Civil Engineering and Development Department

Contract No. ED/2018/04

Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron

Monthly Environmental Monitoring and Audit Report

May 2020

(Version 1)

Approved By

(Environmental Team Leader:
Mr. KS Lee)

REMARKS:

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

CINOTECH accepts no responsibility for changes made to this report by third parties

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Introduction

1. This is the 3rd Environmental Monitoring and Audit (EM&A) Report prepared by the Environmental Team (ET), Cinotech Consultants Ltd., for Contract No. ED/2018/04 "Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron". This report summarized the monitoring results and audits findings of the EM&A programme under the issued Environmental Permit (EP) No. EP-451/2013 and in accordance with the EM&A Manual (AEIAR-174/2013) during the reporting month of May 2020.

Summary of Main Works Undertaken and Key Measures Implemented

2. The main works undertaken during the reporting period are as follows:

Kai Tak:
- Contractor's and SOR (Modular Integrated Construction (MIC)) Site Offices in Portion A3;
- CLC building fabrication;
- GI Works for the D-wall works at the Depressed Road;
- Depressed Road – Sheet Piling;
- Depressed Road – Diaphragm Wall;
- Launching Shaft / C&C Tunnel CSM;
- Launching Shaft / C&C Tunnel Diaphragm Wall; and
- Ground improvement works for PWCL at Portion N3

Cha Kwo Ling:
- East Portal – temporary support for Tunnel Portal; and
- East Portal – Horizontal Ground Investigation

3. Implementation of the key mitigation measures during the reporting period are as follows:

Air Quality
- Water spraying on haul road and unpaved area was done to minimize dust generation.

Noise
- Doors of air compressor were closed during operation to minimize noise nuisance.

Water Quality
- Manholes are covered and sealed properly to prevent discharge to the drainage system.
- An emergency pumping system was installed to prevent flooding during heavy rain.

Landscape and Visual
- Decorative screen hoarding was erected.

Summary of Exceedances, Investigation and Follow-up

4. Exceedance of Action/Limit levels during the reporting month (May 2020) and the investigation results and/or follow-up actions:

Air Quality Monitoring

- No Action/Limit Level exceedance for 24-hour TSP was recorded.

Construction Noise Monitoring

- No Action/Limit Level exceedance for day time construction noise monitoring was recorded in the reporting month.

Landscape and Visual Monitoring and Audit

- 1 deficiency of the landscape and visual impact was recorded in the reporting month. The implementation of landscape and visual and mitigation measures was checked by a Registered Landscape Architect during the environmental site inspections.

Complaint Handling, Prosecution and Public Engagement

Table I Summary of Complaint/Summons/Prosecution in the Reporting Month

Event	Event Details		Follow-up/ Remedial Actions	Status/ Remarks
	Number	Brief Description		
Complaints Received	0	-	-	-
Notification of Summons and Prosecutions Received	0	-	-	-
Public Engagement Activities	0	-	-	-

Future Key Issues

5. The key works or activities will be anticipated in the next reporting period are as follows:

Table II Summary Table for Site Activities in the next Reporting Period

Site Activities (June 2020)	Key Environmental Issues
1. CKL Junction Improvement works 2. 132kV substation ELS and Structure Construction at Portion M1 3. Road S20 – Road & Drain 4. East Portal – Blast Door Installation	(A) / (B) / (C) / (D)

Note:
(A) Dust generation from haul road, stockpile of dusty materials, exposed site area, excavation works and rock breaking activities;
(B) Noisy construction activity such as rock-breaking activities and piling works;
(C) Runoff from exposed slope or site area; and
(D) Wastewater and runoff discharge from site.

1 INTRODUCTION

Background

1.1 In 2009, Civil Engineering and Development Department (CEDD) commissioned a Kai Tak Development (KTD) – Trunk Road T2 and Infrastructure at South Apron Investigation. The assignment covers the provision of the Trunk Road T2 and its connections with the Central Kowloon Route (CKR) at the north apron area and the Tseung Kwan O – Lam Tin Tunnel (TKOLTT) to the south in the Cha Kwo Ling area.

1.2 The Trunk Road T2 Project is one of the designated Projects under Schedule 2 of the EIAO proposed in the KTD. CEDD submitted the Project Profile (No. PP-379/2009) on 24 March 2009 for application for an EIA study brief for the Trunk Road T2 Project under the EIAO. Accordingly, an EIA Study Brief (ESB-203/2009) for the Trunk Road T2 Project was issued on 30 April 2009. The Environmental Impact Assessment (EIA) Report for the Trunk Road T2 Project was approved under the Environmental Impact Assessment Ordinance (EIAO) on 19 September 2013. The corresponding Environmental Permit (EP) was issued on 19 September 2013 (EP no.: EP-451/2013).

1.3 The Contract No. ED/2018/04 is the main contract of Trunk Road T2 ("T2 Main Works") which comprises mainly the design and construction of a dual two-lane trunk road of approximately 3.0km long with about 2.7km of the trunk road in form of tunnel; ventilation and administration buildings, environmental protection and mitigation works and etc. The EM&A programme under this Contract is governed by the two EPs (EP-451/2013 and EP-458/2013/C) and two EM&A Manuals (AEIAR-174/2013 and AEIAR-173/2013). The work areas of the T2 Main Works are shown in **Figure 1** and the works to be executed under this Contract and corresponding EPs are summarized as follows:

Environmental Permit	**Works Description**
EP-451/2013 – Trunk Road T2	*Trunk Road T2* • Construction of highway and sub-sea tunnel connecting between Central Kowloon Route and Cha Kwo Ling Tunnel • Western & Eastern Ventilation Buildings
EP-458/2013/C – Tseung Kwan O – Lam Tin Tunnel (TKOLTT) and Associated Works	*Cha Kwo Ling Tunnel* Construction of Cha Kwo Ling Tunnel from the end of Trunk Road T2 to the TKOLTT at the Eastern Ventilation Building

Monitoring Works in Kai Tak under EP-451/2013

1.4 Under Contract No. KL/2014/03 - Kai Tak Development - Stage 3 Infrastructure Works for Development at the Southern Part of the Former Runway ("T2 Advance Works"), the baseline monitoring works in Kai Tak under the EM&A Manual (AEIAR-174/2013) were conducted by the Environmental Team (ET) for the Contract No. KL/2014/03 at the approved relocated monitoring locations (EPD reference: EP2/K19/A/21 pt.5), namely KTD1a, KTD2a & KER1a. During the impact monitoring period, monitoring locations KTD 2a and KER 1a were relocated to new locations, i.e. KTD 2b and KER 1b (EPD reference: ( ) in EP2/K19/A/21 pt. 6 and ( ) in EP2/K19/A/21 pt. 5) respectively. Location KTD2b was then further relocated to location KTD2c, the proposal of such relocation was submitted to EPD on 24 March 2020 and was approved by EPD on 6 April 2020 (EPD reference: ( ) in EP2/K19/A/21 pt.7). The aforementioned relocation was effective from 9 April 2020. Impact monitoring within the Kai

Tak area shall be conducted by the ET of Contract No. ED/2018/04 upon cessation of such monitoring by Contract No. KL/2014/03. The data obtained from the impact monitoring works completed by the ET of Contract No. KL/2014/03 will be adopted in this report.

Monitoring Works in Cha Kwo Ling under EP-451/2013

1.5 The environmental impact of the remaining works in Cha Kwo Ling, under EP-451/2013, shall be monitored at the two proposed stations, namely CKL1, CKL2, in accordance to the EM&A Manual (AEIAR-174/2013). The impact monitoring for the two proposed stations shall be conducted by the ET of T2 Main Works.

1.6 Cinotech Consultants Ltd. was designated as the Environmental Team (ET) to undertake the EM&A works for "Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron" (hereinafter called the "Project").

