wk for ELS)	15	04-Jun-19 A	05-Jul-19
CON40170	ELS to E8-F4 (approx 1783m3, @25m3/d)	72	04-Jul-19	26-Sep-19
CON401310	Construct working platform for soldier pile wall construction	12	04-Jul-19	17-Jul-19
CON401320	Mobilization soldier pile rig	6	18-Jul-19	24-Jul-19
CON40140	Construct soldier pile wall to E8-ABT (6d/no, 4nos)	24	25-Jul-19	21-Aug-19
CON40290	ELS to E8-F6 (approx 1960m3, @25m3/d)	79	08-Aug-19	11-Nov-19
CON40200	ELS to E8-F7 (approx 1378m3, @25m3/d)	55	22-Aug-19	28-Oct-19
Footing Construction		68	14-May-19 A	02-Aug-19
CON40210	Construct footing E8-F9 & E8-F1 (85m3) & backfilling	13	14-May-19 A	28-May-19 A
CON40220	Construct footing E8-F2 (38m3) & backfilling	31	29-May-19 A	05-Jul-19
CON40230	Construct footing E8-F3 (65m3) & backfilling	24	06-Jul-19	02-Aug-19
Pier Construction		96	06-Jul-19	29-Oct-19
CON40240	Construct pier E8-P1 (2 pour)	42	06-Jul-19	23-Aug-19
CON40250	Construct pier E8-P2 (3 pour)	72	03-Aug-19	29-Oct-19
Escalator Pit Construction		60	24-Aug-19	05-Nov-19
CON40260	Construct escalator pit F1>P1	60	24-Aug-19	05-Nov-19
E&M Works		156	25-Mar-19 A	03-Oct-19
CON41250	Application for power supply & energization (PC-E8)	156	25-Mar-19 A	03-Oct-19
Pedestrian Connectivity Facility (PC-E11)		864	15-Nov-18 A	20-Nov-21
Construction Works		864	15-Nov-18 A	20-Nov-21
Preliminary Works		856	08-Jan-19 A	20-Nov-21
CON40731	Trees preservation duration works period at portion E	856	08-Jan-19 A	20-Nov-21
Foundation Works		317	15-Nov-18 A	27-Dec-19
CON40750	Pre-drill & construct socket H-pile works for E11-PC1 to E11-PC5 (89nos, 6d/n	317	15-Nov-18 A	27-Dec-19
CON40770	Tree felling & pre-drill works in Portion FII	30	17-May-19 A	21-Jun-19 A
Sub-structure Works		90	03-Aug-19	19-Nov-19
CON40790	ELS & construct sub-structure for E11-PC1	90	03-Aug-19	19-Nov-19
Bus-Bus Interchange Public Toilet		294	29-Dec-18 A	24-Dec-19
CON40740	Construct Public Toilet	188	29-Dec-18 A	30-Aug-19
CON41270	Application for power supply & energization (BBI Toilet)	90	29-Jan-19 A	05-Jul-19
CON40810	E&M Installation and Associated Landscape Works	90	02-Sep-19	18-Dec-19
CON408110	ABWF Works (BBI Toilet)	84	16-Sep-19	24-Dec-19
Pedestrian Connectivity Facility System A (SYA)		242	24-Jan-19 A	18-Nov-19
Construction Works		242	24-Jan-19 A	18-Nov-19
Sub-structure Works		242	24-Jan-19 A	18-Nov-19
CON500420	Excavate & install support at SYA-F1 (+144 to +130.5mPD, 2321m3, 40m3/d +	93	24-Jan-19 A	22-May-19 A
CON500430	Addition duration due to qualtity poor than prelim estimate & addition slope stat	36	23-May-19 A	18-Jul-19
CON500510	Construct footing SYA-F1 (+130.5 ~ +134mPD)	42	19-Jul-19	05-Sep-19
CON500520	Construct footing SYA-F1 (+134 ~ +144mPD)	66	30-Aug-19	18-Nov-19
Pedestrian Connectivity Facility System B (SYB)		205	26-Mar-19 A	10-Jan-20
Construction Works		205	26-Mar-19 A	10-Jan-20
Preliminary Works		139	14-May-19 A	04-Nov-19
CON50188	Install monitoring & instrumentation (PC-SYB)	12	14-May-19 A	27-May-19 A
CON50220	Form haul road (at upper portion: PC-A1 to PC8)	54	20-May-19 A	02-Aug-19
CON502020	Relocation of existing hoarding (by C1 Contractor)	12	21-May-19 A	03-Jun-19 A
CON50210	Form haul road (till to near PC7)	77	03-Aug-19	04-Nov-19
Foundation Works		205	26-Mar-19 A	10-Jan-20
CON50270	Pre-drill & construct socket H-pile works at SYB-PC3 (63nos, 6d/no, 2 teams)	189	26-Mar-19 A	25-Nov-19
CON50260	Moblisation of socketted H pile works to SYB-PC3	12	14-May-19 A	31-May-19 A
CON50320	Moblisation of socketted H pile plant to SYS-A1	12	03-Aug-19	16-Aug-19
CON50350	Moblisation of socketted H pile plant to SYS-PC8	12	03-Aug-19	16-Aug-19
CON50330	Pre-drill & construct socket H-pile works at SYB-A1 under Portion K (18nos, 6d	108	17-Aug-19	24-Dec-19
CON50360	Pre-drill & construct socket H-pile works at SYB-PC8 (20nos, 6d/no, 1 team)	120	17-Aug-19	10-Jan-20
Earth Works		44	09-Aug-19	30-Sep-19
CON50510	Install sheet pile at SYB-PC4 (27m L, 3m/d, 1 team)	12	09-Aug-19	22-Aug-19
CON50520	Excavate & install support at SYB-PC4 (270m3, 20m3/d, 1 team + 18d)	32	23-Aug-19	30-Sep-19



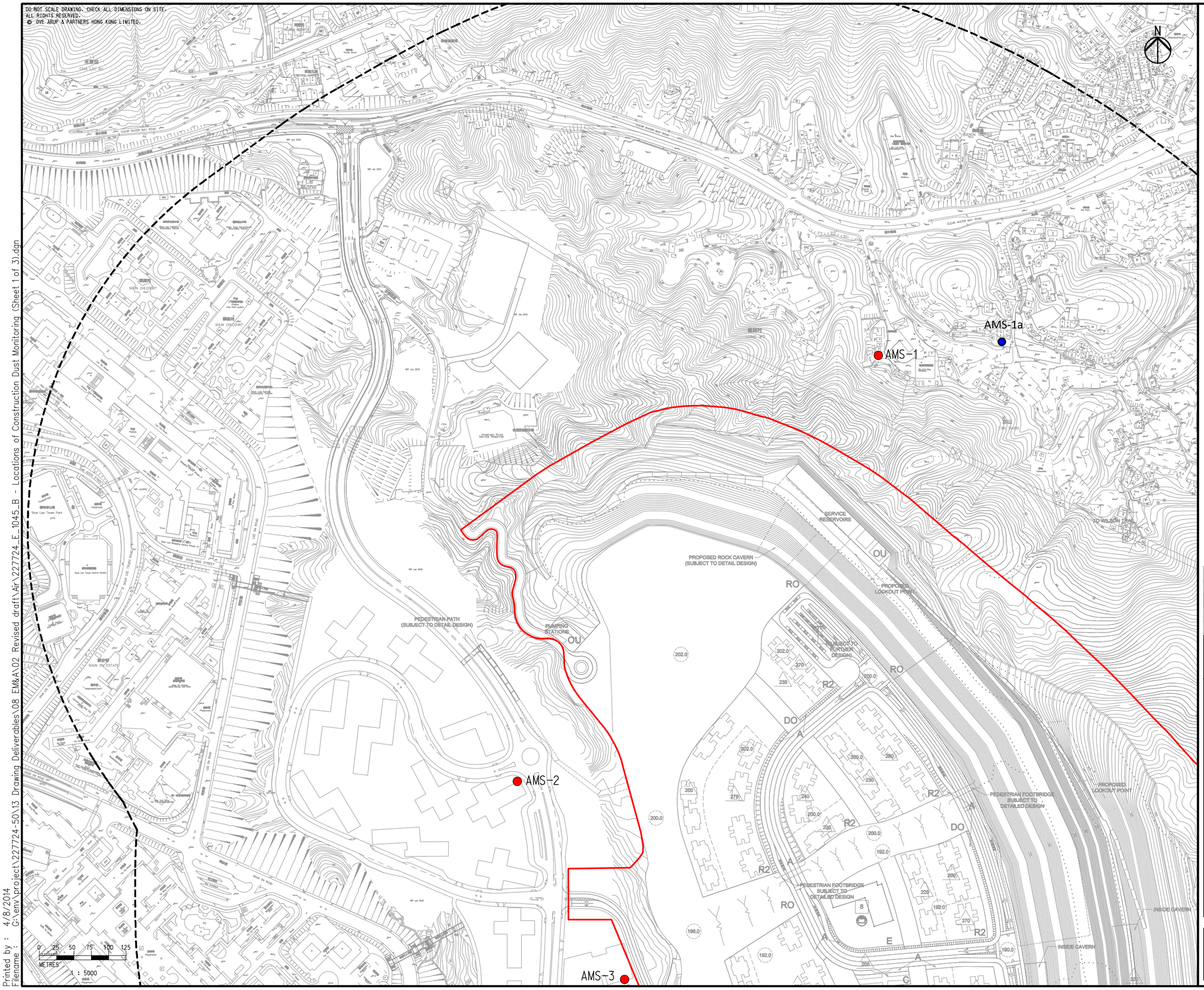
Actual Work
Remaining Work
Milestone

NE/2017/03 Development of Anderson Road Quarry Site - Investigation Design & Construction
Development of Anderson Road Quarry Site Road - Improvement Works & Pedestrian Connectivity Facilities Works Phase 2A
3-Month Rolling Programme

Appendix D

Monitoring Locations for Impact Monitoring

Monitoring Locations for Contract 1 (NE/2016/01)



Legend

- Study Area
- 500m Assessment Area
- Dust Monitoring Locations
- Alternate Dust Monitoring Location

Rev	Description	By	Date
B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 1 of 3)

Drawing no.		Rev.
227724/E/1045		B
Drawn: GL	Date: 03/14	Checked: TC	Approved: ST
Scale: 1:5000 @A3		Status: PRELIMINARY

CEDD 土木工程拓展署 Civil Engineering and Development Department

Printed by : 4/8/2014
Filename : G:\env\project\227724-50\13 Drawing Deliverables\08 EM&A\02 Revised draft\Air\227724_E_1045_B - Locations of Construction Dust Monitoring (Sheet 1 of 3).dgn

HVS in AMS-1 for 24-Hour TSP

AMS-1

AMS-2

AMS-3

N

Legend

- Study Area
- 500m Assessment Area
- Dust Monitoring Locations

Rev	Description	By	Date
B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 1 of 3)

Drawing no.	Rev.
227724/E/1045	B

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

CEDD 土木工程拓展署 Civil Engineering and Development Department

0 25 50 75 100 125 METRES

1 : 5000

Printed by : 4/8/2014
Filename : G:\env\project\227724-50\13 Drawing Deliverables\08 EM&A\02 Revised draft\Air\227724_E_1045_B - Locations of Construction Dust Monitoring (Sheet 1 of 3).dgn

AMS-3
AMS-4
AMS-5
AMS-6

HVS in AMS-5 for 24-Hour TSP

HVS in AMS-6 for 24-Hour TSP

Legend

- Study Area
- 500m Assessment Area
- Dust Monitoring Locations

Rev	Description	By	Date
B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 2 of 3)

Drawing no.	Rev.
227724/E/1046	B

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

土木工程拓展署
Civil Engineering and Development Department

0 25 50 75 100 125
METRES
1 : 5000

Printed by : 4/8/2014
Filename : G:\env\project\227724-50\13 Drawing Deliverables\08 EM&A\02 Revised draft\Air\227724_E_1046_B - Locations of Construction Dust Monitoring (Sheet 2 of 3).dgn

Legend

- Study Area
- 500m Assessment Area
- Dust Monitoring Locations

AMS-5

AMS-6

AMS-7

HVS in AMS-7 for 24-Hour TSP

0 20 40 60 80 100
METRES
1 : 5000

Rev	Description	By	Date
B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 3 of 3)

Drawing no.	Rev.
227724/E/1047	B

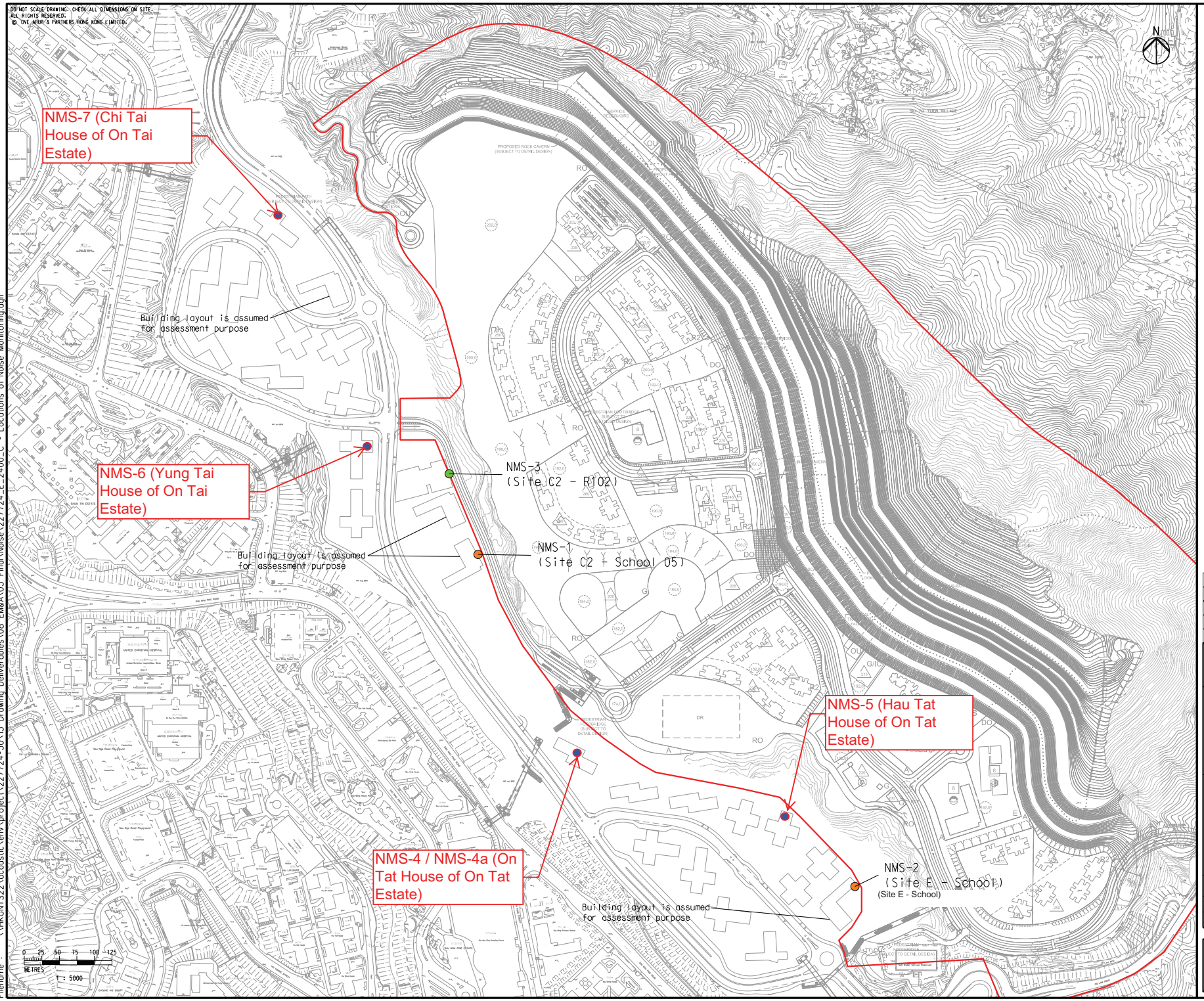
Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

CEDD 土木工程拓展署 Civil Engineering and Development Department

Printed by : 4/8/2014
Filename : G:\env\project\227724-50\13 Drawing Deliverables\08 EM&A\02 Revised draft\Air\227724_E_1047_B - Locations of Construction Dust Monitoring (Sheet 3 of 3).dgn



Legend

- Study Area
- Construction Noise Monitoring Location
- Construction and Operational Road Traffic Noise Monitoring Location
- Review Noise monitoring Location

Rev	Description	By	Date
C	THIRD ISSUE	GL	05/14
B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Noise Monitoring

Drawing no.	Rev.
227724/E/2400	C

Drawn	Date	Checked	Approved
GL	05/14	TC	ST

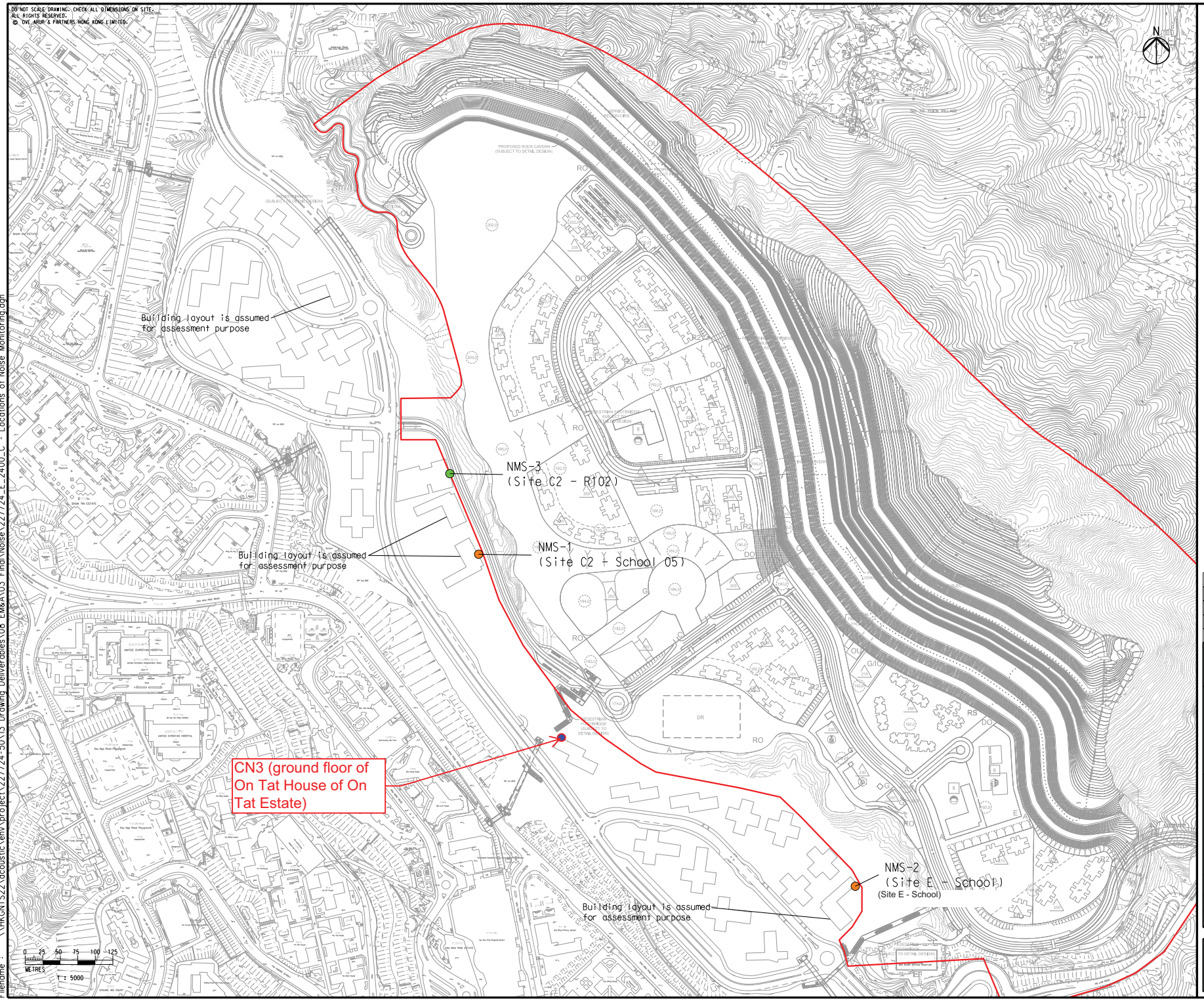
Scale: 1:5000 @A3

Status: PRELIMINARY

CEDD 土木工程拓展署 Civil Engineering and Development Department

Printed by : 6/3/2014
Filename : \\HKGNTS22\acoustic\env\project\227724-50\13 Drawing Deliverables\08 EM&A\03 Final\Noise\227724_E_2400_C - Locations of Noise Monitoring.dgn

Monitoring Locations for Contract 3 (NE/2017/03)



Legend

- Study Area
- Construction Noise Monitoring Location
- Construction and Operational Road Traffic Noise Monitoring Location
- Noise monitoring Location

Rev	Description	By	Date
C	THIRD ISSUE	GL	05/14
B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Noise Monitoring

Drawing no.	Rev.
227724/E/2400	C

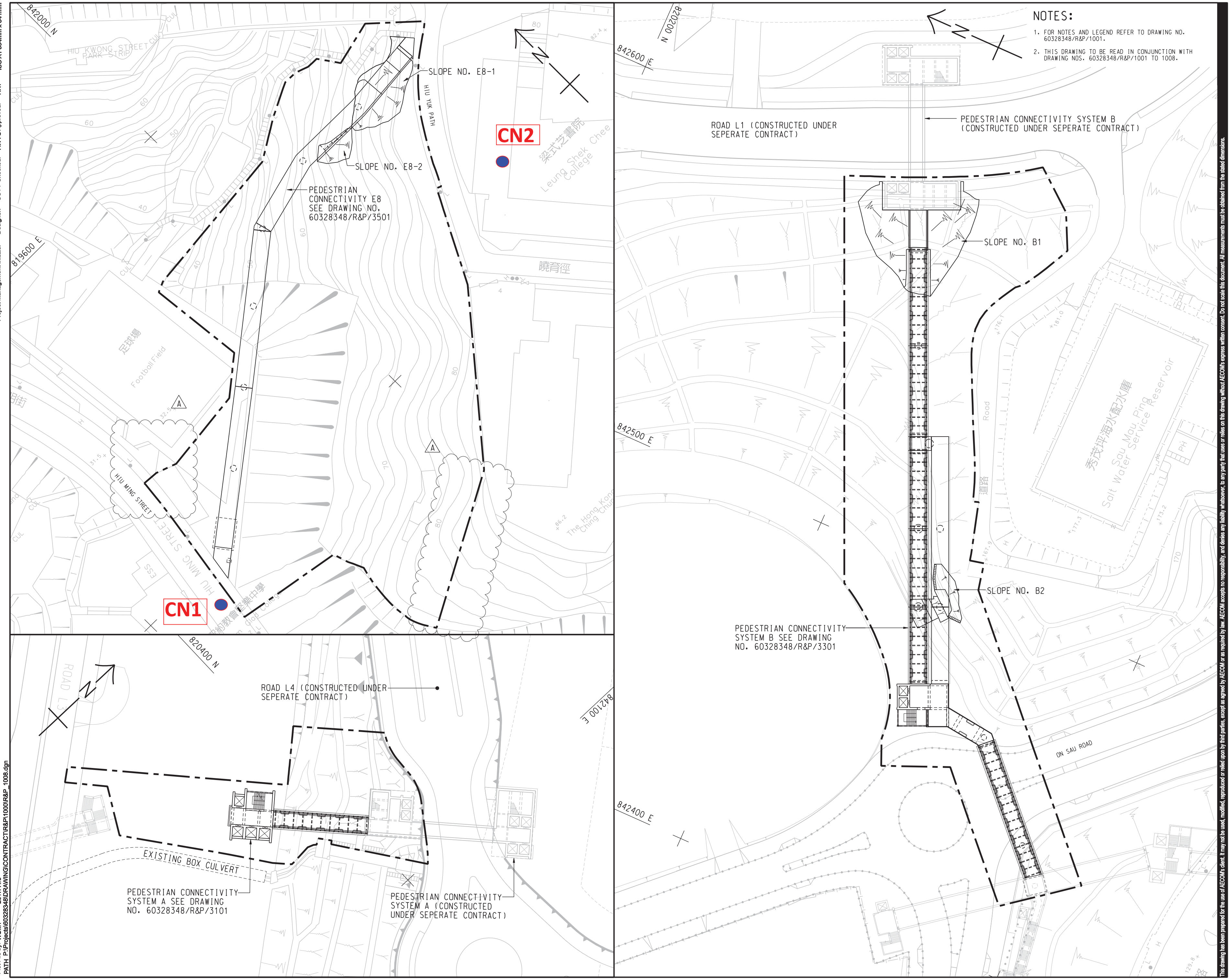
Drawn	Date	Checked	Approved
GL	05/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

CEDD 土木工程拓展署 Civil Engineering and Development Department

Printed by : 6/3/2014
Filename : \\HKGNTS22\acoustic\env\project\227724-50\13 Drawing Deliverables\08 EM&A\03 Final Noise\227724_E_2400_C - Locations of Noise Monitoring.dgn



AECOM

PROJECT 項目

DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INVESTIGATION, DESIGN AND CONSTRUCTION

CONTRACT TITLE
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - ROAD IMPROVEMENT WORKS AND PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 2A

CLIENT 業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

● noise monitoring location

ISSUE/REVISION 修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核
A	NOV. 17	TENDER ADDENDUM NO. 1	AWYC
-	OCT. 17	TENDER DRAWING	AWYC

STATUS 階段

SCALE 比例: A1 1 : 500

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖 A1 1 : 60000

NGAU TAU KOK
TSUI LAM
KWUN TONG

PROJECT NO. 項目編號: 60328348

CONTRACT NO. 合約編號: NE/2017/03

SHEET TITLE 圖紙名稱: GENERAL LAYOUT

SHEET 8 OF 8

SHEET NUMBER 圖紙編號: 60328348/R&P/1008A

Project Management Initials: Designer: CCYT Checked: AWYC Approved: HKT ISO A1 594mm x 841mm

Plot File by: WUMT 2017/11/9
PATH P:\Projects\60328348\DRAWINGS\CONTRACT\R&P1000\R&P_1008.dgn

Appendix E

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

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Chi Yum Ching She
Location ID : AMS1
Model:TISCH High Volume Air Sampler TE-5170

Date of Calibration: 14-Jun-19
Next Calibration Date: 14-Aug-19
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1002.4	Corrected Pressure (mm Hg)	751.8
Temperature (°C)	28.4	Temperature (K)	301

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	TE-5025A	Qstd Intercept ->	-0.00065
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4	4	8	1.334	64	63.29	Slope = 29.3864
13	3.3	3.3	6.6	1.212	58	57.36	Intercept = 23.2843
10	2.6	2.6	5.2	1.076	56	55.38	Corr. coeff. = 0.9919
7	1.7	1.7	3.4	0.870	50	49.45	
5	1.1	1.1	2.2	0.700	44	43.51	

Calculations :

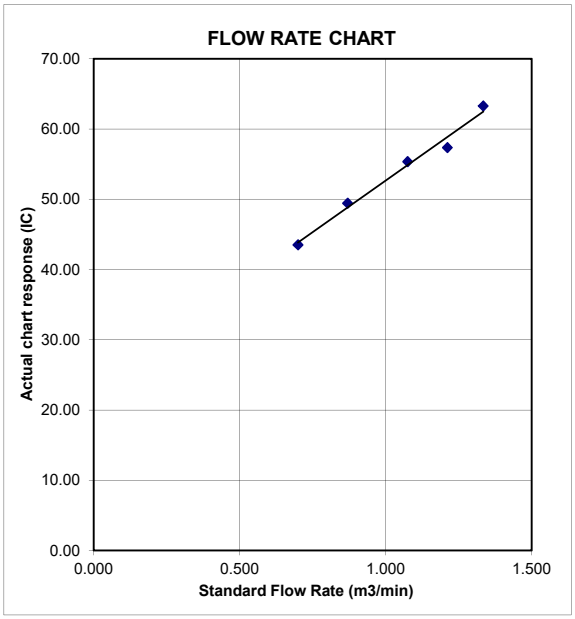
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart 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)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Oi Tat House	Date of Calibration:	27-May-19
Location ID :	AMS 5	Next Calibration Date:	27-Jul-19
Model:TISCH High Volume Air Sampler TE-5170		Technician: Mr. Fai So	

CONDITIONS

Sea Level Pressure (hPa)	1008.1	Corrected Pressure (mm Hg)	756.075
Temperature (ºC)	26.5	Temperature (K)	300

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	TE-5025A	Qstd Intercept ->	-0.00065
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.1	6	12.1	1.651	53	52.73	Slope = 34.9475
13	4.8	4.7	9.5	1.463	45	44.77	Intercept = -5.3398
10	3.5	3.5	7	1.256	39	38.80	Corr. coeff. = 0.9983
7	2.4	2.4	4.8	1.040	32	31.84	
5	1.2	1.2	2.4	0.735	20	19.90	

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 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)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

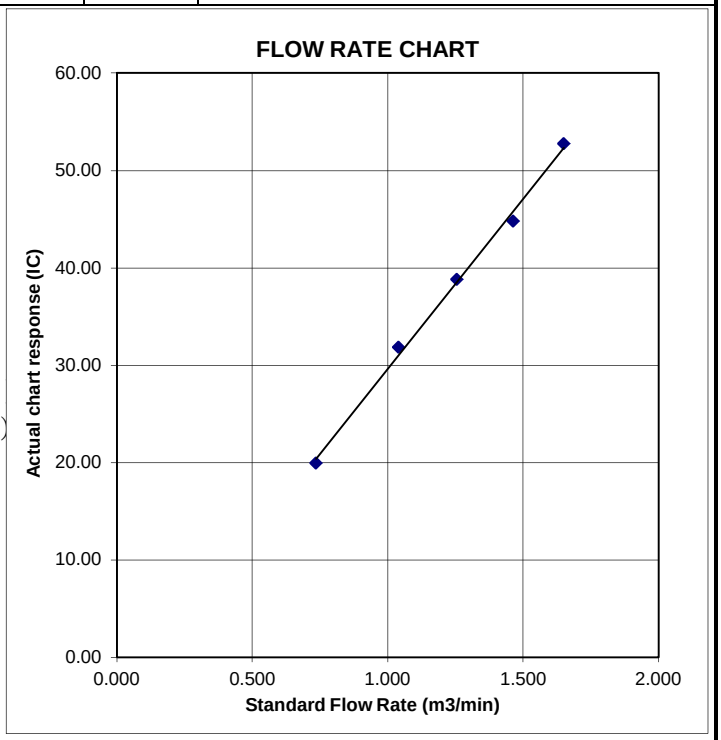
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Hau Tat House
Location ID : AMS 6
Model:TISCH High Volume Air Sampler TE-5170

Date of Calibration: 27-May-19
Next Calibration Date: 27-Jul-19
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1008.1	Corrected Pressure (mm Hg)	756.075
Temperature (ºC)	26.5	Temperature (K)	300

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	TE-5025A	Qstd Intercept ->	-0.00065
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.671	56	55.72	Slope = 36.0595
13	4.5	4.5	9	1.424	47	46.76	Intercept = -4.8786
10	3.6	3.6	7.2	1.274	40	39.80	Corr. coeff. = 0.9986
7	2.1	2.1	4.2	0.973	31	30.84	
5	1.1	1.0	2.1	0.688	20	19.90	

Calculations :

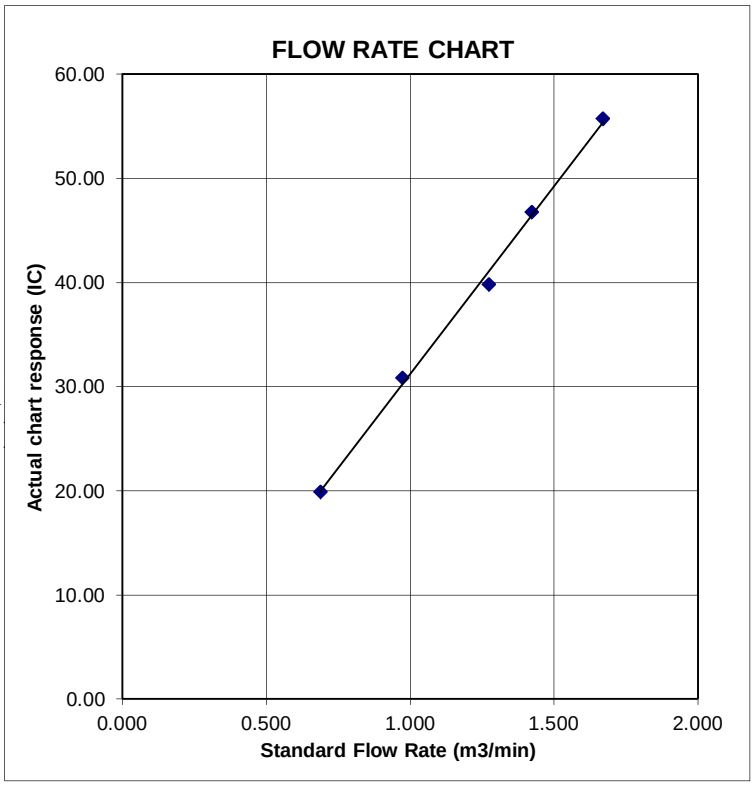
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart 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

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ma Yau Tong Village
Location ID : AMS 7
Model:TISCH High Volume Air Sampler TE-5170

Date of Calibration: 27-May-19
Next Calibration Date: 27-Jul-19
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1008.1	Corrected Pressure (mm Hg)	756.075
Temperature (°C)	26.5	Temperature (K)	300

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	TE-5025A	Qstd Intercept ->	-0.00065
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.0	6.0	12	1.644	45	44.77	Slope = 28.8003
13	5.2	5.1	10.3	1.523	40	39.80	Intercept = -3.5008
10	3.7	3.7	7.4	1.291	33	32.83	Corr. coeff. = 0.9980
7	2.1	2.1	4.2	0.973	25	24.87	
5	1.1	1.1	2.2	0.704	17	16.91	

Calculations :

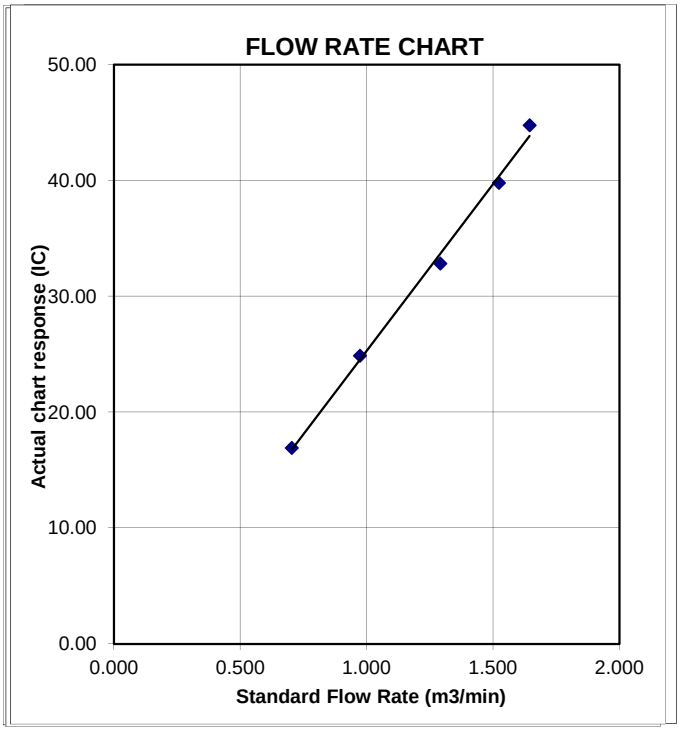
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart 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)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 5, 2020

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 5, 2019	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 753.1	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1941**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4830	3.2	2.00
2	3	4	1	1.0430	6.4	4.00
3	5	6	1	0.9300	7.9	5.00
4	7	8	1	0.8870	8.7	5.50
5	9	10	1	0.7320	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0036	0.6767	1.4197	0.9958	0.6714	0.8821
0.9993	0.9581	2.0078	0.9915	0.9506	1.2475
0.9973	1.0723	2.2448	0.9895	1.0640	1.3947
0.9962	1.1231	2.3544	0.9884	1.1144	1.4628
0.9908	1.3536	2.8395	0.9831	1.3431	1.7642
QSTD	**m=**	**2.09680**	**QA**	**m=**	**1.31298**
	b=	**-0.00065**		**b=**	**-0.00040**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

Key
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

RECALIBRATION
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	:	MR BEN TAM	WORK ORDER	:	**HK1908931**
CLIENT	:	**ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING**			
ADDRESS	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	:	1
			DATE RECEIVED	:	25-FEB-2019
			DATE OF ISSUE	:	4-MAR-2019
PROJECT	:	----	NO. OF SAMPLES	:	1
			CLIENT ORDER	:	----

General Comments

- **Sample(s) were received in ambient condition.**
- **Sample(s) analysed and reported on an as received basis.**
- **Calibration was subcontracted to and analysed by Action United Enviro Services.**

Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	*Position*
Richard Fung	General Manager

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.

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong
Tel. +852 2610 1044 Fax. +852 2610 2021 **www.alsglobal.com**

WORK ORDER : HK1908931
SUB-BATCH : 1
CLIENT : ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT : ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1908931-001	S/N: 3Y6505	AIR	25-Feb-2019	S/N: 3Y6505

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6505
Equipment Ref:	EQ114
Job Order	HK1908931

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	21 December 2018

Equipment Verification Results:

Testing Date: 7 January 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	09:01 ~ 11:08	18.5	1021.4	0.045	2318	18.3
2hr11min	11:13 ~ 13:24	18.5	1021.4	0.032	1433	11.0
2hr07min	13:30 ~ 15:37	18.5	1021.4	0.089	5022	39.7

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

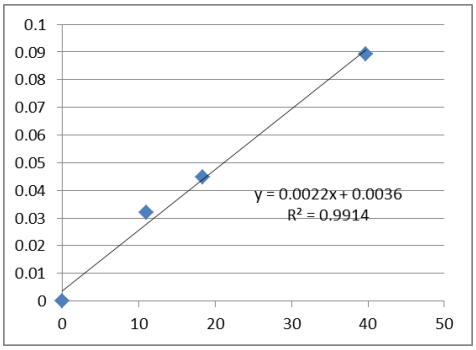
Sensitivity Adjustment Scale Setting (After Calibration) 602 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9957

Date of Issue 14 January 2019



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

Operator : Martin Li Signature : Date : 14 January 2019

QC Reviewer : Ben Tam Signature : Date : 14 January 2019

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	21-Dec-18
Location ID :	Calibration Room	Next Calibration Date:	21-Mar-19

CONDITIONS

Sea Level Pressure (hPa)	1016.1	Corrected Pressure (mm Hg)	762.075
Temperature (°C)	22.4	Temperature (K)	295

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Calibration Date->	13-Feb-18	Expiry Date->	13-Feb-19

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.7	5.7	11.4	1.699	56	56.32	Slope = 34.0074
13	4.4	4.4	8.8	1.495	51	51.29	Intercept = -0.4093
10	3.4	3.4	6.8	1.317	45	45.26	Corr. coeff. = 0.9972
8	2.3	2.3	4.6	1.086	36	36.21	
5	1.4	1.4	2.8	0.851	28	28.16	

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 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)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

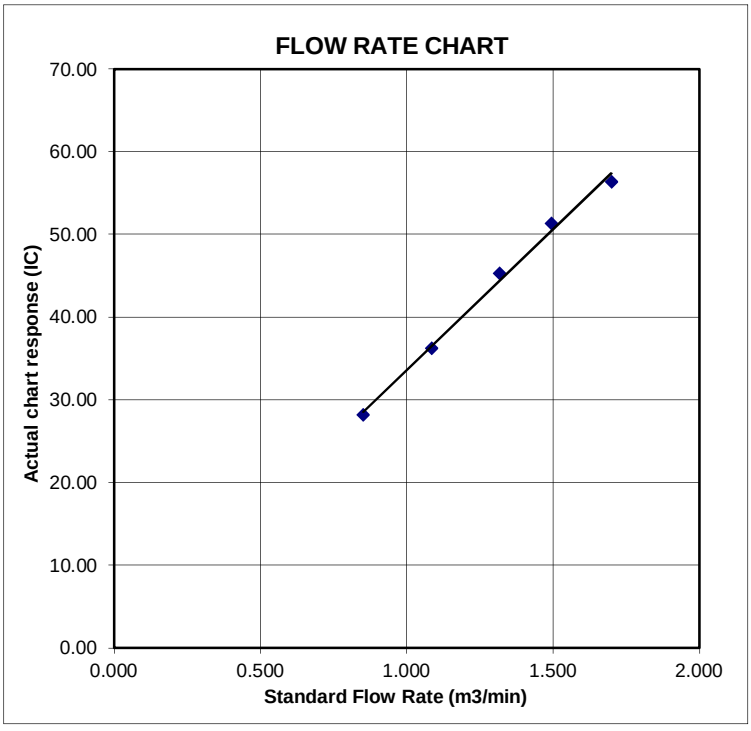
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 13, 2019

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 13, 2018	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 763.3	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
1.0109	1.1358	2.2599	0.9896	1.1120	1.3854
1.0098	1.1964	2.3702	0.9886	1.1713	1.4530
1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
QSTD	**m=**	**2.02017**	**QA**	**m=**	**1.26500**
	b=	**-0.03691**		**b=**	**-0.02263**
	r=	**0.99988**		**r=**	**0.99988**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

Key
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

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FAX: (513)467-900

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	:	MR BEN TAM	WORK ORDER	:	**HK1912134**
CLIENT	:	**ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING**			
ADDRESS	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	:	1
			DATE RECEIVED	:	20-MAR-2019
			DATE OF ISSUE	:	22-MAR-2019
PROJECT	:	----	NO. OF SAMPLES	:	1
			CLIENT ORDER	:	----

General Comments

- **Sample(s) were received in ambient condition.**
- **Sample(s) analysed and reported on an as received basis.**
- **Calibration was subcontracted to and analysed by Action United Enviro Services.**

Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	*Position*
Richard Fung	General Manager

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.