Purpose of the Report

1.7 This is the 3rd Monthly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period in May 2020.

Project Organizations

1.8 Different Parties with different levels of involvement in the Project organization include:

- Permit Holder – Civil Engineering and Development Department (CEDD)
- Supervisor Representative – Hyder-Meinhardt Joint Venture (HMJV)
- Environmental Team (ET) – Cinotech Consultants Limited (Cinotech)
- Independent Environmental Checker (IEC) – Ramboll Hong Kong Limited (Ramboll)
- Contractor – Bouygues Travaux Publics (BTP)

1.9 The key contacts of the Project are shown in **Table 1.1**.

Table 1.1 Key Project Contacts

Party	Role	Contact Person	Phone No.
CEDD	Permit Holder	Mr. Wong Chi Wai, Tommy	3842 7111
HMJV	Supervisor Representative	Mr. Joe Nam	3742 3820
Cinotech	Environmental Team	Mr. KS Lee (ETL)	2151 2091
		Ms. Karina Chan	2157 3880
Ramboll	Independent Environmental Checker	Mr. Ray Yan (until 22 May 2020)	3465 2836
		Mr. Manson Yeung (from 23 May 2020)	3465 2888
BTP	Contractor	Mr. Bryan Lee	5588 3891

1.10 The Organizational Structure for Environmental Management is shown in **Figure 1.2**.

Construction Activities undertaken during the Reporting Month

1.11 The major site activities undertaken in the reporting month included:

Kai Tak:

- Contractor's and SOR (Modular Integrated Construction (MIC)) Site Offices in Portion A3;
- CLC building fabrication;
- GI Works for the D-wall works at the Depressed Road;
- Depressed Road – Sheet Piling;
- Depressed Road – Diaphragm Wall;
- Launching Shaft / C&C Tunnel CSM;
- Launching Shaft / C&C Tunnel Diaphragm Wall; and
- Ground improvement works for PWCL at Portion N3

Cha Kwo Ling:

- East Portal – temporary support for Tunnel Portal; and
- East Portal – Horizontal Ground Investigation

Summary of EM&A Requirements

1.12 The EM&A programme requires construction noise, air quality monitoring and environmental site audit, etc. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental mitigation measures, as recommended in the Project EIA Report.

1.13 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 10** of this report.

1.14 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the monitoring parameters of the required environmental monitoring works and audit works for the Project in May 2020.

Status of Environmental Licensing and Permitting

1.15 All permits/licenses obtained for the Project are summarized in **Table 1.3**.

Table 1.3 Summary of Environmental License and Permit

Permit / License No.	Valid Period		Status
	From	To	
Environmental Permit (EP)			
EP-451/2013	19 Sep 2013	N/A	Valid
EP-458/2013/C	20 Jan 2017	N/A	Valid
Notification pursuant to Air Pollution (Construction Dust) Regulation			
Ref. No.: 451120	20 Nov 2019	N/A	Valid
Billing Account for Construction Waste Disposal			
A/C No.: 7036016	09 Dec 2019	N/A	Valid
Construction Noise Permit			

Permit / License No.	Valid Period		Status
	From	To	
CNP No. (For Portion Depressed Road): GW-RE0287-20	28 Apr 2020	24 Oct 2020	Valid
CNP No. (For Portion A3): GW-RE0293-20	28 Apr 2020	25 Oct 2020	Valid
CNP No. (For Launching Shaft and Barging Point): GW-RE0326-20	11 May 2020	25 Oct 2020	Valid
CNP No. (For Portion T1): GW-RE0401-20	21 May 2020	20 Aug 2020	Valid
CNP No. (For Portion Q): GW-RE0337-20	08 May 2020	07 Nov 2020	Valid
Wastewater Discharge License			
Nil			
Chemical Waste Producer License			
WPN: 5213-286-B2557-03	09 Mar 2020	N/A	Valid

2 AIR QUALITY

Monitoring Requirement

2.1 According to the EM&A Manual (AEIAR-174/2013), 24-hour Total Suspended Particulates (TSP) monitoring was conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once in every six days at all of the monitoring stations for 24-hour TSP monitoring. In case of complaints, 1-hour TSP monitoring should be conducted at least three times in every six days when the highest dust impacts are likely to occur. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

2.2 Five designated monitoring stations were selected for air quality monitoring programme. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

2.3 According to the approved alternative baseline air quality monitoring locations (EPD reference: EP2/K19/A/21 pt.5), the original monitoring locations (KTD1, KTD2 and KER1) are proposed to be replaced by alternative monitoring locations (KTD1a, KTD2a and KER1a) for air quality monitoring. During the impact monitoring period, monitoring locations KTD 2a and KER 1a were relocated to new locations, i.e. KTD2b and KER 1b (EPD reference: ( ) in EP2/K19/A/21 pt. 6 and ( ) in EP2/K19/A/21 pt. 5) respectively. Location KTD2b was then further relocated to location KTD2c, the proposal of such relocation was submitted to EPD on 24 March 2020 and was approved by EPD on 6 April 2020 (EPD reference: ( ) in EP2/K19/A/21 pt.7). The aforementioned relocation was effective from 9 April 2020.

Table 2.1 Air Quality Monitoring Locations

Monitoring Stations	Location
KTD1a	Centre of Excellence in Paediatrics (Children's Hospital)
KTD2c	G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1b	Site Boundary at Cheung Yip Street
CKL1	Flat 121 Cha Kwo Ling Village
CKL2	Flat 103 Cha Kwo Ling Village

Monitoring Parameters and Frequency

2.4 **Table 2.2** summarizes the monitoring parameters, monitoring period and frequencies of impact air quality monitoring. The monitoring schedule is shown in **Appendix B**.

Table 2.2 Frequency and Parameters of Air Quality Monitoring

Monitoring Stations	Parameter	Period	Frequency
KTD1a, KTD2c, KER1b, CKL1 & CKL2	1-hour TSP	0700 – 1900	3 times per 6 days (as required in case of complaints)
KTD1a, KTD2c, KER1b, CKL1 & CKL2	24-hour TSP	24 hours	Once every 6 days

Monitoring Equipment

2.5 High Volume Samplers (HVS) in compliance with the specification stipulated in the EM&A Manual (AEIAR-174/2013), Section 2.2.1.4, were used to carry out 24-hour TSP monitoring. Direct reading dust meter were also used to measure 1-hour average TSP levels. The 1-hour sampling was determined by HVS to check the validity and accuracy of the results measured by direct reading method.

2.6 Wind data monitoring equipment was set at rooftop (about 41/F) of Yau Lai Estate Bik Lai House, Lam Tin for logging wind speed and wind direction such that the wind sensors were clear of obstructions or turbulence caused by building. The wind data monitoring equipment was re-calibrated at least once every six months and the wind directions were divided into 16 sectors of 22.5 degrees each. Wind data is attached in **Appendix D**.

2.7 **Table 2.3** summarizes the equipment used for air quality monitoring by the ET for Contract No. KL/2014/03 and ED/2018/04. Copies of calibration certificates are attached in **Appendix C**.

Table 2.3 Air Quality Monitoring Equipment

Equipment	Model	Quantity
1-hour TSP Dust Meter	Sibata Model No. LD-3B/ LD-5R	N/A(1)
HVS Sampler	TISCH Model: TE-5170	5
Calibrator	TISCH Model: TE-5025A	2
Wind Anemometer	Davis Weather Monitor II, Model no. 7440	1

Remarks:
(1) As no complaint of air quality was received, no impact 1-hour TSP monitoring was conducted.

Monitoring Methodology

1-hour TSP Monitoring

Measuring Procedures

2.8 The measuring procedures of the 1-hour dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

(Sibata Model No.: LD-3B/LD-5R)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.

- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display. Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

Maintenance/Calibration

2.9 The following maintenance/calibration is required for the 1-hour dust meter:

- Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

24-hour TSP Monitoring

Instrumentation

2.10 High volume samplers (HVS) (TISCH Model: TE-5170) complete with appropriate sampling inlets was employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in Section 2.2 of the Annex II Specification.