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong
Tel. +852 2610 1044 Fax. +852 2610 2021 **www.alsglobal.com**

WORK ORDER : HK1912134
SUB-BATCH : 1
CLIENT : ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT : ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1912134-001	S/N: 3Y6502	AIR	20-Mar-2019	3Y6502

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6502
Equipment Ref:	EQ113
Job Order	HK1912134

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	12 February 2019

Equipment Verification Results:

Calibration Date: 11 March 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr00min	09:21 ~ 11:21	18.4	1014.9	0.021	2670	22.3
2hr00min	11:30 ~ 13:30	18.4	1014.9	0.025	2917	24.3
2hr00min	13:40 ~ 15:40	18.4	1014.9	0.032	3301	27.5

Sensitivity Adjustment Scale Setting (Before Calibration) 573 (CPM)

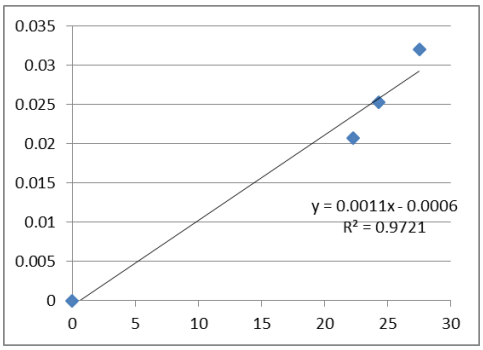
Sensitivity Adjustment Scale Setting (After Calibration) 573 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0011

Correlation Coefficient (R) 0.9860

Date of Issue 15 March 2019



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0011 should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 15 March 2019

QC Reviewer : Ben Tam Signature : Date : 15 March 2019

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	12-Feb-19
Location ID :	Calibration Room	Next Calibration Date:	12-May-19

CONDITIONS

Sea Level Pressure (hPa)	1024.2	Corrected Pressure (mm Hg)	768.15
Temperature (°C)	19.0	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Calibration Date->	13-Feb-18	Expiry Date->	13-Feb-19

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4	7.7	11.7	1.738	60	60.94	Slope = 35.5369
13	2.8	6.9	9.7	1.584	52	52.81	Intercept = -1.8924
10	1.9	5.4	7.3	1.377	46	46.72	Corr. coeff. = 0.9951
8	0.6	4	4.6	1.097	38	38.59	
5	-0.4	3.1	2.7	0.844	27	27.42	

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 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)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

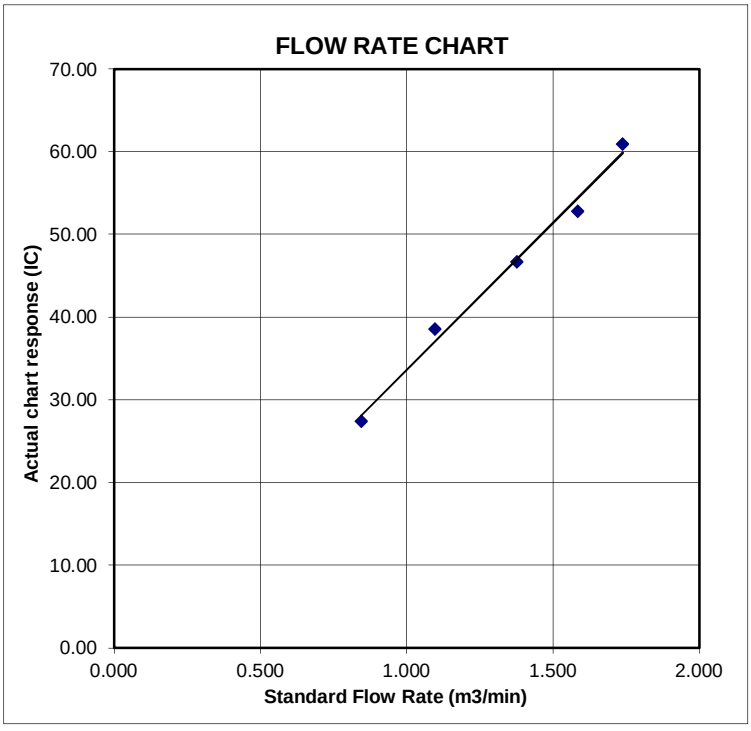
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 13, 2019

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 13, 2018	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 763.3	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
1.0109	1.1358	2.2599	0.9896	1.1120	1.3854
1.0098	1.1964	2.3702	0.9886	1.1713	1.4530
1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
QSTD	**m=**	**2.02017**	**QA**	**m=**	**1.26500**
	b=	**-0.03691**		**b=**	**-0.02263**
	r=	**0.99988**		**r=**	**0.99988**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

Key
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

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FAX: (513)467-900

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	:	MR BEN TAM	WORK ORDER	:	**HK1908930**
CLIENT	:	**ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING**			
ADDRESS	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	:	1
			DATE RECEIVED	:	25-FEB-2019
			DATE OF ISSUE	:	4-MAR-2019
PROJECT	:	----	NO. OF SAMPLES	:	1
			CLIENT ORDER	:	----

General Comments

- **Sample(s) were received in ambient condition.**
- **Sample(s) analysed and reported on an as received basis.**
- **Calibration was subcontracted to and analysed by Action United Enviro Services.**

Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	*Position*
Richard Fung	General Manager

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.

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Tel. +852 2610 1044 Fax. +852 2610 2021 **www.alsglobal.com**

WORK ORDER : HK1908930
SUB-BATCH : 1
CLIENT : ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT : ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1908930-001	S/N: 3Y6503	AIR	25-Feb-2019	S/N: 3Y6503

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6503
Equipment Ref:	EQ112
Job Order	HK1908930

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	21 December 2018

Equipment Verification Results:

Testing Date: 7 January 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	09:01 ~ 11:08	18.5	1021.4	0.045	2403	19.0
2hr11min	11:13 ~ 13:24	18.5	1021.4	0.032	1577	12.1
2hr07min	13:30 ~ 15:37	18.5	1021.4	0.089	5129	40.5

Sensitivity Adjustment Scale Setting (Before Calibration) 655 (CPM)

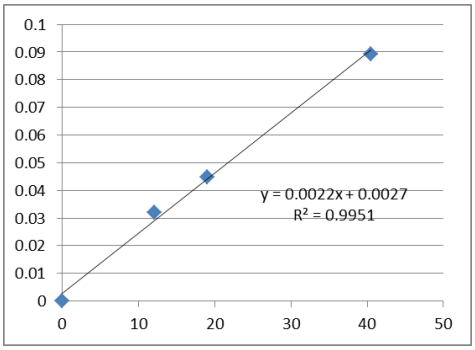
Sensitivity Adjustment Scale Setting (After Calibration) 655 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9975

Date of Issue 14 January 2019



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

Operator : Martin Li Signature : Date : 14 January 2019

QC Reviewer : Ben Tam Signature : Date : 14 January 2019

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	21-Dec-18
Location ID :	Calibration Room	Next Calibration Date:	21-Mar-19

CONDITIONS

Sea Level Pressure (hPa)	1016.1	Corrected Pressure (mm Hg)	762.075
Temperature (°C)	22.4	Temperature (K)	295

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Calibration Date->	13-Feb-18	Expiry Date->	13-Feb-19

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.7	5.7	11.4	1.699	56	56.32	Slope = 34.0074
13	4.4	4.4	8.8	1.495	51	51.29	Intercept = -0.4093
10	3.4	3.4	6.8	1.317	45	45.26	Corr. coeff. = 0.9972
8	2.3	2.3	4.6	1.086	36	36.21	
5	1.4	1.4	2.8	0.851	28	28.16	

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 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)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

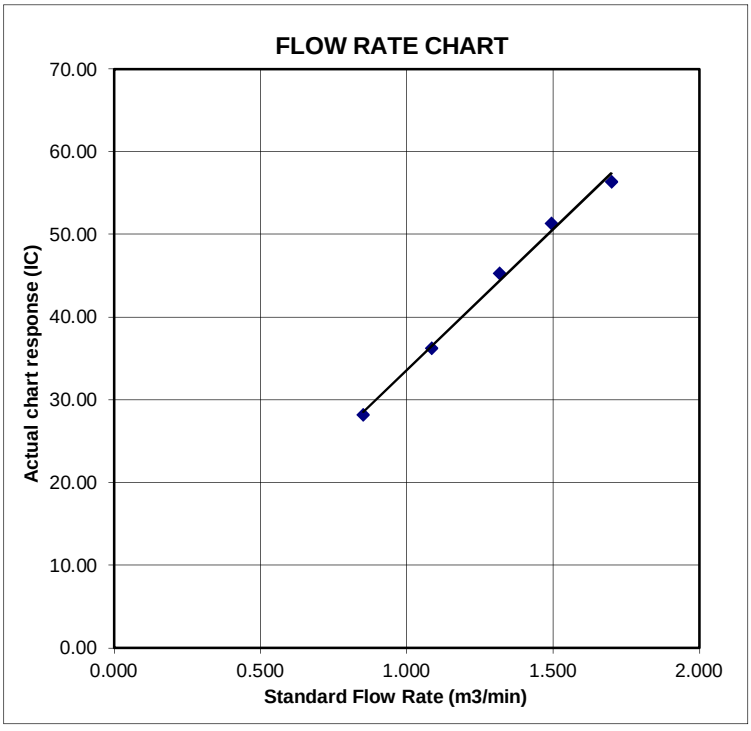
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 13, 2019

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 13, 2018	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 763.3	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
1.0109	1.1358	2.2599	0.9896	1.1120	1.3854
1.0098	1.1964	2.3702	0.9886	1.1713	1.4530
1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
QSTD	**m=**	**2.02017**	**QA**	**m=**	**1.26500**
	b=	**-0.03691**		**b=**	**-0.02263**
	r=	**0.99988**		**r=**	**0.99988**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

Key
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

RECALIBRATION

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ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	:	MR BEN TAM	WORK ORDER	:	**HK1908929**
CLIENT	:	**ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING**			
ADDRESS	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	:	1
			DATE RECEIVED	:	25-FEB-2019
			DATE OF ISSUE	:	4-MAR-2019
PROJECT	:	----	NO. OF SAMPLES	:	1
			CLIENT ORDER	:	----

General Comments

- **Sample(s) were received in ambient condition.**
- **Sample(s) analysed and reported on an as received basis.**
- **Calibration was subcontracted to and analysed by Action United Enviro Services.**

Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	*Position*
Richard Fung	General Manager

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.

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Tel. +852 2610 1044 Fax. +852 2610 2021 **www.alsglobal.com**

WORK ORDER : HK1908929
SUB-BATCH : 1
CLIENT : ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT : ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1908929-001	S/N: 366410	AIR	25-Feb-2019	S/N: 366410

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366410
Equipment Ref:	EQ110
Job Order	HK1908929

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	21 December 2018

Equipment Verification Results:

Testing Date: 7 January 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	09:01 ~ 11:08	18.5	1021.4	0.045	2377	18.8
2hr11min	11:13 ~ 13:24	18.5	1021.4	0.032	1522	11.6
2hr07min	13:30 ~ 15:37	18.5	1021.4	0.089	5117	40.4

Sensitivity Adjustment Scale Setting (Before Calibration) 674 (CPM)

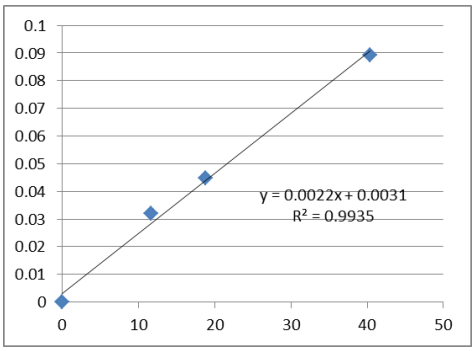
Sensitivity Adjustment Scale Setting (After Calibration) 674 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9967

Date of Issue 14 January 2019



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

Operator : Martin Li Signature : Date : 14 January 2019

QC Reviewer : Ben Tam Signature : Date : 14 January 2019

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	21-Dec-18
Location ID :	Calibration Room	Next Calibration Date:	21-Mar-19

CONDITIONS

Sea Level Pressure (hPa)	1016.1	Corrected Pressure (mm Hg)	762.075
Temperature (°C)	22.4	Temperature (K)	295

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Calibration Date->	13-Feb-18	Expiry Date->	13-Feb-19

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.7	5.7	11.4	1.699	56	56.32	Slope = 34.0074
13	4.4	4.4	8.8	1.495	51	51.29	Intercept = -0.4093
10	3.4	3.4	6.8	1.317	45	45.26	Corr. coeff. = 0.9972
8	2.3	2.3	4.6	1.086	36	36.21	
5	1.4	1.4	2.8	0.851	28	28.16	

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 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)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

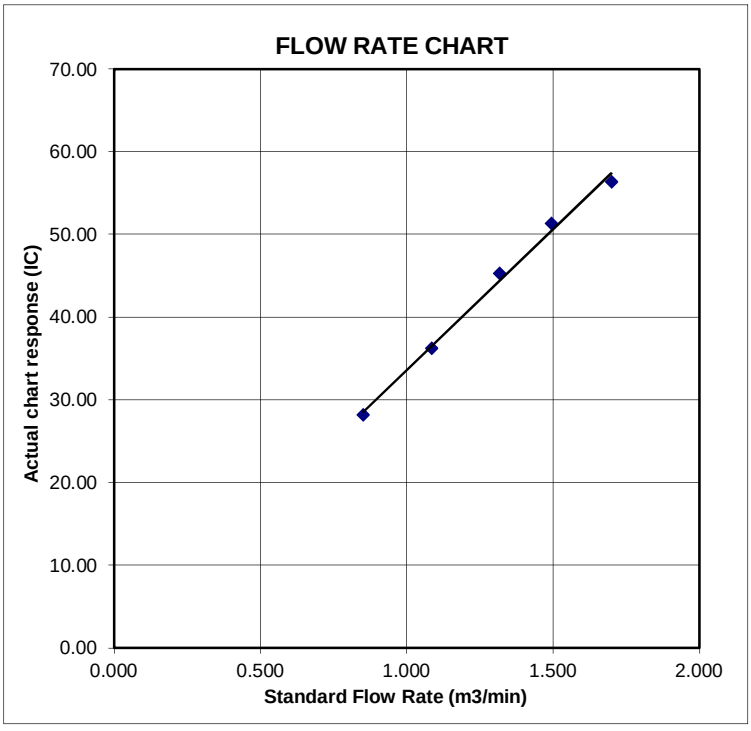
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 13, 2019

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 13, 2018	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 763.3	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
1.0109	1.1358	2.2599	0.9896	1.1120	1.3854
1.0098	1.1964	2.3702	0.9886	1.1713	1.4530
1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
QSTD	**m=**	**2.02017**	**QA**	**m=**	**1.26500**
	b=	**-0.03691**		**b=**	**-0.02263**
	r=	**0.99988**		**r=**	**0.99988**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

Key
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

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Village of Cleves, OH 45002

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TOLL FREE: (877)263-761(
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C183260
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC18-0867) Date of Receipt / 收件日期 : 12 June 2018

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 and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 18 June 2018

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed 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 : H T Wong, Technical Officer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 20 June 2018

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C183260
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	Description	Certificate No.
CL130	Universal Counter	C173864
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C181288

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	± 0.3	± 0.2

5.2 Frequency Accuracy

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

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

Note :
Only the original copy or the laboratory's certified true copy is valid.

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.

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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C183085
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC18-0867) Date of Receipt / 收件日期 : 28 May 2018

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 Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 10 June 2018

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed 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
Engineer

Certified By 核證 : H C Chan
Engineer

Date of Issue 簽發日期 : 11 June 2018

Certificate of Calibration
校正證書

Certificate No. : C183085
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	C180024
CL281	Multifunction Acoustic Calibrator	PA160023

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

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
52 - 132	L_{AFP}	A	F	94.00	1	94.1

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
52 - 132	L_{AFP}	A	F	94.00	1	94.0	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
52 - 132	L_{AFP}	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

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

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Certificate of Calibration
校正證書

Certificate No. : C183085
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
52 - 132	L_{AFP}	A	F	94.00	1	94.0	Ref.
	L_{ASP}		S			94.0	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
32 - 112	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	104.9	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
52 - 132	L_{AFP}	A	F	94.00	31.5 Hz	55.0	-39.4 ± 1.5
					63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.9	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

Certificate of Calibration
校正證書

Certificate No. : C183085
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
52 - 132	L_{CFP}	C	F	94.00	31.5 Hz	91.4	-3.0 ± 1.5
					63 Hz	93.3	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.2	-0.8 ± 1.0
					8 kHz	90.9	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
32 - 112	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	89.5	± 0.5
			60 sec.			$1/10^3$		80	79.2	± 1.0
			5 min.			$1/10^4$		70	69.3	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812706

- 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
	250 Hz - 500 Hz	: ± 0.30 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	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

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

Note :
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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.

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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C183441
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC18-0867) Date of Receipt / 收件日期 : 13 June 2018

Description / 儀器名稱 : Integrating Sound Level Meter (EQ008)
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 2238
Serial No. / 編號 : 2285690
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 / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 23 June 2018

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed 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, Engineer

Certified By 核證 : H C Chan, Engineer

Date of Issue 簽發日期 : 29 June 2018

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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Certificate of Calibration
校正證書

Certificate No. : C183441
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	C180024
CL281	Multifunction Acoustic Calibrator	PA160023

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

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.2

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.0

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Certificate of Calibration
校正證書

Certificate No. : C183441
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	Ref.
	L_{ASP}		S			94.2	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.8	-39.4 ± 1.5
					63 Hz	68.0	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	95.1	+1.0 ± 1.0
					8 kHz	93.0	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Certificate of Calibration
校正證書

Certificate No. : C183441
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.2	-3.0 ± 1.5
					63 Hz	93.3	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	93.9	-0.2 ± 1.0
					4 kHz	93.3	-0.8 ± 1.0
					8 kHz	91.1	-3.0 (+1.5 ; -3.0)
					12.5 kHz	88.0	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
						$1/10^2$		90	89.7	± 0.5
			60 sec.			$1/10^3$		80	79.7	± 1.0
			5 min.			$1/10^4$		70	69.7	± 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	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 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	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

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

Note :
Only the original copy or the laboratory's certified true copy is valid.

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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C185602
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC18-0867) Date of Receipt / 收件日期 : 26 September 2018

Description / 儀器名稱	:	Sound Level Calibrator (EQ085)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NC-73
Serial No. / 編號	:	10655561
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 / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 14 October 2018

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification & user's specified acceptance criteria.
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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : K C Lee
Engineer

Certified By 核證 : H C Chan
Engineer

Date of Issue 簽發日期 : 19 October 2018

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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Certificate of Calibration
校正證書

Certificate No. : C185602
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	Description	Certificate No.
CL130	Universal Counter	C183775
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	C181288

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	94.1	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	User's Spec.	Uncertainty of Measured Value (Hz)
1	0.956	1 kHz ± 6 %	± 1

Remarks : - The user's specified acceptance criteria (user's spec.) is a customer pre-defined operating tolerance of the UUT, suitable for one's own intended use.

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

Note :
Only the original copy or the laboratory's certified true copy is valid.

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.

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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C193172
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-1098) Date of Receipt / 收件日期 : 18 June 2019

Description / 儀器名稱 : Integrating Sound Level Meter (EQ009)
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 2238
Serial No. / 編號 : 2285722
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 / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 19 June 2019

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed 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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Assistant Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 20 June 2019

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 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
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Certificate of Calibration
校正證書

Certificate No. : C193172
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	C190176
CL281	Multifunction Acoustic Calibrator	CDK1806821

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

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
52 - 132	L_{AFP}	A	F	94.00	1	94.3

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
52 - 132	L_{AFP}	A	F	94.00	1	94.0	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
52 - 132	L_{AFP}	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		113.9

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

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Certificate of Calibration
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6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
52 - 132	L_{AFP}	A	F	94.00	1	94.0	Ref.
	L_{ASP}		S			94.0	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
32 - 112	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
52 - 132	L_{AFP}	A	F	94.00	31.5 Hz	54.5	-39.4 ± 1.5
					63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	94.9	+1.0 ± 1.0
					8 kHz	92.8	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

Certificate of Calibration
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Certificate No. : C193172
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6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
52 - 132	L_{CFP}	C	F	94.00	31.5 Hz	90.9	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.1	-0.8 ± 1.0
					8 kHz	90.9	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
32 - 112	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
						$1/10^2$		90	89.8	± 0.5
			60 sec.			$1/10^3$		80	79.1	± 1.0
			5 min.			$1/10^4$		70	69.1	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812706

- 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
	250 Hz - 500 Hz	: ± 0.30 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	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

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

Note :
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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 : HOKLAS 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

This certificate is issued subject to the terms and conditions laid down by HKAS
本證書按照香港認可處訂立的條款及條件發出

L 000552

Appendix F

Event and Action Plan

Event / Action Plan for construction dust

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Action Level exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, ER and Contractor; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Notify Contractor.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Rectify any unacceptable practice and implement remedial measures; and 3. Amend working methods agreed with ER if appropriate.
Action Level exceedance for two or more consecutive samples	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, ER and Contractor; 3. Advise the ER and Contractor on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC, ER and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 3. Implement the agreed proposals; and 4. Amend proposal if appropriate.
Limit Level exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor, IEC and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; and 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ER and ET on the effectiveness of the proposed remedial measures; and 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate.
Limit Level exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC, Contractor 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; and 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise and ensure remedial measures properly implemented; and 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.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control; and 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Construction Noise

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Action Level Exceedance	1. Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; and 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; and 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC and ER; and 2. Implement noise mitigation proposals.
Limit Level Exceedance	1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; and 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.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; and 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix G

Impact Monitoring Schedule

Impact Monitoring Schedule for the Reporting Period

Date		NOISE MONITORING (0700 – 1900)	AIR QUALITY MONITORING	
			1-HOUR TSP	24-HOUR TSP
Sat	1-Jun-19		✓	
Sun	2-Jun-19			
Mon	3-Jun-19			
Tue	4-Jun-19			✓
Wed	5-Jun-19			
Thu	6-Jun-19	✓	✓	
Fri	7-Jun-19			
Sat	8-Jun-19			
Sun	9-Jun-19			
Mon	10-Jun-19			✓
Tue	11-Jun-19			
Wed	12-Jun-19	✓	✓	
Thu	13-Jun-19	✓		
Fri	14-Jun-19			
Sat	15-Jun-19			✓
Sun	16-Jun-19			
Mon	17-Jun-19			
Tue	18-Jun-19	✓	✓	
Wed	19-Jun-19			
Thu	20-Jun-19			
Fri	21-Jun-19			✓
Sat	22-Jun-19			
Sun	23-Jun-19			
Mon	24-Jun-19	✓	✓	
Tue	25-Jun-19			
Wed	26-Jun-19			
Thu	27-Jun-19			✓
Fri	28-Jun-19			
Sat	29-Jun-19		✓	
Sun	30-Jun-19			

✓	Monitoring Day
	Sunday or Public Holiday

Impact Monitoring Schedule for next Reporting Period

Date		NOISE MONITORING (0700 – 1900)	AIR QUALITY MONITORING	
			1-HOUR TSP	24-HOUR TSP
Mon	1-Jul-19			
Tue	2-Jul-19			
Wed	3-Jul-19	CN1, CN2, CN3		✓
Thu	4-Jul-19			
Fri	5-Jul-19	NMS-4a, NMS5, NMS6, NMS7, NMS8	✓	
Sat	6-Jul-19			
Sun	7-Jul-19			
Mon	8-Jul-19			
Tue	9-Jul-19			✓
Wed	10-Jul-19			
Thu	11-Jul-19	NMS-4a, NMS5, NMS6, NMS7, NMS8	✓	
Fri	12-Jul-19	CN1, CN2, CN3		
Sat	13-Jul-19			
Sun	14-Jul-19			
Mon	15-Jul-19			✓
Tue	16-Jul-19			
Wed	17-Jul-19	NMS-4a, NMS5, NMS6, NMS7, NMS8	✓	
Thu	18-Jul-19	CN1, CN2, CN3		
Fri	19-Jul-19			
Sat	20-Jul-19			✓
Sun	21-Jul-19			
Mon	22-Jul-19			
Tue	23-Jul-19	NMS-4a, NMS5, NMS6, NMS7, NMS8	✓	
Wed	24-Jul-19	CN1, CN2, CN3		
Thu	25-Jul-19			
Fri	26-Jul-19			✓
Sat	27-Jul-19			
Sun	28-Jul-19			
Mon	29-Jul-19	NMS-4a, NMS5, NMS6, NMS7, NMS8	✓	
Tue	30-Jul-19	CN1, CN2, CN3		
Wed	31-Jul-19			

✓	Monitoring Day
	Sunday or Public Holiday

Appendix H

Database of Monitoring Result

24-HOUR TSP MONITORING RESULT DATABASE

24-hour TSP Monitoring Data for AMS-1&AMS1a

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
4-Jun-19 *(*)*	--														
10-Jun-19 *(*)*	--														
15-Jun-19 *(#)*	24332	21069.67	21093.68	1440.6	48	48	48	28.6	1005.3	0.82	1188	2.6388	2.6824	0.0436	37
21-Jun-19 *(#)*	24363	21093.68	21117.68	1440	30	30	30	28.6	1005.5	0.22	315	2.6312	2.639	0.0078	25
27-Jun-19 *(#)*	24366	21117.68	21141.68	1440.0	36	36	36	28	1006.2	0.42	608	2.6191	2.633	0.0139	23

(*) Due to power failure, no data was obtained.
(#) 24-hour TSP monitoring at AMS1 was abandoned since May 2019 due to lack of power supply and the landlord was unreachable. The alternation location of AMS1a was activated on 15 June 2019 for 1-hour and 24-hour TSP monitoring.

24-hour TSP Monitoring Data for AMS-5

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
4-Jun-19	24199	7616.30	7640.30	1440.00	30	31	30.5	27.3	1006.9	1.02	1468	2.6777	2.7027	0.0250	17
10-Jun-19	24302	7640.30	7664.30	1440.00	31	32	31.5	27.3	1006.8	1.05	1509	2.6410	2.6585	0.0175	12
15-Jun-19	24307	7664.30	7687.98	1420.80	32	33	32.5	28	1006	1.07	1527	2.6448	2.6792	0.0344	23
21-Jun-19	24356	7687.98	7711.34	1401.60	31	32	31.5	28.6	1005.5	1.05	1465	2.6425	2.6700	0.0275	19
27-Jun-19	24364	7711.34	7735.34	1440.00	30	30	30.0	28	1006.2	1.00	1446	2.6188	2.6570	0.0382	26

24-hour TSP Monitoring Data for AMS-6

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
4-Jun-19	24200	12834.92	12858.92	1440.00	30	31	30.5	27.3	1006.9	0.98	1404	2.6639	2.6939	0.0300	21
10-Jun-19	24303	12858.92	12882.92	1440.00	31	32	31.5	27.3	1006.8	1.00	1444	2.6177	2.6432	0.0255	18
15-Jun-19	24308	12882.92	12906.48	1413.60	32	33	32.5	28	1006	1.03	1454	2.6355	2.6698	0.0343	24
21-Jun-19	24357	12906.48	12930.31	1429.80	31	32	31.5	28.6	1005.5	1.00	1430	2.6367	2.6620	0.0253	18
27-Jun-19	24365	12930.31	12954.31	1440.00	31	31	31.0	28	1006.2	0.99	1422	2.6135	2.6548	0.0413	29

24-hour TSP Monitoring Data for AMS-7

DATE	SAMPLE NUMBER	ELAPSED TIME	CHART READING	AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)	DUST WEIGHT COLLECTED	24-hr TSP

		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
4-Jun-19	24244	8206.91	8230.59	1420.80	36	38	37.0	28	1008.6	1.40	1985	2.6763	2.7317	0.0554	28
10-Jun-19	24247	8230.59	8254.59	1440.00	33	34	33.5	27.3	1006.8	1.28	1838	2.6747	2.7689	0.0942	51
15-Jun-19	23947	8254.59	8278.80	1452.60	33	34	33.5	28	1006	1.27	1852	2.6565	2.8883	0.2318	125
21-Jun-19	24304	8278.80	8302.64	1430.40	33	34	33.5	28.6	1005.5	1.27	1821	2.6330	2.7014	0.0684	38
27-Jun-19	24367	8302.84	8326.67	1429.80	31	32	31.5	28	1006.2	1.21	1724	2.6205	2.7007	0.0802	47

NOISE MONITORING RESULT DATABASE

Noise Measurement Results (dB) of NMS4a

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
6-Jun-19	14:16	67.3	69.7	63.1	68.3	70.2	64	68.5	70.8	61.2	69.4	71.6	63.8	68.6	70.6	62.1	67.2	69.6	61.7	68	75.0
13-Jun-19	9:10	67.4	70.2	62.9	65.3	68.3	61.7	65.4	68.8	60.4	64.3	67.1	59.9	66.2	68.3	63.1	66.6	69	62.1	66	75.0
18-Jun-19	10:21	68.5	69.6	63.5	69.1	70.9	64	69.7	70.5	64.3	70.2	72	65.5	68.2	71.2	65.1	69.3	73	66.7	69	75.0
24-Jun-19	14:19	61.4	62.5	58.7	63	63.9	60.3	62.4	63.9	59.9	61.4	63.2	59.5	62.7	63.1	59.7	61.2	62.7	58.7	62	75.0

Noise Measurement Results (dB) of NMS5

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
6-Jun-19	13:34	60.2	62.1	57.4	59	61.2	55.5	59.6	61.3	57	60.3	62.9	57.6	59.8	61.4	56.2	58.7	61	56.1	60	75
13-Jun-19	10:05	67.8	70.4	63.2	65.7	67.9	58.3	68.7	70.9	63.1	65	67.4	61.9	65.7	67.6	62.8	66.7	68.2	64.7	67	75
18-Jun-19	9:41	61.8	62.3	57.6	60.5	61.3	56.6	60.2	61.7	56.2	62.4	63.3	57.6	61.1	62.5	57.5	62.2	63.8	56.1	61	75
24-Jun-19	13:36	60.7	62.8	58.3	61.1	62.8	58.9	61.3	63.1	58.5	60.6	62.6	58	61.8	63.3	58.3	60.3	62.1	58.9	61	75

Noise Measurement Results (dB) of NMS6

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
6-Jun-19	10:36	56.7	59.8	51.4	58.2	61.6	51.5	57.4	60.6	51.4	58.6	61.9	51.5	57.5	60.8	51.6	56.5	59.7	51.9	58	75
13-Jun-19	11:05	58.7	62.3	54.8	56.7	58.8	51.5	58	59.4	54.6	57.4	59.6	54.3	61.9	63.4	51.8	56.5	58.4	52.9	59	75
18-Jun-19	11:02	58.6	62.4	63.2	59.8	63.2	54.7	57.8	62.6	53.2	58.9	63.2	54.1	59.6	63.3	54	60.2	64.1	55.4	59	75
24-Jun-19	10:41	59.4	61.9	53.7	59.2	61.9	54.3	59.5	62.1	53.1	60.8	62.4	54.3	60.3	62.6	54.2	59.2	61.9	53.8	60	75

Noise Measurement Results (dB) of NMS7

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
6-Jun-19	9:54	61.6	64.6	54	62.1	66.1	55.4	61.8	65	54	60.5	64.2	53.3	63.2	66.3	54.6	58.2	63.1	54.5	61	75
13-Jun-19	13:05	56	58	53.5	61.4	62.9	55.4	63.5	66.4	59.1	64.5	66.6	61	63.5	66	59.1	63.2	65.6	58.9	63	75
18-Jun-19	11:41	61.3	65.1	54.6	62.7	66.5	55.7	59.3	64.7	54.2	58.2	63.4	53.2	59.3	64.6	53.7	56.1	62.5	52.1	60	75
24-Jun-19	10:00	54.2	56.4	51.1	56.1	57.6	50	52.9	54.4	50.9	51.9	53.8	49.7	54.2	56	50.1	52.8	54.7	49.9	54	75

Noise Measurement Results (dB) of NMS8

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
6-Jun-19	13:09	67.5	68.9	65.7	68.3	70.9	65.1	68.3	70.8	64.4	65.8	67.9	63.8	67.5	69.3	63.6	67	70.3	62.3	67	75
13-Jun-19	9:52	65.8	69.8	51.8	56.3	57.1	49.1	57.6	59.8	52.8	61.8	63.7	51.9	60.8	62.6	51.6	61.7	63.3	52.3	62	75
18-Jun-19	14:28	71.7	75.7	63.5	71.2	74.7	60.1	71.5	75.5	60.5	72.4	76.7	61.3	71.2	75.5	60.1	70.1	74.5	60	71	75
24-Jun-19	11:04	66.4	69.1	63.5	66.2	68.1	63.1	67.9	71.5	64.7	66.3	68.2	64.3	66.6	68.3	63	66.5	68.2	64.5	67	75

Noise Measurement Results (dB) of CN1

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
6-Jun-19	15:08	63.1	65.4	56.9	62.1	65.4	57.0	64.5	66.5	61.1	63.1	65.0	58.9	62.6	64.7	60.2	63.4	65.4	60.9	63	65
12-Jun-19	17:01	56.2	58.4	51.4	61.5	61.8	50.6	55.3	57.2	50.1	56.8	58.3	51.5	56.2	59.6	51.5	55.6	57.8	51.0	58	65
18-Jun-19	15:59	57.3	56.6	49.7	52.4	53.6	49.0	59.4	56.7	48.9	55.5	54.8	48.1	57.9	55.2	49.4	54.5	53.7	48.0	57	65
24-Jun-19	10:02	65.3	65.1	62.1	62.9	64.3	61.3	63	64.5	61.5	63.3	64.9	61.6	63.2	64.6	62.1	64.1	65.4	62.3	64	65

Noise Measurement Results (dB) of CN2

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
6-Jun-19	14:23	61.8	63.1	60.6	61.1	62.6	59.7	63.6	64.8	61.4	62.4	63.9	60.3	62.2	63.2	60.6	62.4	63.5	59.7	62	65
12-Jun-19	16:25	56.9	56.9	51.5	55.9	58.5	52.2	54.4	56.9	51.1	56.3	58.9	51.7	55.3	57.8	51.1	54.8	56.2	51.8	56	65
18-Jun-19	15:23	57.3	59.2	53.4	57.6	59.3	54	57.7	59.4	54	56.8	58.6	54.6	57.5	59	54.9	56.2	58	54.5	57	65
24-Jun-19	9:13	64.6	65	64	64	64.5	63.6	62.9	63.6	62.2	61.5	62.5	60.7	63.7	64.8	62.6	63.7	64.4	62.9	64	65

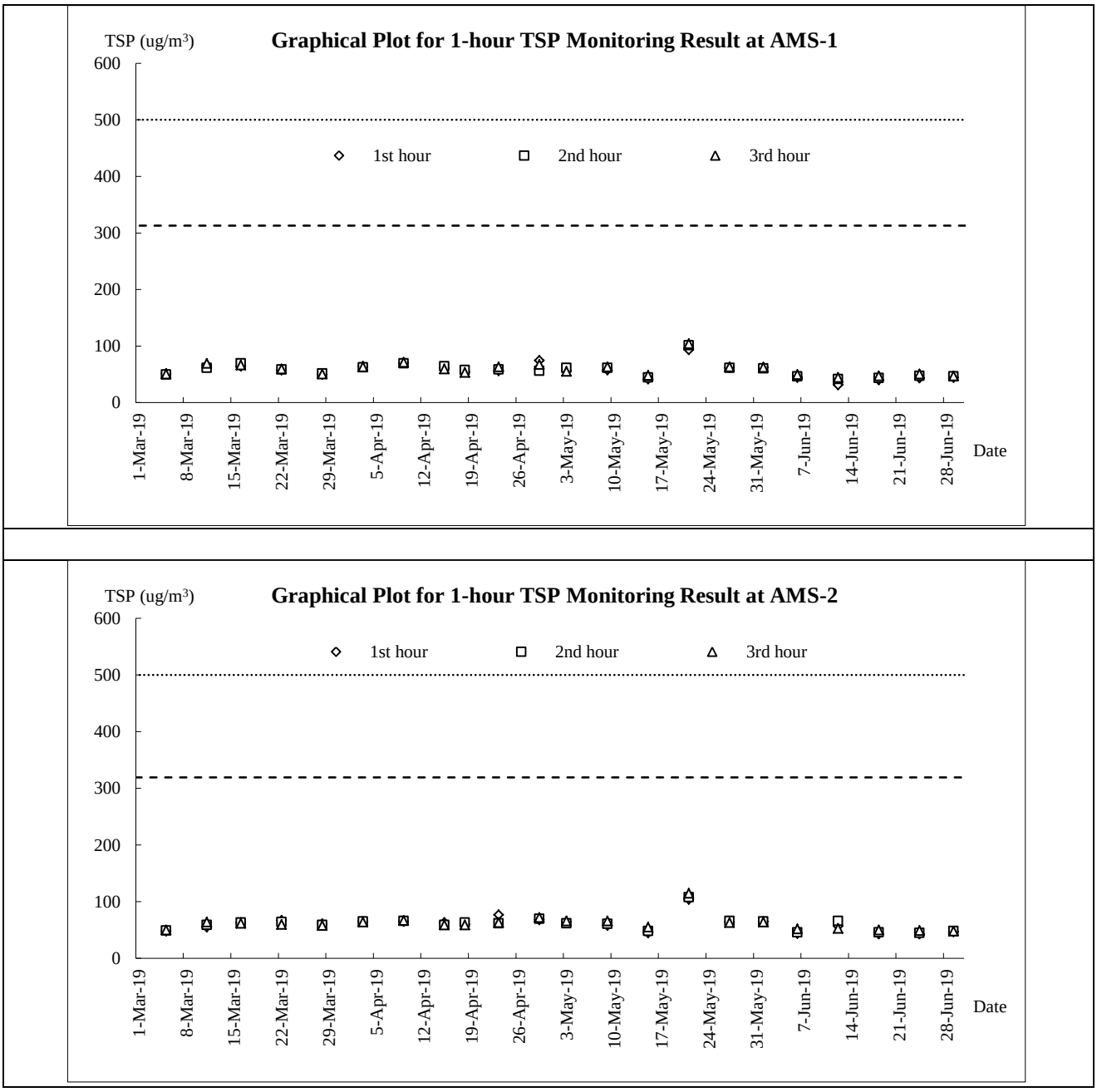
Noise Measurement Results (dB) of CN3

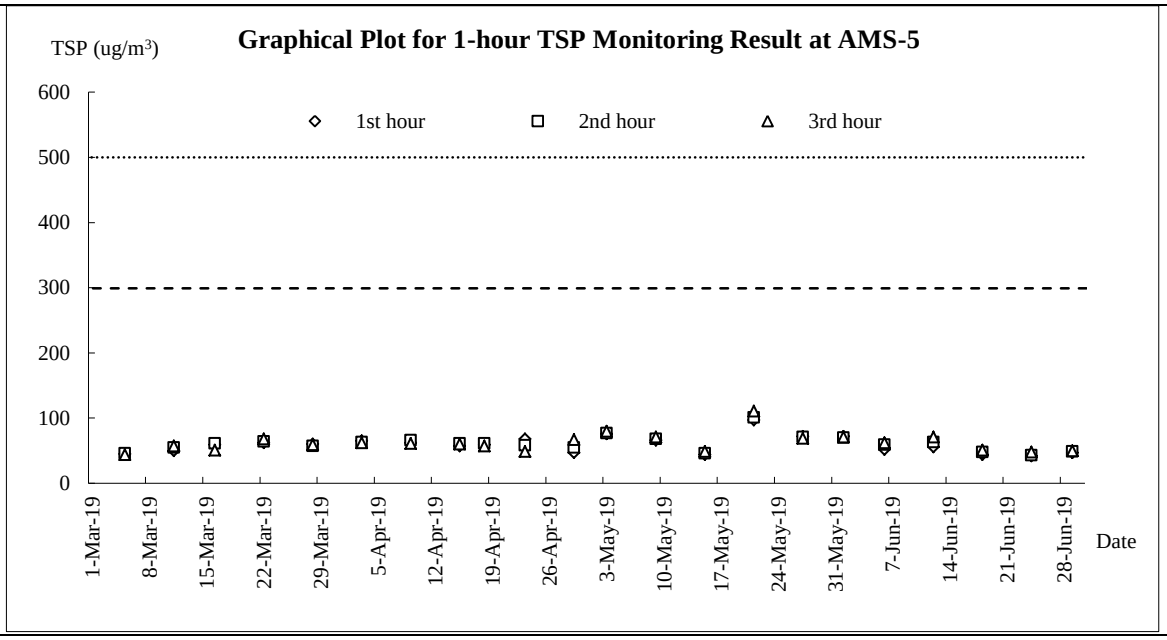
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
6-Jun-19	14:54	68.8	72.1	62.3	68.4	71.1	63.5	69.1	72.3	63.3	70.5	73.1	63.1	69.5	72.8	63.2	68.8	71.9	62.3	69	75
12-Jun-19	15:37	67.4	70.4	58.9	66.3	69.4	59.8	62.1	63.5	58.7	66.3	68.6	59.3	66.2	68.9	59.3	65	67.1	58.1	66	75
18-Jun-19	13:16	65.9	67.2	61.2	68.4	71.1	62	69.2	71.4	64.3	70.5	73.8	65.4	68.6	71.5	64.5	67.2	70.6	64.1	69	75
24-Jun-19	14:53	61.8	65.3	55.5	65.1	68.6	59.0	66.2	68.8	58.9	64.2	67.1	59.3	65.2	68.4	59.6	63.8	67.9	58.4	65	75