2.11 The positioning of the HVS samplers are as follows:

- A horizontal platform with appropriate support to secure the samplers against gusty wind shall be provided;
- No two samplers shall be placed less than 2 meter apart;
- The distance between the sampler and an obstacle, such as buildings, must be at least twice the height that the obstacle protrudes above the sampler;
- A minimum of 2 metres of separation from walls, parapets and penthouses is required for rooftop samplers;
- A minimum of 2 metres of separation from any supporting structure, measured horizontally is required;
- No furnace or incinerator flue is nearby;
- Airflow around the sampler is unrestricted;
- The sampler is more than 20 metres from the dripline;
- Any wire fence and gate, to protect the sampler, shall not cause any obstruction during monitoring;
- Permission must be obtained to set up the samplers and to obtain access to the monitoring stations; and
- A secured supply of electricity is needed to operate the samplers.

Operating/analytical procedures for the operation of HVS

2.12 Operating/analytical procedures for the air quality monitoring are highlighted as follows:

- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6 m^3/min. and 1.7 m^3/min.) in accordance with the EM&A manual (AEIAR-174/2013). The flow rate shall be indicated on the flow rate chart.
- For TSP sampling, fiberglass filters with a collection efficiency of > 99% for particles of 0.3μm diameter were used.
- The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The shelter lid was closed and secured with the aluminum strip.
- The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- After sampling, the filter was removed and sent to the HOKLAS laboratory (ALS Technichem (HK) Pty Ltd. and Wellab Ltd.) for weighing. The elapsed time was also recorded.
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

2.13 The following maintenance/calibration is required for the HVS:

- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- High volume samplers were calibrated at bi-monthly intervals using TE-5025A Calibration Kit throughout all stages of the air quality monitoring.

Results and Observations

2.14 The impact monitoring works for air quality monitoring locations KTD1a, KTD2c and KER1b are completed by the ET of Contract No. KL/2014/03, and the data will be adopted in this report.

2.15 Impact air quality monitoring was conducted at five monitoring stations as scheduled. The monitoring schedule is shown in **Appendix B**.

2.16 As no complaint of air quality was received in the reporting month, no impact 1-hour TSP monitoring was conducted.

2.17 No Action/Limit Level exceedance was recorded for all 24-hour TSP monitoring in the reporting month.

2.18 The air temperature, relative humidity, and the precipitation data were obtained from daily extracts of Hong Kong Observatory Climate Information Service. This weather information for the reporting month is summarized in **Appendix D**.

2.19 The monitoring data and graphical presentations of 24-hour TSP monitoring results are shown in **Appendix F**.

2.20 According to field observations by ET for Contract No. KL/2014/03 and ED/2018/04 in the reporting period, the major dust source identified at the designated air quality monitoring stations are as follows:

Table 2.4 Major Dust Source during Air Quality Monitoring

Monitoring Stations	Major Dust Source
KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)	• Loading and unloading of C&D wastes in the site of Contract No. KL/2014/03; • Vehicles movement in the site of Contract No. KL/2014/03; • Construction activities at the nearby construction sites of New Acute Hospital and Trunk Road T2; and • Road traffic along Shing Fung Road, Shing Cheong Road, Cheung Yip Street and the Kwun Tong By-pass.
KTD 2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)	
KER1b - Site Boundary at Cheung Yip Street	
CKL1 - Flat 121 Cha Kwo Ling Village	Road Traffic along Cha Kwo Ling Road
CKL2 - Flat 103 Cha Kwo Ling Village	Road Traffic along Cha Kwo Ling Road

Comparison of EM&A Result with EIA Prediction

2.21 The air monitoring data was compared with the predictions in Table 4.14 of EIA Report, AEIAR-174/2013 (as approved in 2013) as summarised in **Table 2.6**.

Table 2.6 Comparison of 24-hr TSP Monitoring Data with Predictions in EIA Report

Monitoring Stations	ASR ID	Predicted Maximum 24-hr TSP Concentration in EIA Report (AEIAR-174/2013), µg/m^3	Maximum 24-hr TSP Concentration in the Reporting Month (May 2020), µg/m^3
KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)	KTD3	126	63

Monitoring Stations	ASR ID	Predicted Maximum 24-hr TSP Concentration in EIA Report (AEIAR-174/2013), µg/m^3	Maximum 24-hr TSP Concentration in the Reporting Month (May 2020), µg/m^3
KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)	N/A(1)	N/A(1)	80
KER1b - Site Boundary at Cheung Yip Street	KTD6	169	68
CKL1 - Flat 121 Cha Kwo Ling Village	N/A(1)	N/A(1)	134.2
CKL2 - Flat 103 Cha Kwo Ling Village	N/A(1)	N/A(1)	94.3

Remarks:
(1) No 24-hr TSP concentration was predicted in EIA Report (AEIAR-174/2013)

2.22 In the reporting month, the 24-hour TSP concentration at KTD1a and KER1b were lower than the prediction in the EIA Report, AEIAR-174/2013 (as approved in 2013). No Action/Limit level exceedance was recorded in the reporting period.

3 NOISE

Monitoring Requirements

3.1 According to the EM&A Manual (AEIAR-174/2013), construction noise monitoring was conducted to monitor the construction noise arising from the construction activities. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

3.2 Noise monitoring was conducted at five designated monitoring stations, namely KTD1a, KTD2c, KER1b, CKL1 and CKL2 in the reporting period. **Table 3.1** and **Figure 2** show the locations of these stations.

3.3 According to the approved alternative baseline noise monitoring locations (EPD reference: EP2/K19/A/21 pt.5), the original monitoring locations (KTD1, KTD2 and KER1) are proposed to be replaced by alternative monitoring locations (KTD1a, KTD2a and KER1a) for noise monitoring. During the impact monitoring period, monitoring locations KTD 2a and KER 1a were relocated to new locations, i.e. KTD 2b and KER 1b (EPD reference: ( ) in EP2/K19/A/21 pt. 6 and ( ) in EP2/K19/A/21 pt. 5) respectively. Location KTD2b was then further relocated to location KTD2c, the proposal of such relocation was submitted to EPD on 24 March 2020 and was approved by EPD on 6 April 2020 (EPD reference: ( ) in EP2/K19/A/21 pt.7).

Table 3.1 Noise Monitoring Stations

Monitoring Stations	Location
KTD1a	Centre of Excellence in Paediatrics (Children's Hospital)
KTD2c	G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1b	Site Boundary at Cheung Yip Street
CKL1	Flat 121 Cha Kwo Ling Village
CKL2	Flat 103 Cha Kwo Ling Village

Monitoring Parameters, Frequency and Duration

3.4 **Table 3.2** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix B**.

Table 3.2 Frequency and Parameters of Noise Monitoring

Monitoring Stations	Time Period	Duration	Frequency	Parameter	Measurement
KTD1a	0700-1900 hrs on normal weekdays	30 minutes	Once per week	L_{10}(30 min.) dB(A) L_{90}(30 min.) dB(A) L_{eq}(30 min.) dB(A)	Façade Measurement
KTD2c					Free Field Measurement
KER1b					Free Field Measurement
CKL1					Free Field Measurement
CKL2					Free Field Measurement

Monitoring Equipment

3.5 Integrating Sound Level Meter was used for impact noise monitoring. The meters were Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x) that also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 3.3** summarizes the noise monitoring equipment being used by the ET for Contract No. KL/2014/03 and ED/2018/04 within the reporting period. Copies of calibration certificates are attached in **Appendix G**.

Table 3.3 Noise Monitoring Equipment

Equipment	Model	Quantity
Integrating Sound Level Meter	Casella CEL-63X Series	2
	BSWA308	1
	SVAN 959	1
Calibrator	Casella CEL-120/1	2
	ST-120	2

Monitoring Methodology and QA/QC Procedure

3.6 The monitoring procedures are as follows:

- The monitoring station was normally be at a point 1m from the exterior of the sensitive receivers building façade and be at a position 1.2m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - Frequency weighting: A
  - Time weighting: Fast
  - Time measurement: 30 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after

measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.

- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the L_{eq}, L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise monitoring would be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. Supplementary monitoring would be provided to ensure sufficient data would be obtained.

Maintenance and Calibration

3.7 The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.

3.8 The sound level meter and calibrator were checked and calibrated at yearly intervals.

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

Results and Observations

3.10 The data obtained from the impact monitoring works completed by the ET of Contract No. KL/2014/03 will be adopted in this report for noise monitoring locations KTD1a, KTD2c and KER1b.

3.11 Impact noise monitoring was conducted at five monitoring stations as scheduled. The monitoring schedule is shown in **Appendix B**. No Action/Limit Level exceedance was recorded for all construction noise monitoring in the reporting month.

3.12 Noise monitoring results and graphical presentations are shown in **Appendix H**.

3.13 According to field observations by ET for Contract No. KL/2014/03 and ED/2018/04 in the reporting period, the major noise sources identified at the noise monitoring stations are shown in **Table 3.4**.

Table 3.4 Other Noise Source Identified during Noise Monitoring

Monitoring Stations	Major Noise Source
KTD1a	• Construction activities (Loading and unloading of C&D waste, travel of vehicles, use of PME and other plants, and other construction activities) in the site of Contract No. KL/2014/03; and • Road traffic along Shing Fung Road and Shing Cheong Road.
KTD2c	• Road traffic along the Kwun Tong By-pass; and • Non-project related construction activities at the nearby construction sites of New Acute Hospital and Trunk Road T2.

Monitoring Stations	Major Noise Source
KER1b	• Construction activities (Loading and unloading of C&D waste, travel of vehicles, use of PME and other plants, and other construction activities) in the site of Contract No. KL/2014/03; • Road traffic along Cheung Yip Street; and • Construction activities at the nearby construction sites of New Acute Hospital and Trunk Road T2.
CKL1	Road Traffic along Cha Kwo Ling Road
CKL2	Road Traffic along Cha Kwo Ling Road

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3.14 The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 3.5**.

Table 3.5 Baseline Noise Level and Noise Limit Level for Monitoring Stations

Monitoring Stations	Baseline Noise Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)	Noise Limit Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)
KTD1a	78	75
KTD2c	64	
KER1b	65	
CKL1	72.4	
CKL2	71.4	

Comparison of EM&A Result with EIA Prediction

3.15 The noise monitoring data was compared with the predictions in Table 5.13 of EIA Report (AEIAR-174/2013) as summarised in **Table 3.6**.

Table 3.6 Maximum Predicted Mitigated Construction Noise Levels in EIA Report

Monitoring Stations	NSR ID	Maximum Predicted Mitigated Construction Noise Levels in EIA Report (AEIAR-174/2013), dB(A)	Maximum Construction Noise Levels in the Reporting Month (May 2020), Leq (30min) dB(A)
KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)	KTD1	74	68
KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)	N/A(1)	N/A(1)	75
KER1b - Site Boundary at Cheung Yip Street	KER1	75	74

Monitoring Stations	NSR ID	Maximum Predicted Mitigated Construction Noise Levels in EIA Report (AEIAR-174/2013), dB(A)	Maximum Construction Noise Levels in the Reporting Month (May 2020), Leq (30min) dB(A)
CKL1 - Flat 121 Cha Kwo Ling Village	CKL4	71	73.4
CKL2 - Flat 103 Cha Kwo Ling Village	CKL5	69	68.9

Remarks:
(1) No Maximum Predicted Mitigated Construction Noise Levels was predicted in EIA Report (AEIAR-174/2013)

3.16 The results at CKL1 was higher than the maximum predicted mitigated construction noise level in the EIA Report, AEIAR-174/2013 (as approved in 2013), this may be due to fluctuations of traffic flow along Cha Kwo Ling Road throughout the day. The results at KTD1a, KER1b and CKL2 were lower than the maximum predicted noise level in the EIA Report. No Action / Limit level exceedance was recorded in the reporting period.

4 WATER QUALITY

Monitoring Requirement

4.1 According to Section 4.3.1.1 of EM&A Manual (AEIAR-174/2013), no water quality monitoring is required during the construction phase.

4.2 According to Section 4.3.1.5 of EM&A Manual (AEIAR-174/2013), compliance site audits are to be undertaken by the Engineer and ET and escorted by the Contractor to ensure that a valid discharge license has been issued by the EPD prior to the discharge of the effluent from the construction activities of the Project site. Monitoring of the quality of the treated effluent from the works areas should be carried out in accordance with the Water Pollution Control Ordinance (WPCO) license. The audit results reflect whether the effluent quality is in compliance with the discharge license requirements, the summaries of site audits are attached in **Appendix I**.

4.3 In the event of non-compliance the responsibilities of the relevant parties is detailed in the Event / Action plan attached in **Appendix J**.

5 MARINE ECOLOGY

5.1 According to Section 5.3.1.1 of EM&A Manual (AEIAR-174/2013), ET will be required to undertake audit of good site practice for habitat protection as detailed below. The summaries of site audits are attached in **Appendix I**.

- Avoid damage and disturbance to the remaining and surrounding natural habitat;
- Ensure placement of equipment is within designated areas within the existing disturbed land;
- Ensure construction activities are restricted to within the proposed works boundary;
- Ensure spoil heaps are be covered at all times;
- Ensure that disturbed areas are reinstated immediately after completion of the works; and
- Ensure enhancement planting works undertaken.

6 FISHERIES

6.1 According to Section 6.3.1.2 of EM&A Manual (AEIAR-174/2013), no specific fisheries monitoring and audit programme is required during the construction phase.

6.2 The implementation of the water quality mitigation measures stated in the Water Quality Impact Assessment (Refer to Section 6 of the EIA Report (AEIAR-174/2013)) will be audited as part of the EM&A procedures during the construction period and the details are presented in **Section 4.2** of this Report. The summaries of site audits are attached in **Appendix I**.

7 LANDSCAPE AND VISUAL

7.1 According to the EM&A Manual (AEIAR-174/2013), a series of mitigation measures were recommended to ameliorate the landscape and visual impacts of the Project. The mitigation measures for construction stage are summarized in **Table 7.1** below and provided in **Appendix K**:

Table 7.1 Construction Phase Landscape and Visual Mitigation Measures

ID No.	Landscape and Visual Mitigation Measure
CM1	All works shall be carefully designed to minimize impacts on existing landscape resources and visually sensitive receivers. Existing trees within works area shall be retained and protected.
CM2	Existing trees of good quality and condition that are unavoidably affected by the works should be transplanted.
CM3	Not used.
CM4	Not used.
CM5	Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance.
CM6	Construction plant and building material shall be orderly and carefully stored in order to create a neat and tidy visual appearance
CM7	Erection of decorative screen hoarding should be designed to be compatible with the existing urban context.
CM8	All lighting in construction site shall be carefully controlled to minimize light pollution and night-time glare to nearby residences and GIC user. The contractor shall consider other security measures, which shall minimize the visual impacts.

7.2 A specialist Landscape Sub-Contractor should be employed by the Contractor for the implementation of landscape construction works and subsequent maintenance operations during the establishment period. It is proposed that the planting works will be on-site and the planting should be completed during the construction contract. The monitoring of the planting establishment should be undertaken for a 12 month period which could extend throughout the Contractor's one-year maintenance period, which will be within the first operational year of the Project.

7.3 All measures undertaken by both the Contractor and the specialist Landscape Sub-Contractor during the construction phase and first year of the operational phase shall be audited by a Registered Landscape Architect (RLA), as a member of the Environmental Team (ET), on a regular basis to ensure compliance with the intended aims of the measures. To fulfil the aforementioned requirements, on-site landscape and visual mitigation measures were audited

by RLA in the reporting month.

7.4 According to Section 7.3.1.2 of the EM&A Manual (AEIAR-174/2013), site audits shall be undertaken at least once every two weeks throughout the construction period to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project.

7.5 The broad scope of the audit is detailed below but should also be undertaken with reference to the more specific checklist provided in **Table 7.2**. The summaries of site audits are attached in **Appendix I**:

- The extent of the agreed works areas should be regularly checked during the construction phase. Any trespass by the Contractor outside the limit of the works, including any damage to existing trees and soft landscape areas shall be prohibited;
- the progress of the engineering works should be regularly reviewed on site to identify the earliest practical opportunities for the landscape works to be undertaken;
- all existing trees and vegetation within the study area which are not directly affected by the works are retained and protected;
- the methods of protecting existing vegetation proposed by the Contractor are acceptable and enforced;
- preparation, lifting transport and re-planting operations for any transplanted trees;
- all landscaping works are carried out in accordance with the specifications;
- the planting of new trees, shrubs, groundcover, climbers, ferns, grasses and other plans, together with the replanting of any transplanted trees are carried out properly and within the right season; and
- all necessary horticultural operations and replacement planting are undertaken throughout the Establishment Period to ensure the healthy establishment and growth of both transplanted trees and all newly established plants.