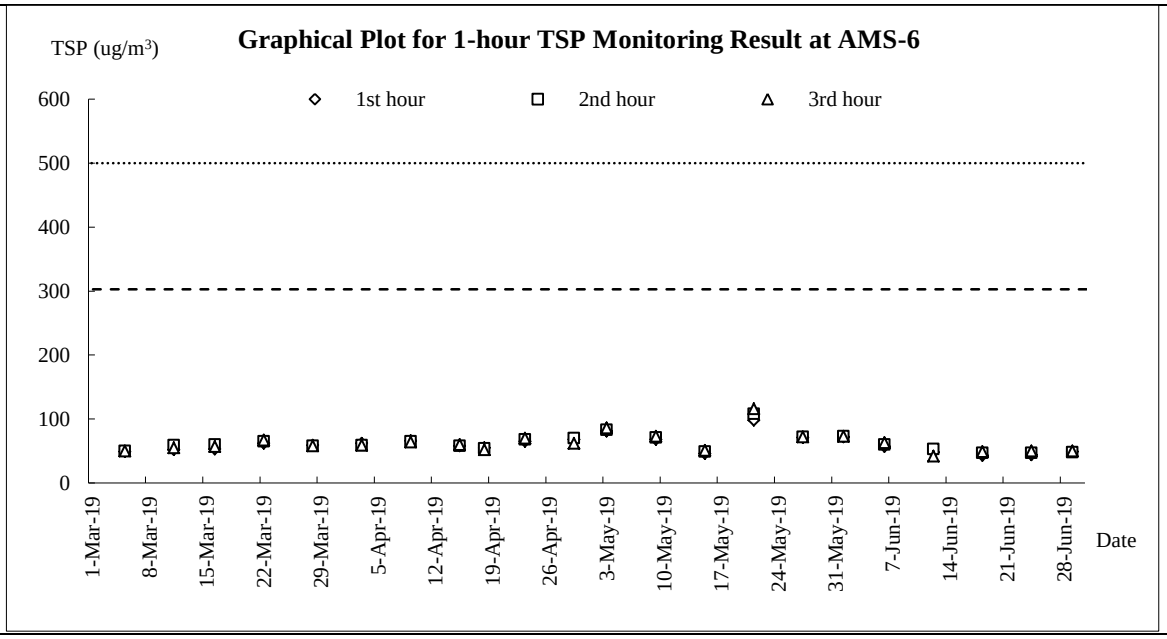
Appendix I

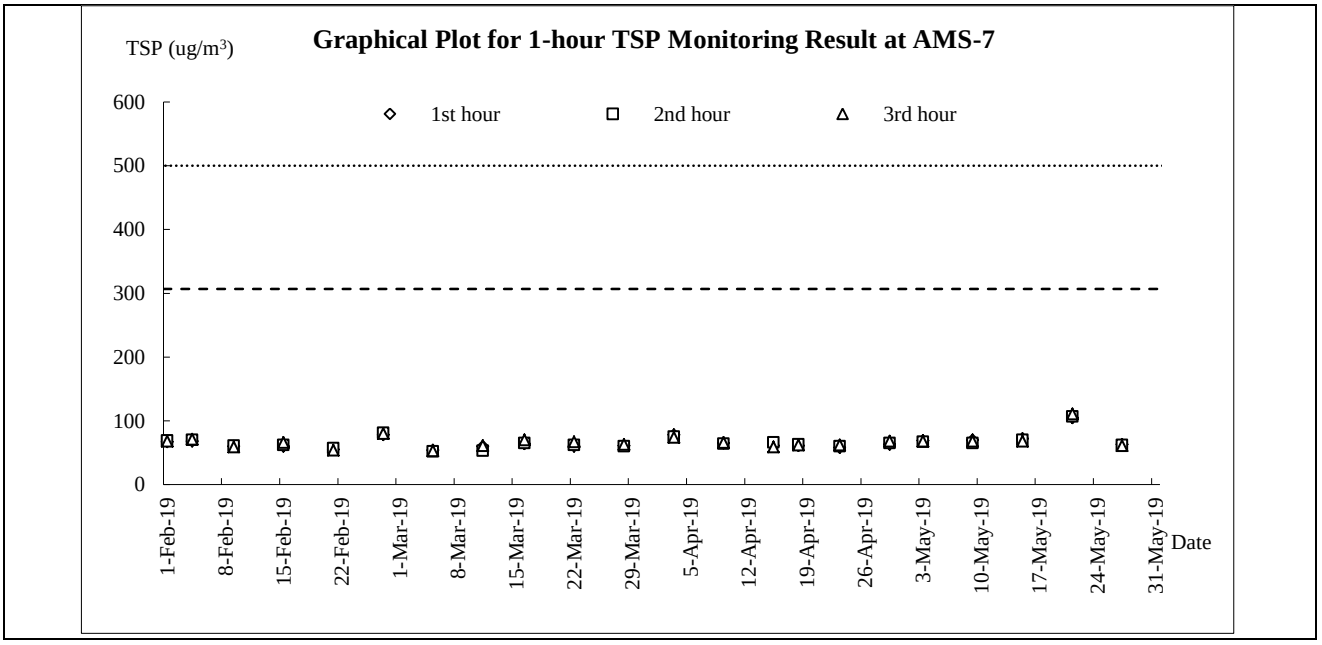
Graphical Plots for Monitoring Result

Air Quality – 1-hour TSP

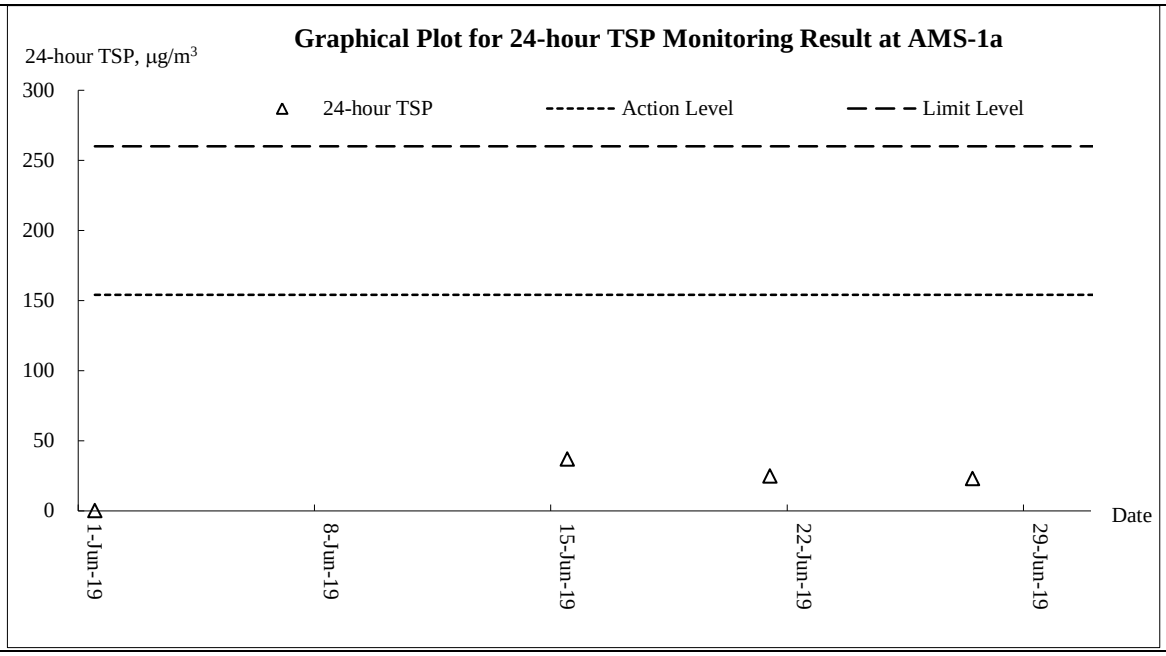



Graphical Plot for 1-hour TSP Monitoring Result at AMS-5
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
3-May-19
10-May-19
17-May-19
24-May-19
31-May-19
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19
Date

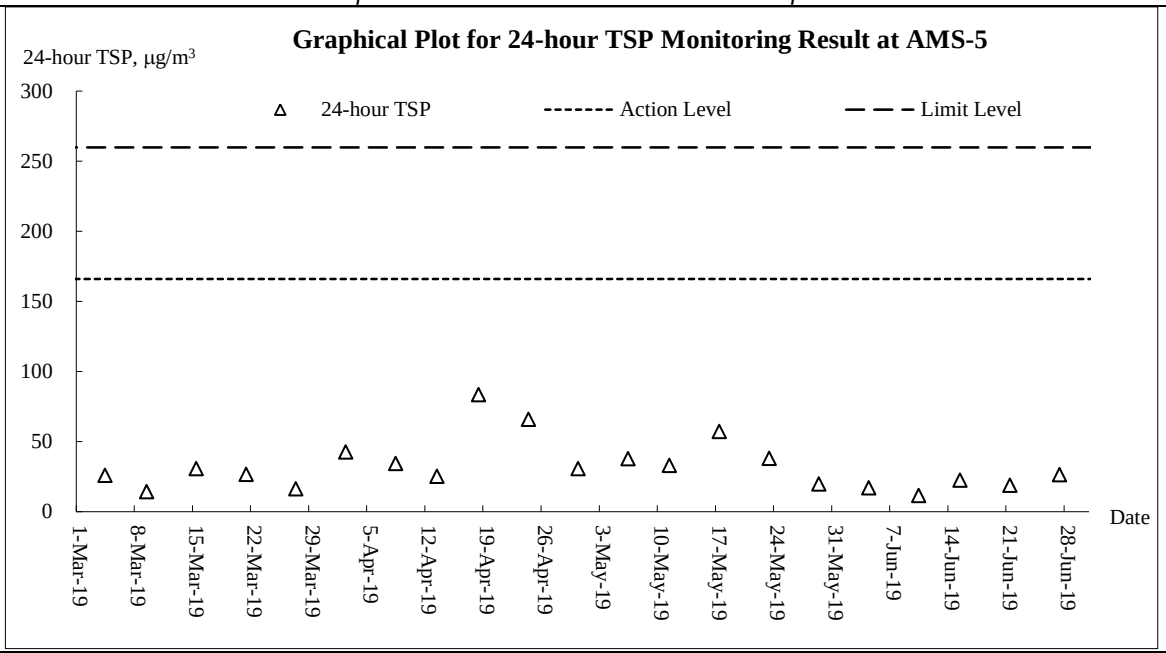

Graphical Plot for 1-hour TSP Monitoring Result at AMS-6
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
3-May-19
10-May-19
17-May-19
24-May-19
31-May-19
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19
Date

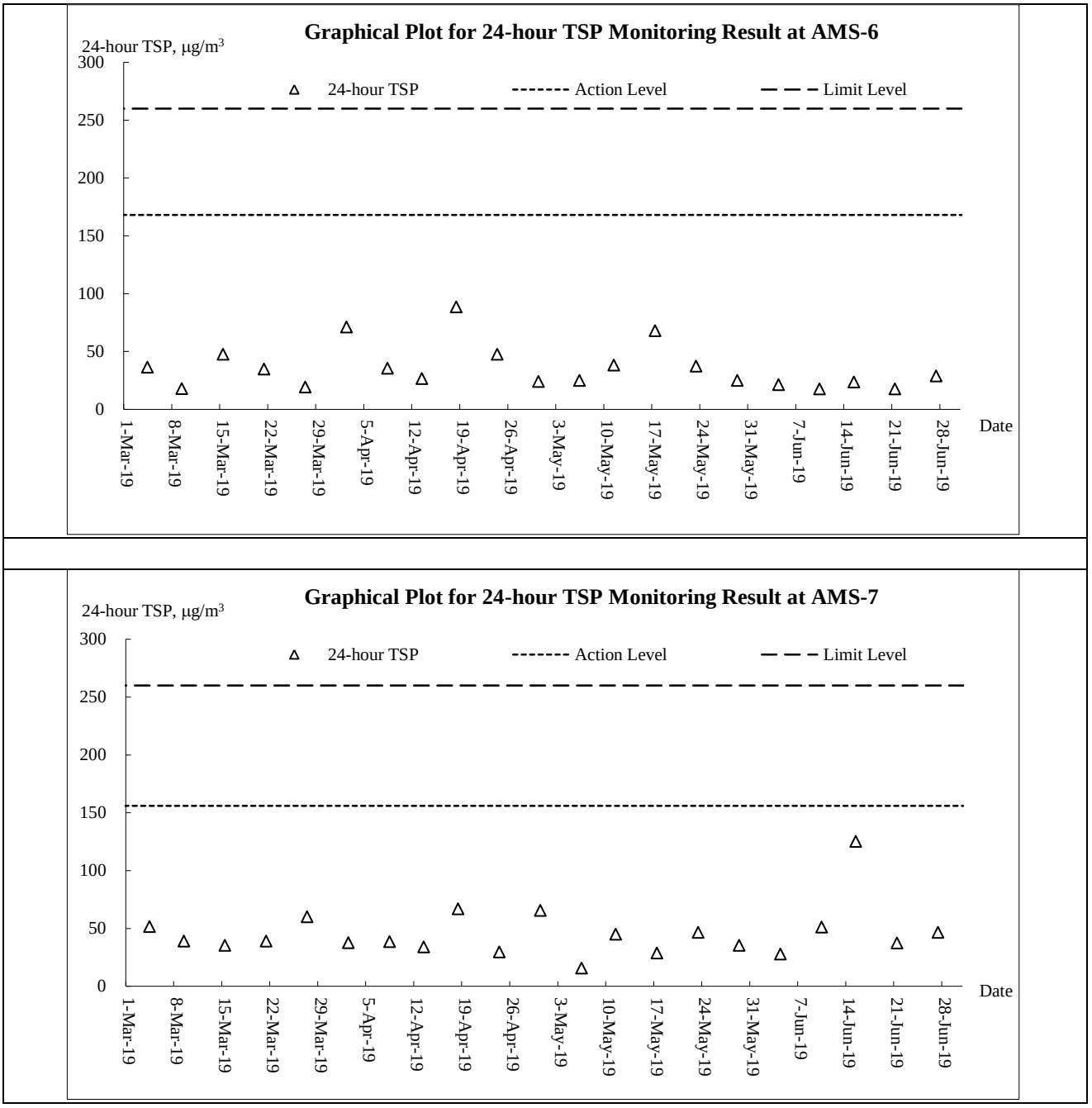

Graphical Plot for 1-hour TSP Monitoring Result at AMS-7
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1-Feb-19
8-Feb-19
15-Feb-19
22-Feb-19
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
3-May-19
10-May-19
17-May-19
24-May-19
31-May-19
Date

Air Quality – 24-hour TSP

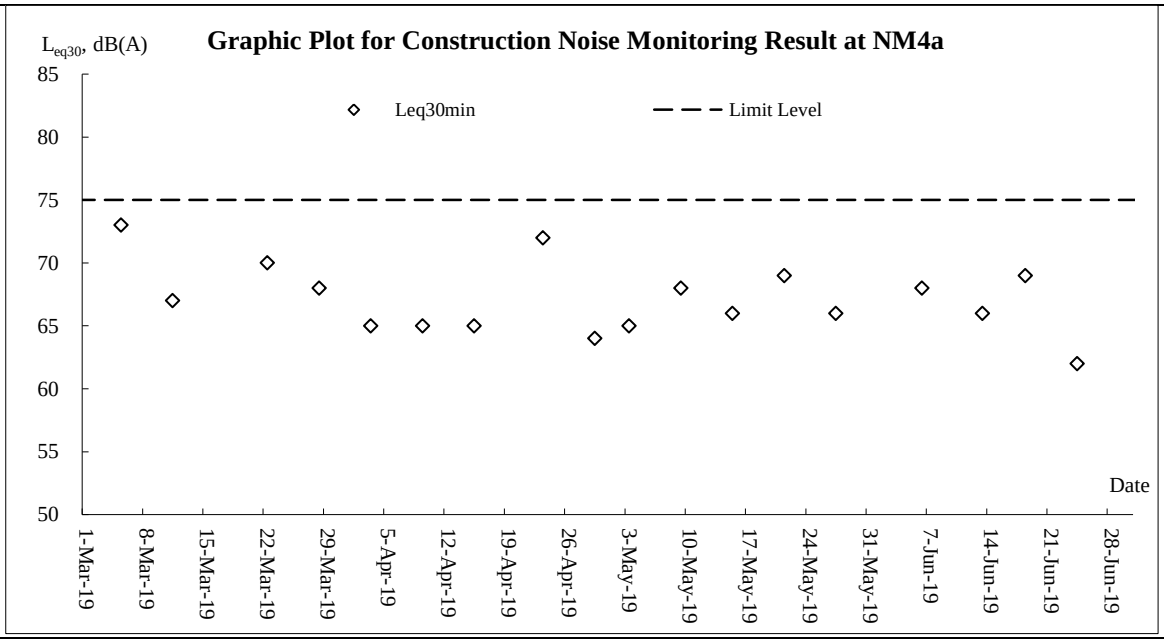


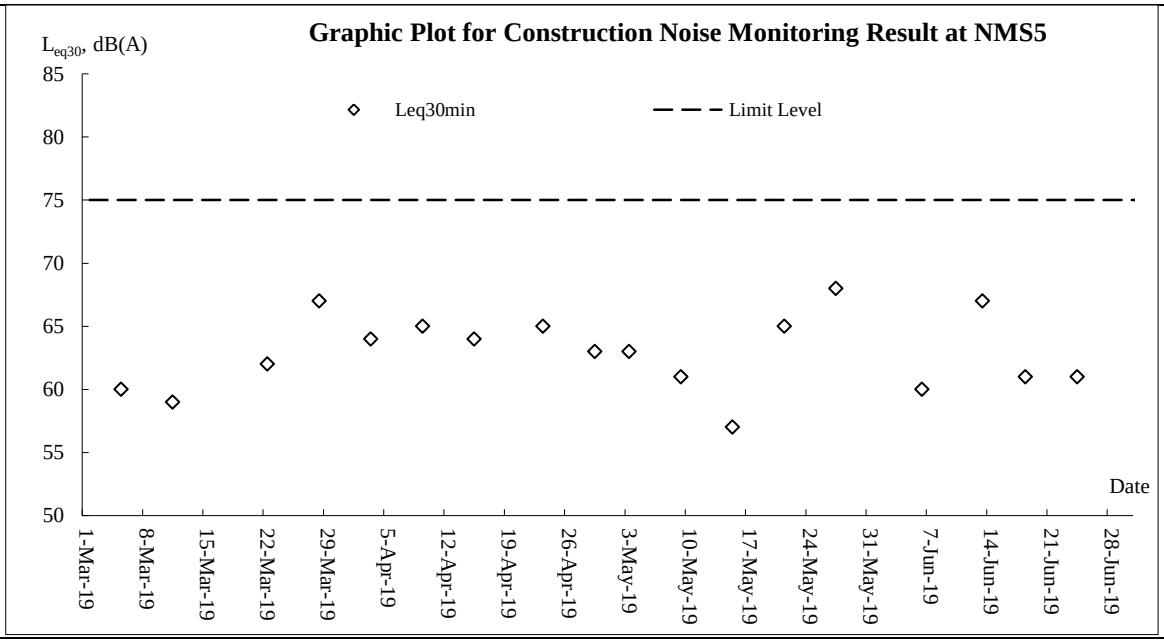
(#) 24-hour TSP monitoring at AMS1 was abandoned since May 2019 due to lack of power supply and the landlord was unreachable. The alternation location of AMS1a was activated on 15 June 2019 for 1-hour and 24-hour TSP monitoring.