Table 7.2 Construction Phase Audit Checklist for Landscape and Visual Mitigation Measures

Area of Works	Items to be Monitored
Advance planting	Monitoring of implementation and maintenance of planting, and against possible incursion, physical damage, fire, pollution, surface erosion, etc.

Area of Works	Items to be Monitored
Protection of all trees and existing soft landscape areas to be retained	Identification and demarcation of trees / vegetation to be retained, erection of physical protection (e.g. fencing), monitoring against possible incursion, physical damage, fire, pollution, surface erosion, etc.
Clearance of existing vegetation	Identification and demarcation of trees / vegetation to be cleared, checking of extent of works to minimise damage, monitoring of adjacent areas against possible incursion, physical damage, fire, pollution, surface erosion, etc.
Pruning of trees	Identification and demarcation of trees / vegetation to be pruned, monitoring of extent of pruning to minimise damage, timing of operations, implementation of all stages of preparatory and pruning works, and maintenance of pruned vegetation, etc.
Plant supply	Monitoring of operations relating to the supply of specialist plant material (including the collecting, germination and growth of plants from seed) to ensure that plants will be available in time to be used within the construction works.
Soiling, planting, etc.	Monitoring of implementation and maintenance of soiling and planting works and against possible incursion, physical damage, fire, pollution, surface erosion, etc.
Site fencing and hoarding	Implementation and maintenance, to ensure compliance with agreed designs and check that it matches the surrounding environment and does not cause visual intrusion.
Architectural treatment of engineering works.	Implementation and maintenance of mitigation measures, to ensure compliance with agreed designs as applicable.
Establishment Works	Monitoring of implementation of maintenance operations during Establishment Period.

7.6 In the event of non-compliance the responsibilities of the relevant parties is detailed in the Event / Action plan attached in **Appendix J**.

7.7 In the reporting month, 1 deficiency of the landscape and visual mitigation measures was recorded on 21 May 2020, where physical protections (e.g. fencing) were not observed at some existing trees in the CKL site. The Contractor was reminded immediately to protect existing trees properly. The follow-up of such deficiency will be updated in the next reporting month.

8 CULTURAL HERITAGE

8.1 According to Section 8.3.1.1 of EM&A Manual (AEIAR-174/2013), as a precautionary measure, it is recommended that if any antiquity or supposed antiquity is discovered during the course of the excavation works undertaken by the Contractor, the discovery shall be reported to the AMO immediately and all necessary measures taken to preserve it.

8.2 According to Section 8.3.1.2 of EM&A Manual (AEIAR-174/2013), no EM&A is required during the construction and operational phase.

9 WASTE MANAGEMENT

9.1 According to Section 9.3.1.1 of EM&A Manual (AEIAR-174/2013), the effective management of waste arisings during the construction phase will be monitored through the site audit programme. Regular audits and site inspections should be carried out by the Engineer, ET and Contractor to ensure that the recommended good site practices and other mitigation measures are implemented by the Contractor. The summaries of site audits are attached in **Appendix I**.

9.2 According to Sections 9.3.1.3 and 9.3.1.4 of EM&A Manual (AEIAR-174/2013), documents including licenses, permits, disposal and recycling records should be reviewed and audited during site audits for the compliance with the legislation and contract requirements to ensure proper records are being maintained and procedures undertaken in accordance with the Waste Management Plan.

10 ENVIRONMENTAL AUDIT

Site Audits

10.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix I**.

10.2 Site audits were conducted on 7, 14, 21 and 28 May 2020 in the reporting month. Site inspection of the IEC was conducted on 14 May 2020. No non-compliance was observed during the site audit.

Implementation Status of Environmental Mitigation Measures

10.3 According to Environmental Permits, the approved EIA Reports (Register No.: AEIAR-174/2013 and AEIAR-173/2013), and the EM&A Manuals of the Project (AEIAR-174/2013 and AEIAR-173/2013), the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix K**.

10.4 The ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in **Table 10.1**. Refer to **Appendix I** for the site inspection summary reports in the reporting month.

Table 10.1 Observations and Recommendations of Site Audit

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	29 Apr 2020	Construction areas (KT portion) should be watered regularly.	Site areas were watered by the Contractor on 7 May 2020.
Noise	7 May 2020	Door of air compressor should be closed while operating (KT portion).	The air compressor operated with door closed on 14 May 2020.
Water Quality	7 May 2020	Manhole should be covered and sealed (KT portion).	Manhole was covered and sealed with concrete and sand bag on 21 May 2020.
	21 May 2020	Water pond was found at site (CKL portion). Drainage system should be adequately designed for storm flow.	An emergency pumping system was installed on 28 May 2020.
Ecology	N/A	There was no observation in the reporting period.	N/A
Landscape and Visual	21 May 2020	Existing tree to be retained on site (CKL portion) should be protected carefully.	To be followed up in the next reporting period.

Parameters	Date	Observations and Recommendations	Follow-up
Waste / Chemical Management	N/A	There was no observation in the reporting period.	N/A
Permits /Licences	N/A	There was no observation in the reporting period.	N/A

Implementation Status of Event and Action Plans

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

Air Quality Monitoring
- No Action/Limit Level exceedance for 24-hour TSP monitoring was recorded.

Construction Noise Monitoring
- No documented complaint on construction noise was received; no Action Level exceedance for construction noise was recorded.
- No Action/Limit Level exceedance for construction noise monitoring was recorded in the reporting month.

Landscape and Visual
- 1 landscape and visual deficiency was recorded.

Status of Required Submission under Environmental Permit

10.6 According the Section 11.3.2.1 (c) of the EM&A Manual (AEIAR-174/2013), status of required submission under EP-451/2013 and EP-458/2013/C during the reporting period are summarized in **Table 10.2**.

Table 10.2 Status of Required Submission under Environmental Permit

EP Condition	Submission	Submission Date
EP-451/2013		
Condition 2.3	Management Organization of Main Construction Companies	20 January 2020
Condition 2.4	Design Drawing of the Project	20 January 2020
Condition 2.5	Landscape Mitigation Plan(s)	7 May 2020
Condition 2.10 (a)	Supplementary Contamination Assessment Plan	18 December 2015
Condition 2.10	Supplementary Contamination Assessment Report	6 December 2016

EP Condition	Submission	Submission Date
(b)		
Condition 3.3	Baseline Monitoring Report (at Kai Tak Area)	22 February 2016
Condition 3.3	Baseline Monitoring Report (at Cha Kwo Ling Area)	3 April 2020
Condition 3.4	Monthly EM&A Report (April 2020)	15 May 2020
EP-458/2013/C		
Condition 2.4	Management Organization of Main Construction Companies	3 March 2020
Condition 2.5	Noise Mitigation Plan	29 April 2020
Condition 2.6	Waste Management Plan	25 April 2020
Condition 2.7	Landscape Mitigation Plan	7 May 2020
Condition 2.10	Construction Programme	11 May 2020
Condition 4.3	Baseline Monitoring Report	27 October 2016

11 ENVIRONMENTAL NON-CONFORMANCE

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

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

Summary of Exceedance

11.2 The summary of exceedance record in the reporting month is shown in **Appendix M**.

11.3 1 deficiency was recorded for landscape and visual inspections conducted in the reporting month.

12 FUTURE KEY ISSUES

Tentative construction programmes for the next three months are provided in **Appendix N**.

12.1 Major site activities undertaken for the coming months are summarized as follows:

- CKL Junction Improvement works;
- 132kV substation ELS and Structure Construction at Portion M1;
- Road S20 – Road & Drain; and
- East Portal – Blast Door Installation

12.2 Key environmental issues in the coming months include:

- Regular watering of construction areas;
- Doors of air compressors should be closed during operation;
- Make sure drainage system is adequately designed to prevent flooding during periods of heavy rain;
- Make sure manholes are properly covered and sealed; and
- Make sure existing trees are protected properly.

Monitoring Schedule

12.3 The tentative environmental monitoring schedule for the next three months are shown in **Appendix B**.

13 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

13.1 This is the 3rd Monthly EM&A Report which presents the EM&A works undertaken during the reporting month in accordance with the EM&A Manual (AEIAR-174/2013) and the requirement under EP.

Air Quality Monitoring

13.2 No Action/Limit Level exceedance was recorded for 24-hour TSP monitoring in the reporting month.

Construction Noise Monitoring

13.3 No Action/Limit Level exceedance was recorded for all noise monitoring in the reporting month.

Site Audit

13.4 4 ET joint weekly environmental site inspections were conducted in the reporting month.

Complaint, Notification of Summons and Successful Prosecution

13.5 No environmental complaints, notifications of summons and successful prosecutions were received in the reporting month.

Recommendations

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

Air Quality

- Construction areas should be watered regularly.

Noise

- Doors of air compressors should be closed during operation.

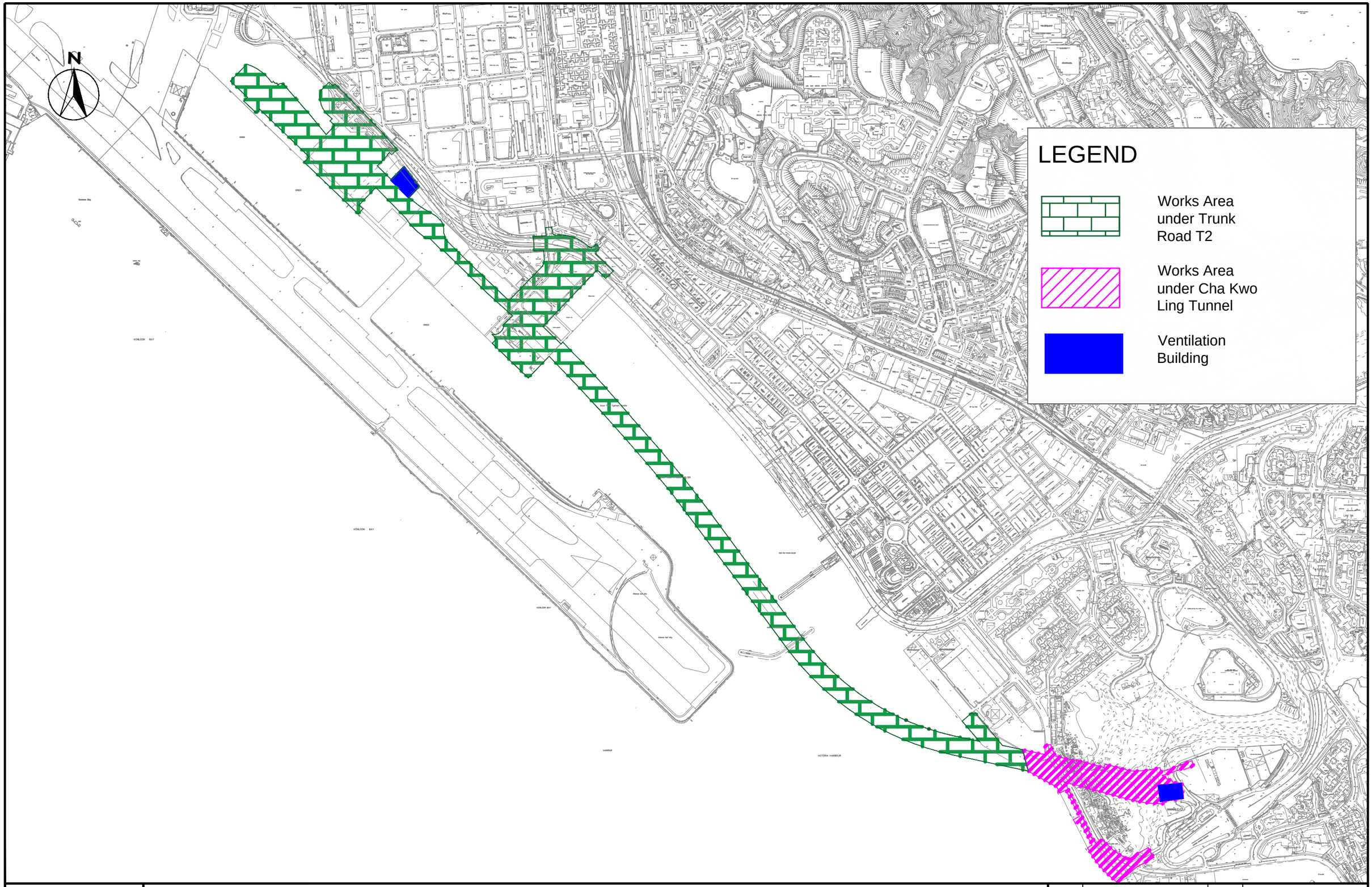
Water Quality

- Manholes should be covered and sealed properly; and
- Drainage system should be adequately designed for storm flow;

Landscape and Visual

- Existing trees should be protected properly (e.g. via fencing).

FIGURES



CINOTECH
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Contract No. ED/2018/04 - Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron

Site Layout Plan

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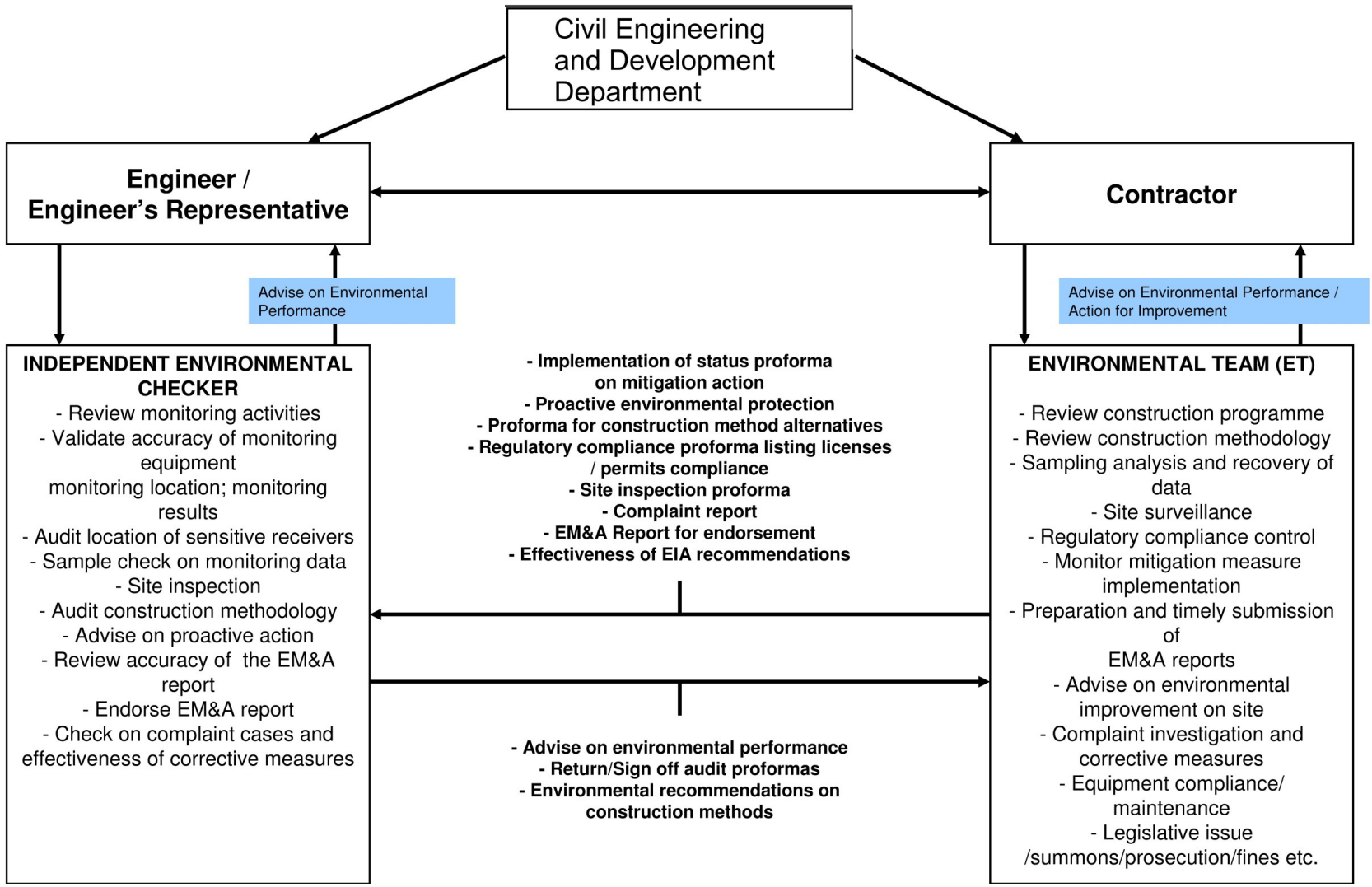
CHECK	KC	DRAWN	TL
JOB No.	MA20003	FIGURE No. Fig 1	REV -