Graphical Plot for 24-hour TSP Monitoring Result at AMS-6
24-hour TSP, µg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
3-May-19
10-May-19
17-May-19
24-May-19
31-May-19
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19
Date
Graphical Plot for 24-hour TSP Monitoring Result at AMS-7
24-hour TSP, µg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
3-May-19
10-May-19
17-May-19
24-May-19
31-May-19
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19
Date

Noise


Graphic Plot for Construction Noise Monitoring Result at NM4a
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
3-May-19
10-May-19
17-May-19
24-May-19
31-May-19
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19


Graphic Plot for Construction Noise Monitoring Result at NMS5
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
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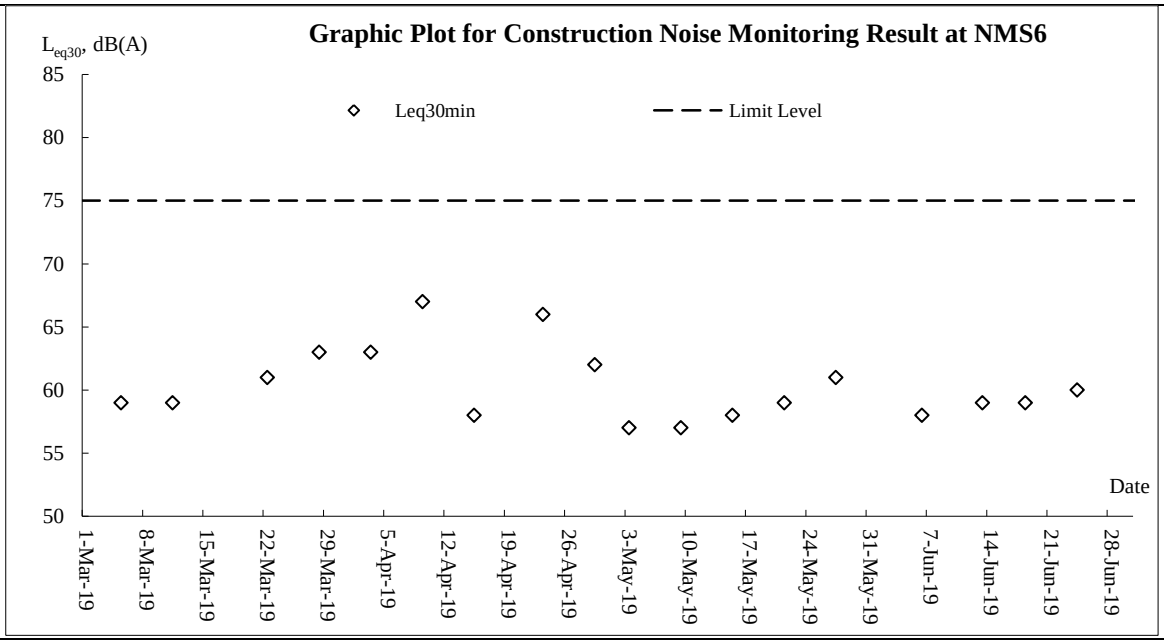
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19


Graphic Plot for Construction Noise Monitoring Result at NMS6
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
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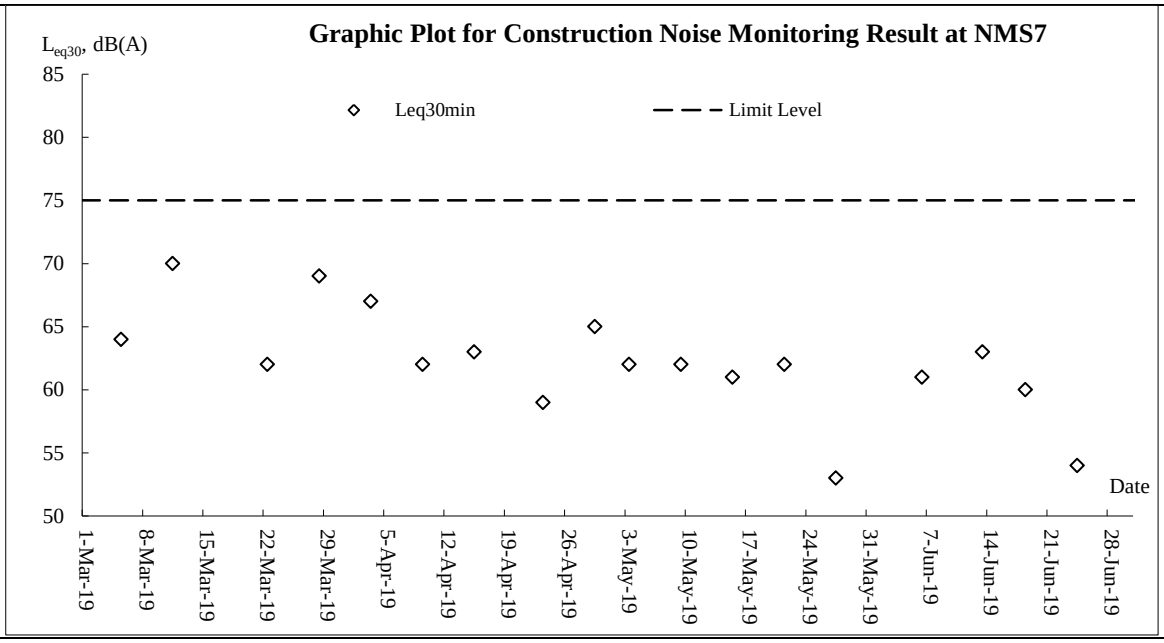
14-Jun-19
21-Jun-19
28-Jun-19


Graphic Plot for Construction Noise Monitoring Result at NMS7
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
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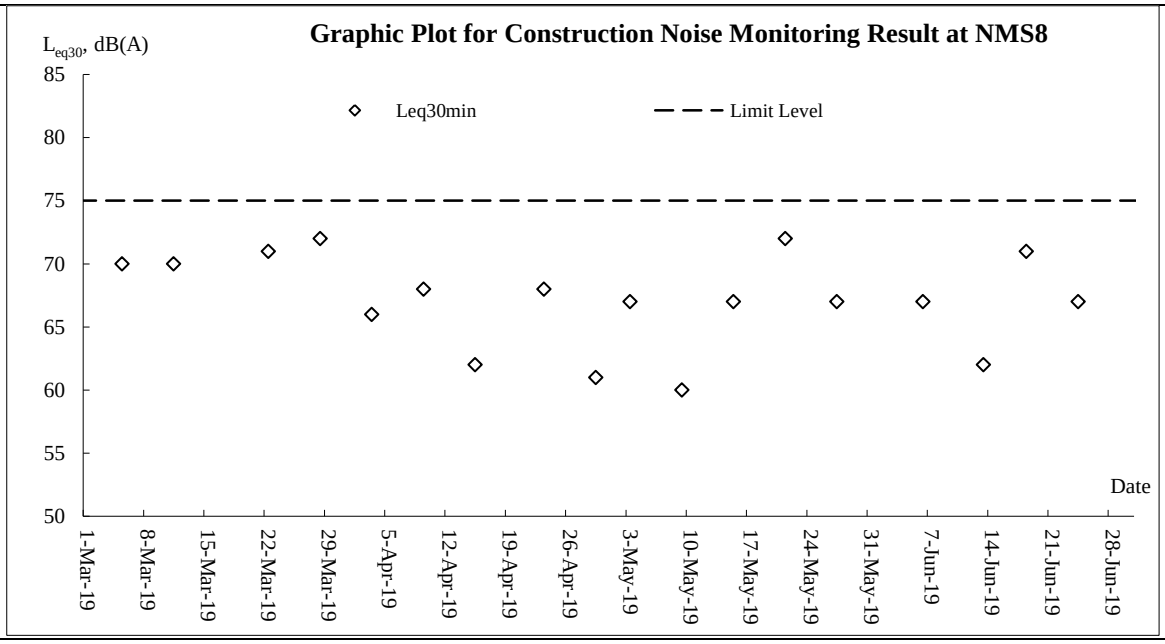
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19


Graphic Plot for Construction Noise Monitoring Result at NMS8
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
3-May-19
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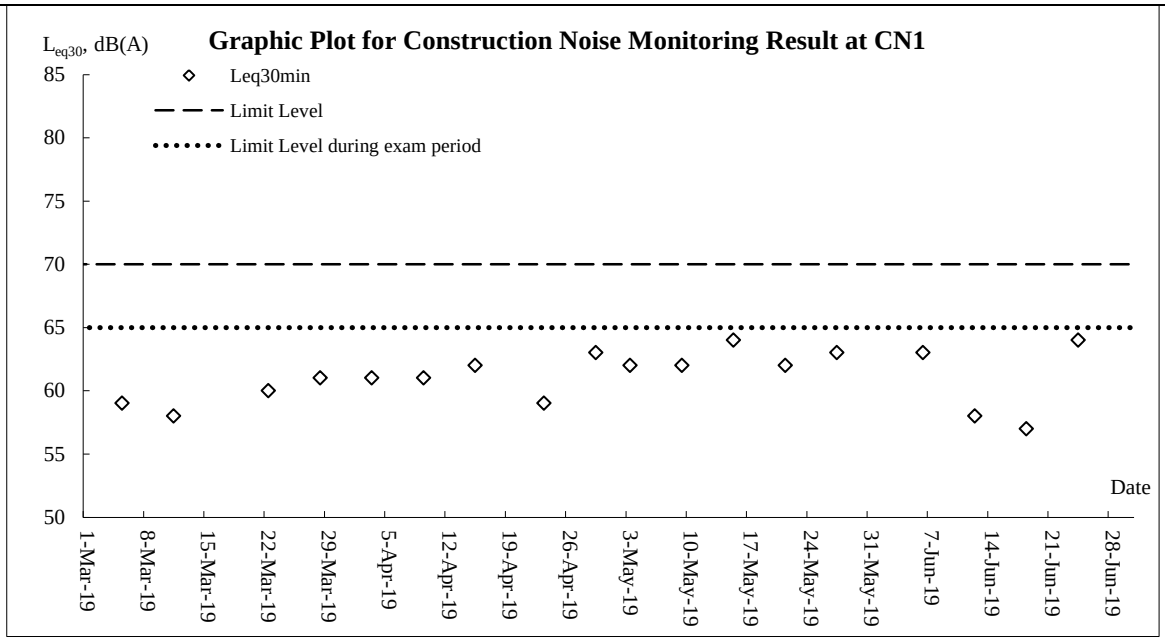
31-May-19
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19


Graphic Plot for Construction Noise Monitoring Result at CN1
L_{eq30}, dB(A)
Leq30min
Limit Level
Limit Level during exam period
85
80
75
70
65
60
55
50
Date
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
3-May-19
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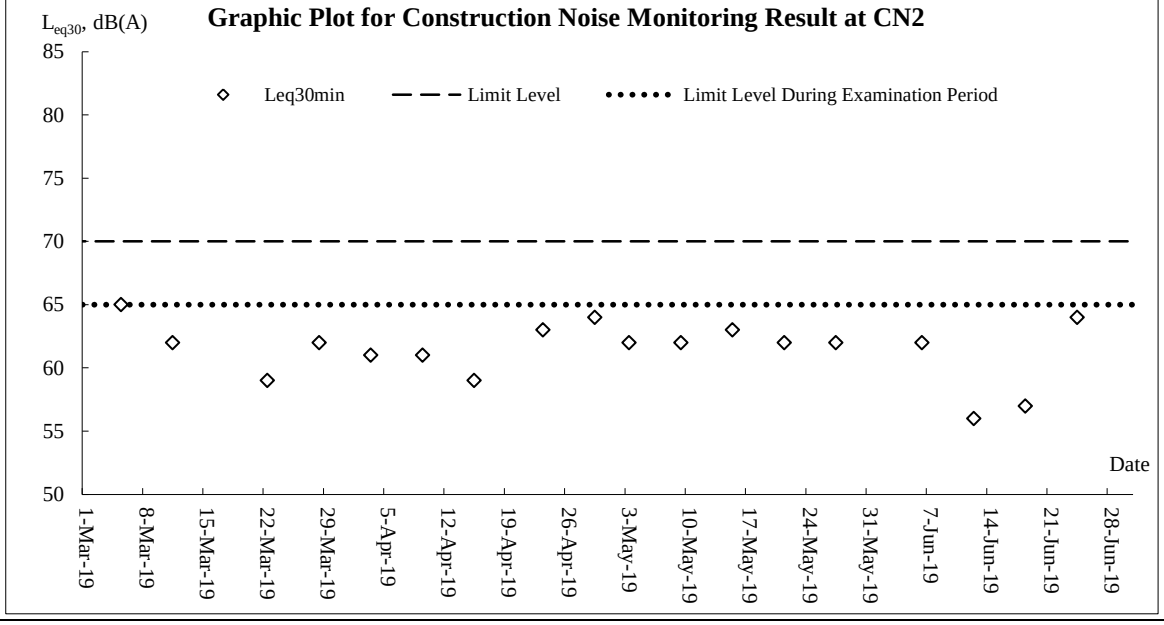
24-May-19
31-May-19
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19


Graphic Plot for Construction Noise Monitoring Result at CN2
L_{eq30}, dB(A)
Leq30min
Limit Level
Limit Level During Examination Period
85
80
75
70
65
60
55
50
Date
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
3-May-19
10-May-19
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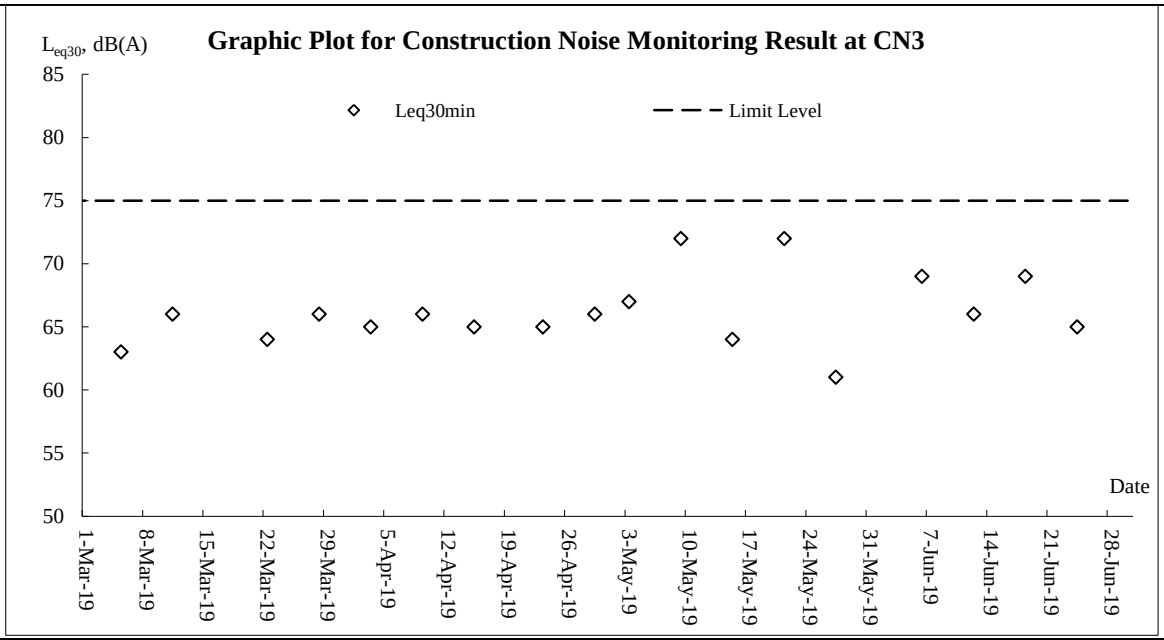
31-May-19
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19


Graphic Plot for Construction Noise Monitoring Result at CN3
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Mar-19
8-Mar-19
15-Mar-19
22-Mar-19
29-Mar-19
5-Apr-19
12-Apr-19
19-Apr-19
26-Apr-19
3-May-19
10-May-19
17-May-19
24-May-19
31-May-19
7-Jun-19
14-Jun-19
21-Jun-19
28-Jun-19

Appendix J

Meteorological Data

Date		Weather	Total Rainfall (mm)	Kwun Tong Station	Kai Tak Station		King's Park Station
				Mean Air Temp. (°C)	Wind Speed (km/h)	Wind Direction	Mean Relative Humidity (%)
1-Jun-19	Sat	Mainly cloudy with a few showers.	32.6	26.8	10.5	W/SW	80.2
2-Jun-19	Sun	Moderate south to southwesterly winds, occasionally fresh offshore at first.	3	27.6	11.2	W/SW	79.7
3-Jun-19	Mon	More showers with isolated thunderstorms	34.1	27	8.5	W/SW	87.2
4-Jun-19	Tue	Hot with sunny intervals and isolated thunderstorms	38.1	28.3	9.5	W/SW	81
5-Jun-19	Wed	Mainly cloudy with isolated showers. Sunny periods tomorrow.	0	29.3	9.1	SE	77.7
6-Jun-19	Thu	Mainly cloudy with a few showers.	Trace	30.4	7.4	S/SW	75.7
7-Jun-19	Fri	Moderate south to southwesterly winds, occasionally fresh offshore at first.	0	30.2	8.2	S/SW	78
8-Jun-19	Sat	Hot with sunny intervals and isolated thunderstorms	1.1	29.7	10.5	SW	72.5
9-Jun-19	Sun	Hot with sunny intervals and isolated thunderstorms	4.1	29.6	17	SW	77.5
10-Jun-19	Mon	Cloudy with showers and squally thunderstorms.	3.3	28.1	14	SW	81.5
11-Jun-19	Tue	Cloudy with showers and occasional squally thunderstorms.	111.6	27	14	SE	89
12-Jun-19	Wed	Mainly cloudy with occasional showers and a few thunderstorms.	1.5	28.3	11	SE	87.5
13-Jun-19	Thu	Mainly cloudy with showers and squally thunderstorms.	55.8	28	18.7	W/SW	88.5
14-Jun-19	Fri	Hot with sunny intervals and isolated thunderstorms	16.5	28.7	12	SW	75
15-Jun-19	Sat	There will be isolated thunderstorms later.	Trace	28.2	15.2	E	77.2
16-Jun-19	Sun	Moderate east to southeasterly winds	0	27	18.9	E	75.7
17-Jun-19	Mon	Mainly cloudy with a few showers.	4.7	27.1	17.8	E	85.5
18-Jun-19	Tue	Mainly cloudy with a few showers. Hot with sunny periods tomorrow	11.1	28.9	11.1	W/SW	85.5
19-Jun-19	Wed	Hot with sunny periods and a few showers.	14	29.4	6.5	W/SW	82.5
20-Jun-19	Thu	Mainly fine apart from isolated showers. Very hot in the afternoon.	0.5	30.2	9.7	SW	79
21-Jun-19	Fri	Very hot during the day with a maximum temperature	0.7	30.9	12.1	SW	78.2
22-Jun-19	Sat	Hot with sunny periods and a few showers.	0.7	30.3	11.5	W/SW	79.7
23-Jun-19	Sun	Mainly fine apart from isolated showers. Very hot in the afternoon.	3.2	29.9	10.5	W/SW	82.2
24-Jun-19	Mon	Cloudy with showers and a few squally thunderstorms.	16.8	27.3	10.7	SW	86.2
25-Jun-19	Tue	Sunny periods and one or two showers	35.4	27.6	7	SE	84.7
26-Jun-19	Wed	Mainly cloudy tonight. Light to moderate southerly winds.	0.9	28.6	9.7	W/NW	85
27-Jun-19	Thu	Very hot with isolated thunderstorms in the afternoon.	3.5	30.3	7	SW	81.2
28-Jun-19	Fri	Very hot with sunny periods in the afternoon.	2.2	30.3	7.5	S	81.2
29-Jun-19	Sat	Mainly cloudy with a few showers.	0.6	30.7	7.7	SW	79
30-Jun-19	Sun	Mainly cloudy with showers and squally thunderstorms.	33.1	30.3	8.2	W/SW	81.2

Appendix K

Waste Flow Table

Contract No.: NE/2016/01

Site Formation and Infrastructure Works for Development of Anderson Road Quarry Site

Monthly Summary Waste Flow Table for 2019 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract (see Note 6)	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	27.051	8.485	4.795	3.042	10.729	0.000	0.000	0.354	0.000	0.000	0.111
Feb	98.548	13.273	60.959	3.989	20.327	0.000	0.000	0.000	0.000	0.000	0.034
Mar	24.156	1.582	1.433	2.512	18.629	0.000	0.000	0.499	0.000	0.000	0.048
Apr	25.291	2.964	3.340	6.422	12.565	0.000	0.000	0.010	0.010	0.000	0.052
May	19.302	4.220	2.034	2.269	10.779	0.000	0.000	0.503	1.600	0.000	0.047
Jun	14.250	4.357	2.976	2.217	4.700	0.000	0.002	0.446	0.012	0.000	0.084
Sub-total	208.597	34.881	75.537	20.451	77.728	0.000	0.002	1.812	1.622	0.000	0.376
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	208.597	34.881	75.537	20.451	77.728	0.000	0.002	1.812	1.622	0.000	0.376

Notes:

(1) The performance targets are given in PS Clause 1.119 (14).

(2) The waste flow table shall also include C&D materials 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 and waste will be collected by recycler for recycling.

(4) Use the conversion factor, density of general refuse (1 t/m^3) and inert C&D materials (2 t/m^3).

(5) Use the conversion factor for chemical waste (0.88kg/L).

(6) Assume a dump truck delivers 7.5 m^3 material in 1 trip.

(7) The cut-off date of this summary is 20th of each month.

Appendix (ii)

Name of Department: CEDD Contract No. : NE/2016/05

Monthly Summary Waste Flow Table for 2019 (year)

[PS Clause 1.129]

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemicals Waste	Others, e.g. general refuse
	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 m^3)
Jan	1.2577	0	0.063	0	1.1947	0	0	0	0	0	0.0008
Feb	0.401	0	0.078	0	0.323	0	0	0	0	0	0
Mar	0.48	0	0.089	0	0.391	0	0	0	0	0	0.0025
Apr	0.439	0	0.045	0	0.394	0	0	0	0	0	0.0005
May	1.196	0	0.025	0	1.171	0	0	0	0	0	0.0045
June	0.504	0	0.085	0	0.419	0	0	0	0	0	0.0005
Sub-total	4.2777	0	0.385	0	3.8927	0	0	0	0	0	0.0088
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	4.2777	0	0.385	0	3.8927	0	0	0	0	0	0.0088

Notes: (1) The performance targets are given in PS Clause 6.14

(2) The waste flow table shall also include C&D materials 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) 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 where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m^3.

Contract No.: NE/2017/03

Development of Anderson Road Quarry Site – Road Improvement Works and Pedestrian Connectivity Facilities Works Phase 2A

Monthly Summary Waste Flow Table for 2019(year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	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^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0.514	0.000	0.000	0.000	0.514	0.000	0.000	0.000	0.000	0.000	0.005
Feb	0.419	0.000	0.000	0.000	0.419	0.000	0.010	0.103	0.020	0.000	0.004
Mar	0.672	0.000	0.000	0.000	0.672	0.000	0.001	0.084	0.002	0.000	0.005
Apr	1.505	0.000	0.000	0.000	1.505	0.000	0.000	0.000	0.000	0.000	0.000
May	1.309	0.000	0.000	0.563	1.309	0.000	0.003	0.179	0.006	0.000	0.009
Jun	0.695	0.000	0.000	0.488	0.695	0.000	0.000	0.000	0.000	0.000	0.018
Sub-total	5.115	0.000	0.000	1.050	5.115	0.000	0.014	0.366	0.028	0.000	0.041
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	5.115	0.000	0.000	1.050	5.115	0.000	0.014	0.366	0.028	0.000	0.041

Contract No.: NE/2017/03

Development of Anderson Road Quarry Site – Road Improvement Works and Pedestrian Connectivity Facilities Works Phase 2A

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
7.000	0	0	0	7.000	0	100.000	2.000	0.300	1.000	3.500

Notes:

(1) The performance targets are given in PS Clause 6.14.

(2) The waste flow table shall also include C&D materials 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 and waste will be collected by recycler for recycling

(4) Use the conversion factor, density of general refuse (1 t/m^3) and inert C&D materials (2 t/m^3).