Rev.	Description	Date

Drawing title

PROJECT ORGANISATION AND LINES OF COMMUNICATION

Original Size A3

Scale N.T.S

Date 18/JAN/2013

File name

Drawing No. FIGURE 1.2

Rev. –

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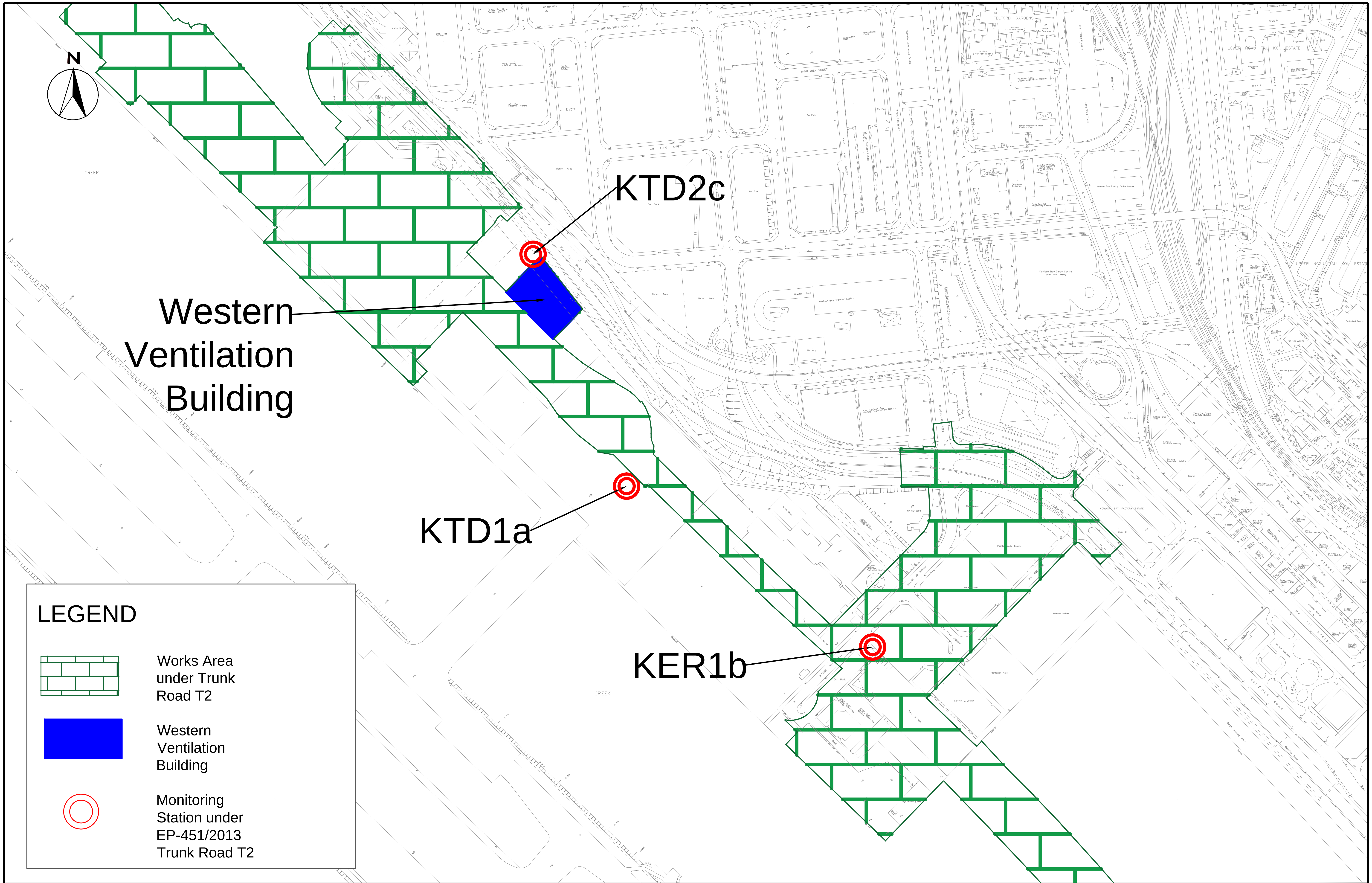

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Contract No. ED/2018/04 - Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron

Monitoring Station at South Apron of Former Kai Tak Airport

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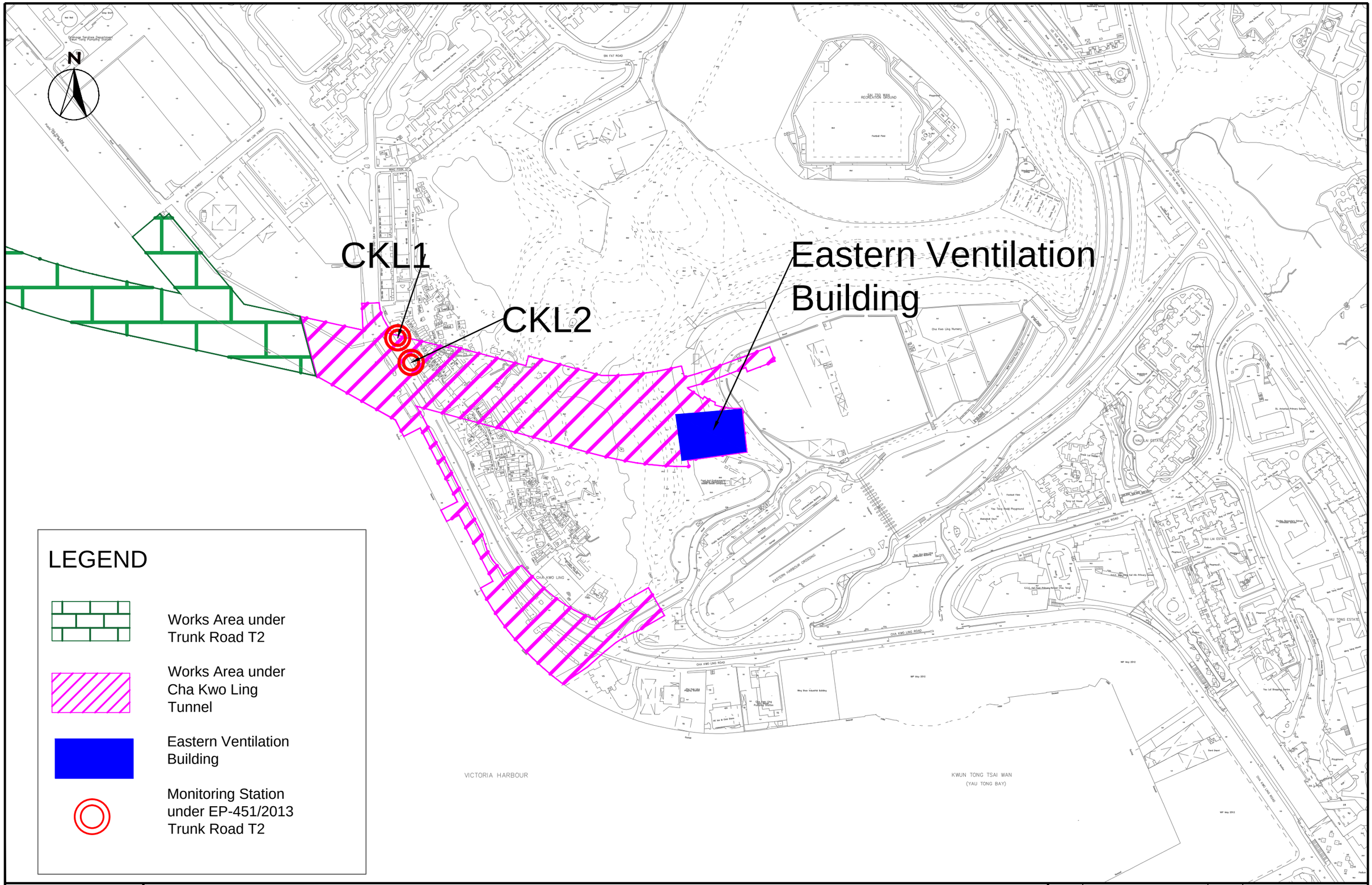
CHECK	KC	DRAWN	TL	
JOB No.	MA20003	FIGURE No.	Fig 2a	REV -