(5) Use the conversion factor for chemical waste (0.88kg/L)

Appendix L

Implementation Schedule for Environmental Mitigation Measures

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
Dust Impact (Contraction Phase)							
S4.7.2 to S4.7.5	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road is proposed to achieve dust removal efficiency of 91.7%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.75 L/m^2 to achieve the respective dust removal efficiencies.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	V	V	V
S4.7.6	The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction ion Dust) Regulation.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	V	V	V
S4.7.6	Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction phase: • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wet ted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; • The load of dusty materials on a vehicle leaving a construction ion site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road sect ion between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction ion period. • The port ion of any road leading only to construction ion site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	@	@	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
	after the activities so as to maintain the entire surface wet ; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fit ted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; and • Exposed earth should be properly treated by compact ion, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.						
S4.7.7	Implement regular dust monitoring under EM&A programme during the Construction phase.	Control construction airborne noise	Selected Representati ve dust monitoring station	All construction sites where practicable	V	N/A	N/A
Noise Impact (Contraction Phase)							
S5.6.9	Implement the following good site management practices: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction ion programme; • machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direct ion, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction ion equipment should be properly fit ted and maintained during the construction ion works; • mobile plant should be sited as far away from NSRs as possible and practicable; and • material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	Control construction ion airborne noise	Contractor	All construction sites where practicable	V	@	V
S5.6.11 to	Use of " Quiet " Plant and Working Methods.	Reduce the noise	Contractor	All	V	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
S5.6.13		levels of plant items		construction sites where practicable			
S5.6.14	Install temporary site hoarding (approx 2.5m high) located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction ion noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	V	V	V
S5.6.15 to S5.6.18	Install movable noise barriers, full enclosure and acoustic mat, screen the noisy plants including air compressor and generator.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction ion sites where practicable	V	@	N/A
S5.6.19	Sequencing operation of construction plants equipment.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction ion sites where practicable	V	V	N/A
S5.6.34	Implement temporary noise barrier along Road L4.	Further reduce the construction ion airborne noise	Contractor	Road L4 of ARQ	N/A	N/A	N/A
S5.6.35	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected Representative Noise monitoring stations	V	N/A	N/A
Water Quality Impact (Contraction Phase)							
S6.6.3	<u>Construction Runoff</u> In accordance with the Practice Note for Professional Persons on Construction ion Site Drainage, Environmental Protect ion Department , 1994 (ProPECC PN 1/94), best management practices should be implemented as far as practicable as below: • 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. 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. • Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipment in order to avoid or	Control construction runoff	Contractor	All construction sites	@	@	@

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
	minimize polluted runoff. Sediment at ion tanks with sufficient capacity, constructed from preformed individual cells of approximately 6 to 8 m^3 capacities, are recommended as a general mitigation measure which can be used for set t ling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped. • The dikes or embankments for flood protect ion should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt /sediment t rap. The silt /sediment t raps should be incorporated in the permanent drainage channels to enhance deposit ion rates. • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction ion. • Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. • Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, it should be dug and backfilled in short sect ions wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • All open stockpiles of construction ion materials (for example, aggregates, sand and fill material) of should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction ion materials, soil, silt or debris into any drainage system. • Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction ion materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. • Precautions to be taken at any time of year when rainstorms are likely, act ions to be taken when a rainstorm is imminent or forecasted, and act ions to						

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
	be taken during or after rainstorms are summarized in Appendix A2 of ***ProPECC PN 1/94***. Particular attention should be paid to the control of silty surface runoff during storm events. • All vehicles and plant should be cleaned before leaving a construction ion site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction ion site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The sect ion of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient back all toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and rains. • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. • Construction ion solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. • All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bun ds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. • Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Not ices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the rivers.						
S6.6.6 and 6.6.7	<u>Sewage from Workforce</u> • Portable chemical toilets should be provided for handling the construction sewage generated by the workforce. Assume that the capacity of the chemical toilets would be 0.4m3 and suck up twice a day under normal practices, around 45 chemical toilets would be required for the whole site at peak hour. And it should be noted that under normal construction periods, less chemical toilets would be needed. In addition, the total number of the chemical toilets would be subject to later detailed design, the capacity of the chemical toilets, and contractor's site practices. Nevertheless, a licensed contractor should be employed to provide appropriate and adequate portable toilets to cater around 37.5 m3/day sewage and be responsible for appropriate disposal and maintenance. Since portable chemical toilets will be provided, no adverse water quality impact from the workforce sewage is anticipated.	Handling of site sewage	Contractor	All construction sites	V	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
	• Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction ion phase of the Project . Regular environmental audit on the construction ion site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause water quality impact after undertaking all required measure						
S6.6.8 and 6.6.9	<u>Accidental Spillage</u> To prevent accidental spillage of chemicals, proper storage and handling facilities should be provided. All the tanks, containers and storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and storm drains. The Contractor is required to register as a chemical waste producer if chemical wastes would be generated from the construction ion activities. Storage of chemical waste arising from the construction ion activities should be well managed with suitable labels an d warnings while disposal of those chemical wastes should be comply with the requirement states in Waste Disposal Ordinance (Cap 354) as well as Waste Disposal (Chemical Waste) (General) Regulations.	Prevention of accidental spillage	Contractor	All construction sites	@	@	@
S6.6.11-S6.6.14	<u>Groundwater from Contaminated Area</u> The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater discharge. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed during the process of discharge license application. The compliancy to the TM-DSS and the existence of prohibited substance should be confirmed after further SI. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated in compliance with TMDSS or properly recharged into the ground. If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. Petroleum Carbon Ranges (PCRs)). All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be discharged into the foul sewers. If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Sect ion 2.3 of TM-DSS. The baseline groundwater quality shall be determined prior to the select	Minimize contaminated groundwater impacts	Contractor	All construction sites	NA	NA	NA

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
	ion of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement . Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as PCRs should be removed as necessary by installing the petrol interceptor.						
Waste Management (Contraction Phase)							
S8.5.2	Good Site Practice The following good site practices are recommended throughout the construction ion activities: • nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collect ion and effective disposal to an appropriate facility, of all wastes generated at the site; • training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling; • provision of sufficient waste disposal points and regular collect ion for disposal; • appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;	Minimize waste generation during construction	Contractor	All construction sites	V	V	V
S8.5.2 (6)	The contractor should submit a Waste Management Plan (WMP) as part of the Environmental Management Plan (EMP) in accordance with the ***ETWB TC(W) No. 19/2005*** for construction ion phase. The EMP should be submit ted to the Engineer for approval. Mitigation measures proposed in the EIA Report and the EM&A Manual should be adopted.	Minimize waste generation during construction	Contractor	All construction sites	V	V	V
S8.5.3	Waste Reduction Measures Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction: • segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling o materials and their proper disposal; • proper storage and site practices to minimize the potential for damage and contamination of construction ion materials; • plan and stock construction ion materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; • sort out demolition debris and excavated materials from demolition works to	Reduce waste generation	Contractor	All construction sites where practicable	V	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
	recover reusable/recyclable port ions (i.e. soil, broken concrete, metal etc.); • provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.						
S8.5.5	Storage of Waste The following recommendation should be implemented to minimize the impacts: • waste such as soil should be handled and stored well to ensure secure containment ; • stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; • different locations should be designated to stockpile each material to enhance reuse;	Minimize waste impacts from storage	Contractor Contractor	All construction sites	V	V	V
S8.5.6	Collection and Transportation of Waste The following recommendation should be implemented to minimize the impacts: • remove waste in timely manner; • employ the trucks with cover or enclosed containers for waste • transportation; • obtain relevant waste disposal permits from the appropriate authorities; and • disposal of waste should be done at licensed waste disposal facilities.	Minimize waste impacts from storage	Contractor	All construction sites	V	V	@
S8.5.8	Excavated and C&D Material Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at public filling areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials: • maintain temporary stockpiles and reuse excavated fill material for backfilling; • carry out on-site sorting; • make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • implement a recording system for the amount of waste generated, recycled and disposed of for checking; The recommended C&D materials handling should include: • On-site sorting of C&D materials • Reuse of C&D materials • Use of Standard Formwork and Planning of Construction Materials purchasing • Provision of wheel wash facilities	Minimize waste impacts from excavated and C&D materials	Contractor	All construction sites	@	V	V
S8.5.15	Contaminated Soil As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to minimize any potential exposure to contaminated soils or groundwater. The details of mitigation measures to minimize	Remediate contaminated soil	Contractor	All construction sites where applicable	V	V	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
	the potential environmental implications arising from the handling of contaminated materials refer to Land Contamination Section.						
S8.5.17	Chemical Waste • If chemical wastes are produced at the construction ion site, the Contractors should register with EPD as chemical waste producer. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste Contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Cent re, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	V	V	V
S8.5.18	General Waste • General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. • Preferably enclosed and covered areas should be provided for general refuse collect ion and routine cleaning for these areas should also be implemented to keep areas clean. • A reputable waste collector should be employed to remove general refuse on a daily basis.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	V	V	V
S8.5.19	Sewage • The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities. • Regularly collect ion by licensed collectors should be arranged to minimize potential environmental impacts.	Minimize production of sewage impacts	Contractor	All construction sites	V	V	V
Ecology (Contraction Phase)							
S. 10.7.2 to 10.7.6	Re-provision of Wooded Area for ecological function at the future Quarry Park.	Compensate for the loss of three woodland patches of a total area of about 1.13ha.	Contractor/ Detailed Design Consultant (qualified botanist / horticulturist / Certified Arborist to supervise the planting).	Northern part of the proposed Quarry Park.	N/A	N/A	N/A
.10.7.10	Construction phase in situ mitigation measures to minimize impacts on	Minimize impacts on	Contractor	All	V	N/A	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
	hydrological condition and water quality of hillside watercourses include: • Temporary sewerage and drainage will be designed and installed to collect wastewater and prevent it from entering nearby watercourses; • Proper locations well away from nearby watercourses will be used for temporary storage of materials (i.e. equipment , fill materials, chemicals and fuel) and temporary stockpile of construction debris and spoil, and these will be identified before commencement of works; • To prevent muddy water entering nearby watercourses, work sites close to nearby watercourses will be isolated, using such items as sandbags or silt curtains with lead edge at bot tom and properly supported props. Other protective measures will also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the works site; • Stockpiling of construction materials, if necessary, will be properly covered and located away from nearby watercourses; • Erection of temporary geotextile silt fences will be carried out around earth-moving works to trap any sediments and prevent them from entering watercourses; • Construction debris and spoil will be covered and/or properly disposed as soon as possible to avoid being washed into nearby watercourses; • Exposed soil will be covered as quickly as possible following format ion works, followed, where appropriate, by covering with biodegradable geotextile blanket for erosion control purposes; • Where appropriate, earth-bunding will be carried out of areas where soils have been disturbed or where vegetation has been cleared, to ensure that surface runoff will not move soils off-site; • Construction ion effluent, site run-off and sewage will be probably collected and/or treated. Wastewater from any construction ion site will be minimised via the following in descending order: reuse, recycling and treatment ; • Proper locations for discharge out lets of wastewater treatment facilities well away from sensitive receivers will be identified and used; • Silt traps will be installed at points where drainage from the site enters local watercourses; • Appropriate sanitary facilities for on-site workers will be provided; • The site boundary will be clearly marked and any works beyond the boundary strictly prohibited, and • Regular water monitoring and site audit will be carried out at suitable points. If the monitoring and audit results show that pollution occurs, adequate measures including temporary cessation of works will be considered.	Hydrological condition and water quality of hillside watercourses.		construction sites			
S.10.7.11	Implement an emergency contingency plan during the construction phase and the plan will include, but not be limited to, the following: • Potential emergency situations; • Chemicals or hazardous materials used on-site (and their location);	Minimize impacts on Hydrological condition and water quality of hillside	Contractor	All construction sites	N/A	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status		
					Contract 1	Contract 2	Contract 3
	• Emergency response team; • Emergency response procedures; • List of emergency telephone hot lines; • Locations and types of emergency response equipment , and • Training plan and testing for effectiveness.	watercourses.					
Landscape and visual (Contraction Phase)							
S11.14.23 , Table 11.9, CM1 [4]	All existing trees to be retained shall be carefully protected during construction.	Avoid disturbance and protection of the existing trees	Detailed Design Consultant /	The whole project area where applicable	V	V	V
S11.14.23 , Table 11.9, CM2 [3]	Tree Transplantation - Should removal of trees be unavoidable due to construction impacts, trees will be transplanted or felled. Detailed transplanting proposal will be submit ted to relevant government departments for approval in accordance with **LAO GN No. 7/2007**, ***ETWB TCW No. 29/2004*** and ***10/2013***. Final locations of transplanted trees shall be agreed prior to commencement of the work.	Minimize landscape impact and retention of landscape resources	Detailed Design Consultant /	Onsite where possible. Otherwise consider offsite locations	*	N/A	V
S11.14.23 , Table 11.9, CM3 [4]	Control of operation night -time glare with well-planned lighting operation system to minimize potential glare impact to adjacent VSRs	Minimize glare impact to adjacent VSRs	Contractor/ CEDD	The whole project area where applicable	V	V	V
S11.14.23 , Table 11.9, CM [4]	Erection of decorative screen hoarding.	Minimize visual impact	Contractor/ CEDD	The whole project area where applicable	N/A	N/A	N/A
S11.14.23 , Table 11.9, CM5 [2]	Minimise disturbance and limitation of run-off – temporary structures and construction works should be planned with care to minimize disturbance to adjacent landscape, vegetation, natural stream habitats.	Minimize visual impact	Contractor/ CEDD	The whole project area where applicable	V	V	V

Legend: V = implemented; x = not implemented; @ = partially implemented; * = pending to be implemented; N/A = not applicable

Appendix M

Complaint Log
And
Investigation Report for Complaint

Appendix M1 Cumulative Complaint and Summons/ prosecution

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/ Prosecution in Reporting Month
March 2017	**1**	0
April 2017	0	0
May 2017	0	0
June 2017	**2**	0
July 2017	**3**	0
August 2017	**3**	0
September 2017	**4**	0
October 2017	**2**	0
November 2017	**3**	0
December 2017	**3**	0
January 2018	**1**	0
February 2018	**4**	0
March 2018	0	0
April 2018	**1**	0
May 2018	**1**	0
June 2018	**1**	0
July 2018	**0**	0
August 2018	**1**	0
September 2018	**1**	0
October 2018	**1**	0
November 2018	**3**	0
December 2018	**2**	0
January 2019	**2**	0
February 2019	**3**	0
March 2019	**1**	0
April 2019	**0**	0
May 2019	**0**	0
June 2019	**1**	0
Overall Total	**44**	**0**

Appendix M2 Complaint Log

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Status	Investigation Report Ref.
1	23-Mar-17	NA	Anderson Road Quarry site	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	A resident living in On Tat House reported that some night works with noise and flashing caused nuisance to nearby resident after 11:00 pm on 23 March 2017.	According the incident report conducted by the CWSTVJV, demobilization of crawler crane was undertaken on 23 March 2017 11pm and it is TD requirement to carry out demobilization of heavy machine at nighttime. It is considered this complaint was a single incident and would not be happened again in future.	no comment by IEC on 11 Oct 2017	TCS00864/16/300/F0087
2	28-Jul-17	28-Jul-17	Anderson Road Quarry site	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu received a complaint from a resident living in the flat on 38/F of Yin Tat House (賢達樓), On Tat Estate. The resident complained about the noise level of our works during daytime.	Noise monitoring by Contractor was conducted in Yin Tat House, On Tat Estate, at around 2 pm on 28-Jul-2017. Another noise monitoring was carried out by ET and representatives of AECOM and JV in the presence of the complainant in her flat at 10 am on 1-Aug-2017 and was witnessed by Mr. Hsu. No exceedance of noise was recorded. The complainant was satisfied about the monitoring results.	no comment by IEC on 9 Aug 2017	TCS00864/16/300/F0060
3	29-Aug-17	29-Aug-17	Anderson Road Quarry site	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu Yau Wai reported that he received complaint from a resident (Ms Cheng) living at Shing Tat House 24/F Room 22 about the noise generated from our site this week. The noise heard was mainly rock breaking noise from our site.	Noise monitoring was carried out by ET and representatives of AECOM and JV in the presence of the complainant in her flat at 3pm on 30-Aug-2017. No exceedance of noise was recorded. The complainant was satisfied about the monitoring results.	no comment by IEC on 8 Sep 2017	TCS00864/16/300/F0081
4	21-Jun-17	29-Aug-17	Anderson Road Quarry site	Resident of Po Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00019373-17)	day time construction noise of breakers (8am to 6pm)	These two complaints were forwarded by CEDD to ET on 31 August 2017 which after the complaint dates. Investigation was conducted based on the site information by the Contractor of Contract 1 as well as the observation during weekly site inspection carried out ET during June 2017. In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident and the working hour 08:00 to 18:00 did not breach any legal requirement. To eliminate the inconvenience caused to the nearby resident CWSTVJV was advised to further enhance the noise mitigation measures as appropriately.	no comment by IEC on 3 Nov 2017	TCS00864/16/300/F0093
5	22-Jun-17	29-Aug-17	Anderson Road Quarry site	Resident of Po Tat Estate	Dust & Construction noise	EPD	EPD (ref. N08/RE/00019428-17)	Day time construction noise of breakers (8AM to 6PM). Requested to delay the operating hour of breakers to 10AM or 11AM			TCS00864/16/300/F0093
6	15-Jul-17	29-Aug-17	Anderson Road Quarry site	Resident of Po Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00022479-17)	Construction noise	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident and the working hour 08:00 to 18:00 did not breach any legal requirement. To eliminate the inconvenience caused to the nearby resident, CWSTVJV was advised to further enhance the noise mitigation measures as appropriately.	no comment by IEC on 3 Nov 2017	TCS00864/16/300/F0094
7	28-Jul-17	29-Aug-17	Anderson Road Quarry site	unknown	Dust	EPD	EPD (ref.N08/RE/00023986-17)	Poor control on dust emission at Anderson Road Construction Site	CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident and status of the implementation of dust mitigation measures was considered effective based on the site observation.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0097

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Status	Investigation Report Ref.
8	2-Aug-17	29-Aug-17	Anderson Road Quarry site	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00024557-17)	Day time construction noise of breakers (8AM to 6PM)	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in August 2017, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should further enhance the noise mitigation measures as appropriately. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0098
9	19-Sep-17	19-Sep-17	Anderson Road Quarry site	Resident of Sau Mau Ping Estate	Construction noise	SPRO hotline	NA	The complainant is living at Sau Mau Ping Estate Sau Nga House 38/F. He complained about the noise nuisance recently from August to September especially during night time after 12:00 am, even in Saturdays and Sundays. The noise nuisance caused a great disturbance to him. He made a request to conduct investigation about the source of the noise during night time.	ET has conducted an ad-hoc noise measurement for Leq (30min) on the rooftop of 秀雅樓 and 秀義樓 in the afternoon of 22 September 2017. During the course of noise measurement, construction activities such as excavation and breaking were conducted in the Quarry Site. The measurement results taken at both 秀雅樓 and 秀義樓 were 63dB(A) which below the Limit Level under the EM&A Programme.	no comment by IEC on 18 Oct 2017	TCS00864/16/300/F0088
10	21-Sep-17	13-Oct-17	Anderson Road Quarry site	Resident of Sau Mau Ping Estate	Construction noise	EPD	EPD (ref.N08/RE/00031074-17)	On 21 September 2017, the same complaint further reported that the noise can be heard at both Sau Yee House and Sau Nga House even in daytime and he strongly requested the Contractor to follow up the case immediately.			TCS00864/16/300/F0088
11	27-Sep-17	13-Oct-17	Anderson Road Quarry site	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00029489-17)	The complainant questioned why there were 6 to 7 breakers operating in the morning but only 1 operating in the afternoon. He requested to shift the operation of the breakers to afternoon.	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in September and October 2017, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 30 Nov 2017	TCS00864/16/300/F0106
12	3-Oct-17	13-Oct-17	Anderson Road Quarry site	Resident of On Tat Estate	Construction noise	EPD	EPD (ref. N08/RE/00032407-17)	Day time construction noise, the complainant requested using less breaker at one time, erecting taller noise barrier to cover the equipment. In addition, the complainant would like to know the construction schedule whether there will be more breaking activities in near future			TCS00864/16/300/F0106
13	25-Oct-17	26-Oct-17	Anderson Road Quarry site	Resident of Po Tat Estate	Dust	EPD	NA	投訴安達臣道地盤的泥車落泥，令他達貴樓的住所受到大塵影響，要求跟進及回覆	Investigation revealed that CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. Nevertheless, based on the observation during site inspection on 31 October 2017, CWSTVJV was advised to enhance the dust mitigation measures particularly during dry season.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0100

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14	6-Nov-17	7-Nov-17	Anderson Road Quarry site	Resident of On Tat Estate	Noise	EPD	NA	安達邨俊達樓居民投訴石礦場地盤又再於早上 07:45 開始傳出機器不停挿石的噪音(幾乎每日在 08:00-19:00 進行工程)，已持續一年，他全家人受到滋擾。	Ad-hoc noise measurement was conducted by ET at rooftop of Chun Tat House in the morning of 20 November 2017 and measurement result was below the Limit Level under the EM&A Programme. CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 30 Nov 2017	TCS00864/16/300/F0109
15	13-Nov-17	14-Nov-17	Anderson Road Quarry site	Mr. Lam Wai	light pollution and noise	SPRO hotline	NA	1. 智泰樓面向安達臣地盤方向，有照射燈深夜時分仍然常開，影響居民正常睡眠質素，照成一定的精神壓力。 2. 隔音布未固定，大風吹過發出極大的聲浪	To ease the concern by the complaint, CWSTVJV has adjusted the lights to the orientation pointing the ground and that to minimise the nuisance. For the maintenance of noise barrier, CWSTVJV has immediately fixed the noise barrier nearest to On Tai Estate and prolonged the cover area of the noise barrier to reduce the noise impact to the public.	no comment by IEC on 24 Nov 2017	TCS00864/16/300/F0104
16	1-Nov-17	14-Nov-17	Anderson Road Quarry site	Resident of Po Tat Estate	Noise	EPD	NA	居住於安達邨誠達樓高層的投訴人投訴由早上八時半至下午六時聽到揈鐵噪音。	CWSTVJV had already deployed the acoustic mat as noise barrier at the site boundary near Shing Tat House. To enhance the noise mitigation measures, CWSTVJV deployed an acoustic mat as noise barrier for the breaking work in order to reduce construction noise affecting the upper floor of On Tat Estate.	no comment by IEC on 13 Dec 2017	TCS00864/16/300/F0110
17	25-Aug-17	26-Oct-17	Anderson Road Quarry site	Resident of Sau Mau Ping Estate	Construction Noise	EPD	EPD (ref.N08/RE/00027738-17)	Night time construction noise of hammering (around 12AM)	It is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out after 19:00 at the subject site. Therefore, the complaint about noise nuisance during night time should not be related to the Project.	no comment by IEC on 14 Dec 2017	TCS00864/16/300/F0114
18	12-Sep-17	26-Oct-17	Anderson Road Quarry site	Resident of On Tat Estate	Construction Noise	EPD	EPD (ref. N08/RE/00029489-17)	Day time construction noise of breakers (8AM to 5PM)	Noise mitigation measures were implemented to reduce the noise impact to the nearby resident. According to the impact noise monitoring result in September 2017, there were no breaches of EM&A requirement. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 10 Jan 2018	TCS00864/16/300/F0117
19	15-Dec-17	21-Dec-17	Anderson Road Quarry site	Resident of Sau Mau Ping Estate	Construction Noise	EPD	NA	Resident of Sau Yee House complained suspected construction noise from Anderson Construction Site at restricted hour (7pm to 7am).	It is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out after 19:00 at the subject site. Therefore, the complaint about noise nuisance during night time should not be related to the Project.	no comment by IEC on 10 Jan 2018	TCS00864/16/300/F0118
20	20-Dec-17	21-Dec-17	Anderson Road Quarry site	Resident of On Tat Estate	Dust	EPD	NA	投訴安達臣道信和地盤水車已經壞了十多天， 一直無灑水，四周非常大塵。 投訴人住於安達邨，投訴安達臣道石礦場有大地盤，地盤大車工作時間不停出入揚起沙塵，吹到安達邨，影響空氣環境，要求部門到場視察。	CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. It is considered that the complaint was an isolated case due to malfunction of water tanker and CWSTVJV has promptly rectified the deficiency. As advised by CWSTVJV, another water tanker will be deployed in mid-January 2018 to enhance the dust suppression measures throughout the construction site.	no comment by IEC on 25 Jan 2018	TCS00864/16/300/F0121
21	28-Dec-17	10-Jan-18	Anderson Road Quarry site	Resident of Sau Mau Ping Estate	Construction Noise	CE's office	NA	日間及凌晨均聽到轟隆聲的噪音及震動，懷疑是由附近工程引起	ET has conducted an ad-hoc noise measurement for Leq (30min) in the complainant's flat in the monitoring of 17 January 2018.It was noted that the complainant's flat is not in direct line of sight to the Anderson Road Quarry Site. The measurement noise	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0129

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									result was below the Limit Level under the EM&A Programme. Moreover, it is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out during restricted hour at the subject site. Therefore, the complaint about noise nuisance during restricted hour should not be related to the Project.		
22	15-Jan-18	15-Jan-18	Anderson Road Quarry site	Resident of Chun Tat House of On Tat Estate, 40/F	Construction Noise	SPRO mobile	NA	She is irritated by the construction noise of breaking rock for a long time and strongly requested to know exactly when will be the completion date of the breaking rock part of works opposite to Chun Tat House. She said we should do more on the mitigation measures because our site is very close to the residents nearby.	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in January 2018, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0130
23	1-Feb-18	2-Feb-18	Anderson Road Quarry site	Resident of On Tai Estate (referred by Mr. Lam Wai)	Construction Noise	SPRO hotline	NA	"智泰對出，白天噪音過大，可否加裝隔音板?高層受影響"	The Environmental Team has conducted an ad-hoc noise measurement for Leq(30min) at the corridor of 22/F of Chi Tai House on 2 February 2018 facing the construction site. The measurement noise result was 65dB(A) which below the Limit Level under the EM&A Programme. In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in January 2018, there were no breaches of EM&A requirement.	no comment by IEC on 22 Feb 2018	TCS00864/16/300/F0137
24	1-Feb-18	2-Feb-18	Anderson Road Quarry site	Resident of Shing Tat House (referred by Mr. Hsu Yau Wai)	Construction Noise	SPRO hotline	NA	Mr. Hsu reported that some disturbing noise was heard after 6:00 pm from the site near Shing Tat House of On Tat Estate.	AECOM has liaised with Mr. Hsu on 2 February 2018 for the complaint matter and he reported to AECOM that the noise was generated until 7:00 pm on 1 February 2018. 3. As advised by Contractor of Contract 1, breaking works at USRT area which opposite to Shing Tat House was only carried out from 8:00 to 18:00. However, rock breaking at System A was extended to 19:00 on 1 February 2018. As noise mitigation measures, noise barriers were erected for the works area. Further to the complaint case, CWSTVJV would seek for other quiet work method such as using drilling machine to reduce noise level and speed up the rock breaking process, so that to reduce the noise intensity level and the duration of exposure.	no comment by IEC on 28 Feb 2018	TCS00864/16/300/F0140
25	28-Feb-18	28-Feb-18	Anderson Road Quarry site	Resident of Shing Tat House	Construction Noise	EPD	NA	安達邨誠達樓居民, 投訴人是返夜班, 一年半以來長期受對出地盤日間掻石仔噪音滋擾, 由於單位與地盤太近, 堅持環保署跟進及回覆如何處理及減低噪音, 他亦要求知道何日完工.	Breaking works at Underground Stormwater Retention Tank area which opposite to Shing Tat House was carried out from 8:00 to 18:00. The Contractor has implemented noise mitigation measures to reduce the noise impact to the nearby resident. It was advised that the rock breaking works shall tentatively be completed by end of April and it is believe that the noise impact should be minimized. Since the works were carried out within the non-restricted hours and noise monitoring noise were within acceptable level, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 19 Mar 2018	TCS00864/16/300/F0143

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26	11-Apr-18	12-Apr-18	Anderson Road Quarry site	Resident of HimTat House	Construction Noise	SPRO Hotline	NA	Mr. Hui Yau Wai reported that the noise irritation was becoming more severe recently and asked about the completion date of the works close to Him Tat House. The resident suspected that the noise comes from piling works nearby.	In our investigation, since construction noise was generating from other construction site next to Him Tat House, it is considered that the complaint is due to cumulative noise generated by both construction sites. However, CWSTVJV should properly provide the noise mitigation measures at works area in System B to minimize the noise impact to the resident nearby. As advised by CWSTVJV on 20 April 2018, noise barrier was being erected at works area in System B as noise mitigation measures. According to the site photo, it is considered that the coverage of noise barrier is not sufficient and CWSTVJV should enhance the measure as far as practicable. The implementation of noise mitigation measures will be kept in view in subsequent site inspection.	no comment by IEC on 7 May 2018	TCS00864/16/300/F0160b
27	25-Apr-18	7-May-18	Junction of Hiu Kwong Street and Hiu Ming Street	A school but name of school not disclosed	Construction Noise	EPD	NA	This case is considered as an enquiry and no investigation is required under the EM&A Programme.		NA	NA
28	18-May-18	24-May-18	Anderson Road Quarry Site	Undisclosed	Construction Noise	EPD	NA	投訴人指安達臣道石礦場地盤(NE/2016/01)在入夜 19:00 後仍見到有長臂喉工程車在運作，及持續產生大噪音及閃燈，非常擾民。	As advised by CWSTVJV and confirmed by RE/AECOM, there were no construction activities carried out after 19:00 and concreting was completed before 19:00. It is concluded that the retracting process is not a general construction work using Powered Mechanical Equipment and complaint was an isolated case due to misunderstanding of the site operation. To prevent similar incidents in future, CWSTVJV has recommended several mitigation measures.	no comment by IEC on 30 July 2018	TCS00864/16/300/F0174b
29	25-Jun-18	19-Jul-18	Pedestrian Connectively E8 under Contract 3	Kwun Tong DC member Ms. So Lai-chun	Waste Management	CEDD	NA	A public complaint was referred from CEDD on 4 July 2018 regarding accumulation of dead leaves and branches found at slope (GLA-TNK 2458) near Hiu Yuk Path on 25 June 2018. The complainant requested the relevant department to clear the leaves and branch asap	CW-CMGC-JV has immediately clear the dead leaves and maintain the site cleanliness. Since the construction work has not yet commenced and the dead leaves and overgrown branches were not related project works, it is considered that the complaint is not valid the project.	no comment by IEC on 24 Sep 2018	TCS00864/16/300/F0189b
30	22-Aug-18	29-Aug-18	Hong Wah Court	Resident of Hong Wah Court	Construction Noise	1823 Hotline	NA	投訴人指馬游塘區堆填區往將軍澳方向行車入口因配合項目需要而進行移除山坡工程，但其鑽地鑿石的噪音嚴重影響藍田康雅苑*居民，要求有關部門跟進。 *註:投訴人於 2018 年 8 月 27 日更正指受影響屋苑應為藍田康華苑。	to reduce the inconvenience caused to the nearby resident, Kwan On should properly maintain the noise mitigation measures as appropriate, such as maintain good site practice including intermittent use of machine and plant and Sequencing operation of construction plant equipment. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 7 Sep 2018	TCS00864/16/300/F0196a

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31	26-Feb-18	31-Jul-18	Anderson Road Quarry Site	Undisclosed	Construction Noise	EPD	NA	安達邨誠達樓後面地盤，2 月 26 日晚，晚上 7 時後，還在落石屎，相片拍攝時間大概晚上 9 時半，一直至晚上十一時五十分還有工程車在地盤行駛。影響居民休息。	According to the site diary which countersigned by RE, there was no concreting work carried out after 18:00 and the construction activities conducted during restricted hours with valid CNP were completed at 23:00. It is considered that the complaint was not valid to the Project. Nevertheless, CWSTVJV was reminded that in case of any work activities need to be carried out during restricted hours, CWSTVJV should strictly follow the requirements specified in the valid CNP.	no comment by IEC on 10 Oct 2018	TCS00864/16/300/F0197a
32	6-Sep-18	7-Sep-18	Tsui Yeung House	Resident of Tsui Yeung House	Construction Noise	Verbal	NA	Mr. CHENG Keung-fung complained that the contractor has conducted the noisy works such as rock excavation beyond the normal hours.	Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. As advised by Kwan On, the rock breaking works shall tentatively be completed by end of December 2018 and the mitigation measures will implemented continuously during slope construction work and the slope construction will be carried out within the working hours at Portion 2. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 22 Oct 2018	TCS00864/16/300/F0201
33	24-Oct-18	25-Oct-18	E3	Kwun Tong DC member Ms. So Lai-chun	Construction Noise	Whatsapp Message	NA	KTDC member, Ms. Ann So, complaining the noise of the breaker at E3	As advised by the Contractor, the acoustic material wrapped on the breaker was worn-out on 24 October 2018 and replacement of new acoustic materials has been installed on the breaker immediately on 25 October 2018. The rock breaking works shall tentatively be completed to the road level in the middle of November 2018 and the mitigation measures will implemented continuously during slope construction work and the slope construction will be carried out within the working hours at Portion 2. It is considered the complaint was an isolate case.	no comment by IEC on 23 Nov 2018	TCS00864/16/300/F0209a
34	12-Nov-18	13-Nov-18	Anderson Road Quarry Site	Resident of ChingTat House(referredby Mr. Hui Yau Wai)	Construction Noise	SPRO Hotline	NA	Mr. Hui reported that he received complaint from a resident living in Ching Tat House about noise nuisance recently. Mr. Hui asked if project team can arrange some noise monitoring to check the noise level at the concerned flat or the same level at Ching Tat House.	The SPRO contacted Mr. Hiu and explained to him about the purpose and benefits of the tunnel to the residents nearby and the expected date of completion of the tunnel will be earlier than 2020. Moreover, the noise mitigation measures had implemented to reduce the noise level effectively and the work progress will be closely updated to nearby stakeholders to enhance communication. Mr. Hiu satisfied with the reply from SPRO and he agreed that the proposed noise monitoring in Ching Tat House was not needed. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no breaches of legislative requirement.	no comment by IEC on 12 Dec 2018	TCS00864/16/300/F0222a
35	14-Nov-18	14-Nov-18	Anderson Road Quarry Site	Undisclosed	Light and Noise	EPD	NA	凌晨 1 時，地盤仍有大光燈正射民居和機器移動聲音，影響附近居民睡眠及違反環保條例。	CWSTVJV immediately adjusted the angle and brightness of the lighting to minimize the nuisance to the resident nearby. In response to the complaint, CWSTVJV immediate carried out remedial action to minimize the nuisance to the public. It was considered that complaint for noise generated by machine moving was an isolated case. CWSTVJV was reminded to closely monitor the plant use and sequence of night work and do not to violate CNP conditions.	no comment by IEC on 3 Jan 2019	TCS00864/16/300/F0223a

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36	13-Nov-18	14-Nov-18	Anderson Road Quarry Site	Undisclosed	Noise and dust	1823	NA	Complainant requested to postpone the starting time of construction work at project site and also to solve the problem of construction noise and dust.	In our investigation, acoustic barrier and site hoarding were in place along the works area. No noticeable noise and dust impact was observed during the site inspection. As advised by CWSTVJV, the normal working hour of the construction site is 8am to 6pm and there were no violation of the relevant regulations. The senior public relation officer contacted the complainant Ms. Ma on 26 November 2018 to explain the site situation and she was satisfied with the reply. Investigation Report has been completed by ET without comment from IEC.	no comment by IEC on 18 Feb 2019	TCS00864/16/300/F0224
37	9-Dec-18	12-Dec-18	Anderson Road Quarry Site	Undisclosed	Construction noise	1823	2-4927907305	1823 has referred a case to CEDD on 10 December 2018, which the complainant complained that construction noise was generated from project site on Sunday and was affecting the resident at Hau Tat House, On Tat Estate. The complainant requested follow up action from related department as soon as possible.	In our investigation based on the information provided by CWSTVJV, there was no site activities undertaken at site access road as concerned by the complainant. The construction work carried out on Sunday was fully compliance with the CNP requirement. In response to the complaint, CWSTVJV was reminded to closely monitor the plant use and sequence of night work and do not to violate CNP conditions.	no comment by IEC on 10 Jan 2019	TCS00864/16/300/F0230a
38	19-Dec-18	27-Dec-18	Anderson Road Quarry Site	Undisclosed	Construction noise	1823	2-4948074127	1823 has referred a case to CEDD on 27 December 2018, which the complainant complained that noise barriers near the round-about at On Sau Road were not enough, and construction noise generated from the project site was affecting the resident at Ming Tai House, On Tai Estate. The complainant requested follow up actions from related department as soon as possible.	Joint site inspection was carried out on 3 January 2019 the status of implemented mitigation measures provided by CWSTVJV was inspected. It was observed that noise mitigation measures including temporary noise barrier, acoustic mat and wrapped by acoustic materials are implemented on site. However, CWSTVJV was advised to extend the coverage of noise barrier as far as practicable and fully enclose the concerned works area which has been completed on 15 January 2019. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 31 Jan 2019	TCS00864/16/300/F0237a
39	24-Jan-19	29-Jan-19	Anderson Road Quarry Site	Undisclosed	wastewater	Referred from DSD	NA	DSD has referred a case to CEDD on 24 January 2019 regarding suspended illegal discharge of cementitious slurry from construction site of Development of ARQ Site to nearby Public Stormwater Drainage System.	In our investigation, the concerned catchpit and U-channel mainly received the runoff from Po Lam Road as well as the discharge from the Anderson Road Quarry Site. It is suspected that the mud and silt found on the downstream has been accumulated over time particularly by rainstorm as well as routine discharge from construction site. As remedial action, CWSTVJV immediately clean the affected area where accessible. Nevertheless, in order to protection the watercourse at downstream of the construction site, CWSTVJV has some enhancement measures.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0248a
40	30-Jan-19	30-Jan-19	Anderson Road Quarry Site	Undisclosed	noise	SPRO hotline	NA	A public complaint was received by SPRO hotline on 30 January 2019 regarding the construction noise near Ma Yau Tong Village and requested to add noise barrier as soon as possible.	In our investigation, CWSTVJV had provided the noise mitigation measures to minimize the noise impact to the resident nearby. The impact monitoring result obtained at Ma Yau Tong Village revealed that the construction noise were within acceptable level. Since the works were conducted within approved normal hours with implementation of noise and dust mitigation measures, there were no breaches of legislative requirement.	no comment by IEC on 15 Mar 2019	TCS00864/16/300/F0249a

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41	15-Feb-19	25-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	1823	2-494807 4127	1823 has referred a case to CEDD on 15 February 2019, which the complainant complained about the construction noise generated from the CEDD site near 法源寺 (Ma Yau Tong Village). The complainant requested for the details of works and the completion date, the complainant also requested CEDD to use other construction methods in order to re	In response to the complainant, CWSTVJV has proposed alterative quiet work method to alleviate the noise impact to the public. They will schedule the noisy activities to be carried out after 10am as far as practicable to minimize the impact to resident nearby, given that not affecting the site progress. Moreover, the coverage of acoustic barriers will be extended in view of the works programme.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0251a
42	21-Feb-19	25-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	EPD	NA	The resident from Sau Hong House complained that the noise from the Anderson Road Quarry construction site has gotten worse. In addition, sometimes even after midnight there are noise coming from the site. With the echo produces from the environment, this is not helping at all. Really a big disturbance to the residence in the area. The complainant suspecting the sound proof measure has lessen as time goes. Follow action is requested.	In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate, such as maintain good site practices such as intermittent use of machine and plant and Sequencing operation of construction plant equipment. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.erway by ET.	no comment by IEC on 28 Mar 2019	TCS00864/16/300/F0250
43	21-Feb-19	26-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	received by DEVB and referred to CEDD	NA	A public complaint was received by DEVB and referred to CEDD on 25 February 2019 regarding on the noise generated from the construction works of the Anderson Road Quarry Site affecting a local resident residing at the Anderson Road Squatter Area	Additional acoustic mat has been erected in front of the Squatter Area to minimize the noise impact. Noise mitigation measures such as acoustic barriers erected along the works area and breaker head wrapped with acoustic material were implemented continually. Alterative quiet work method was adopted such as drilling the hard rock before the breaking work to reduce the breaking duration. In our investigation, CWSTVJV had enhanced the noise mitigation measures to ease the complainant's concerns. CWSTVJV will continually implement the noise mitigation measures to reduce to noise impact to the public.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0252a
44	1-Mar-19	26-Feb-19	E3 of Contract 2	Undisclosed	noise	CEDD	NA	A complaint is forwarded by CEDD which was received by KTDC member Mr CHENG Keung Fung from the residents of Tsui Yeung House(翠楊樓) about the noise nuisance generated and the working time up to 7:00 pm from the rock excavation of E3 lift tower. Follow up action is requested.	The representative of the engineering team explained to Mr. Cheng about the project's details and concerned site was being constructed for the future pedestrian connection facilities. The related stone drilling process is expected to be completed in mid-April to end of April 2019. Mr. Cheng was satisfied with the rapid response from CEDD and the engineering team. In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 6 May 2019	TCS00864/16/300/F0264

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45	16-Jun-19	18-Jun-19	Anderson Road Quarry Site	Undisclosed	noise	EPD	NA	EPD referred a case to CEDD on 17 June 2019 regarding the construction noise heard at On Tat Estate on Sunday.	The Contractor explained that general cleaning by water jet was carried out in the construction site on the concerned day. Since the work did not involve the use of Powered Mechanical Equipment (PME), it would not violate the noise control ordinance. The Investigation report is underway by ET.	--	--

Appendix N

Implementation Status for Water Quality Mitigation Measures

Water Quality Mitigation Measure

Perimeter channel to collect site surface

Exposed surface was covered by cement motar

Q1: Temporary Water Reservoir 1

Q2: Temporary Water Reservoir 3

Q3: Wastewater treatment facility 110 cu. m. + AquaSed of 60 cu. m. per hour

Q5: Wastewater treatment facility 11 cu. m. + AquaSed of 60 cu. m. per hour

Q6: Wastewater treatment facility 24 cu. m.

Q7: Wastewater treatment facility AquaSed of 60 cu. m. per hour