LEGEND

- Works Area under Trunk Road T2
- Works Area under Cha Kwo Ling Tunnel
- Eastern Ventilation Building
- Monitoring Station under EP-451/2013 Trunk Road T2

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Contract No. ED/2018/04 - Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron

Monitoring Station at Cha Kwo Ling

SCALE	1:4000@A3	DATE	March 20
CHECK	KC	DRAWN	TL
JOB No.	MA20003	FIGURE No.	Fig 2b
		REV	-

APPENDIX A
ACTION AND LIMIT LEVELS

Appendix A - Action and Limit Levels

Table A-1 Action and Limit Levels for 1-hour TSP (in case of complaints)

Location	Action Level, µg/m^3	Limit Level, µg/m^3
KTD1a	285	500
KTD2b / KTD2c	279	
KER1b	295	
CKL1	323	
CKL2	327	

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

Location	Action Level, µg/m^3	Limit Level, µg/m^3
KTD1a	177	260
KTD2b / KTD2c	157	
KER1b	172	
CKL1	191	
CKL2	183	

Table A-3 Action and Limit Levels for Noise during Construction Period

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)[(1)]

Note:
(1) If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

APPENDIX B
ENVIRONMENTAL MONITORING SCHEDULES

Contract No. ED/2018/04
Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron
Impact Air and Noise Monitoring Schedule (May 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-May	2-May
						24-hr TSP (KT) Noise (KT)
3-May	4-May	5-May	6-May	7-May	8-May	9-May
	Noise (CKL)	24-hr TSP (CKL)			24-hr TSP (KT) Noise (KT)	
10-May	11-May	12-May	13-May	14-May	15-May	16-May
	24-hr TSP (CKL)	Noise (CKL)		24-hr TSP (KT) Noise (KT)		24-hr TSP (CKL)
17-May	18-May	19-May	20-May	21-May	22-May	23-May
	Noise (CKL)		24-hr TSP (KT) Noise (KT)		24-hr TSP (CKL)	
24-May	25-May	26-May	27-May	28-May	29-May	30-May
		24-hr TSP (KT) Noise (KT)		24-hr TSP (CKL)	Noise (CKL)	
31-May						

The schedule may be changed due to unforeseen circumstances (adverse weather, safety concerns, etc.)
*KT: Monitoring works in Kai Tak (KTD1a, KTD2c and KER1b)
**CKL: Monitoring works in Cha Kwo Ling (CKL1, CKL2)

Air Quality Monitoring Station
24-hr TSP
KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)
KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1b - Site Boundary at Cheung Yip Street
CKL1 - Flat 121 Cha Kwo Ling Village
CKL2 - Flat 103 Cha Kwo Ling Village

Noise Monitoring Station
KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)
KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1b - Site Boundary at Cheung Yip Street
CKL1 - Flat 121 Cha Kwo Ling Village
CKL2 - Flat 103 Cha Kwo Ling Village

Contract No. ED/2018/04
Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron
Tentative Impact Air and Noise Monitoring Schedule (June 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun
	24-hr TSP (KT) Noise (KT)		24-hr TSP (CKL)	Noise (CKL)		24-hr TSP (KT) Noise (KT)
7-Jun	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun
		24-hr TSP (CKL)	Noise (CKL)		24-hr TSP (KT) Noise (KT)	
14-Jun	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun
	24-hr TSP (CKL)	Noise (CKL)		24-hr TSP (KT) Noise (KT)		24-hr TSP (CKL)
21-Jun	22-Jun	23-Jun	24-Jun	**25-Jun**	26-Jun	27-Jun
	Noise (CKL)		24-hr TSP (KT) Noise (KT)		24-hr TSP (CKL)	
28-Jun	29-Jun	30-Jun				
		24-hr TSP (KT) Noise (KT)				

The schedule may be changed due to unforeseen circumstances (adverse weather, safety concerns, etc.)
*KT: Monitoring works in Kai Tak (KTD1a, KTD2b, KTD2c and KER1b)
**CKL: Monitoring works in Cha Kwo Ling (CKL1, CKL2)

Air Quality Monitoring Station
24-hr TSP
KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)
KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1b - Site Boundary at Cheung Yip Street
CKL1 - Flat 121 Cha Kwo Ling Village
CKL2 - Flat 103 Cha Kwo Ling Village

Noise Monitoring Station
KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)
KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1b - Site Boundary at Cheung Yip Street
CKL1 - Flat 121 Cha Kwo Ling Village
CKL2 - Flat 103 Cha Kwo Ling Village

Contract No. ED/2018/04
Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron
Tentative Impact Air and Noise Monitoring Schedule (July 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-Jul	2-Jul	3-Jul	4-Jul
				Noise (CKL) 24-hr TSP (CKL)		
5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul
	24-hr TSP (KT) Noise (KT)		Noise (CKL) 24-hr TSP (CKL)			24-hr TSP (KT) Noise (KT)
12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul
		Noise (CKL) 24-hr TSP (CKL)			24-hr TSP (KT) Noise (KT)	
19-Jul	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul
	Noise (CKL) 24-hr TSP (CKL)			24-hr TSP (KT) Noise (KT)		24-hr TSP (CKL)
26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	
			24-hr TSP (KT) Noise (KT)		Noise (CKL) 24-hr TSP (CKL)	

The schedule may be changed due to unforeseen circumstances (adverse weather, safety concerns, etc.)
*KT: Monitoring works in Kai Tak (KTD1a, KTD2b, KTD2c and KER1b)
**CKL: Monitoring works in Cha Kwo Ling (CKL1, CKL2)

Air Quality Monitoring Station

24-hr TSP

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)
KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1b - Site Boundary at Cheung Yip Street
CKL1 - Flat 121 Cha Kwo Ling Village
CKL2 - Flat 103 Cha Kwo Ling Village

Noise Monitoring Station

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)
KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1b - Site Boundary at Cheung Yip Street
CKL1 - Flat 121 Cha Kwo Ling Village
CKL2 - Flat 103 Cha Kwo Ling Village

Contract No. ED/2018/04
Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron
Tentative Impact Air and Noise Monitoring Schedule (August 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Aug
2-Aug	3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug
		Noise (KT) 24-hr TSP (KT)		Noise (CKL) 24-hr TSP (CKL)		
9-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug
	Noise (KT) 24-hr TSP (KT)		Noise (CKL) 24-hr TSP (CKL)			Noise (KT) 24-hr TSP (KT)
16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug
		Noise (CKL) 24-hr TSP (CKL)			Noise (KT) 24-hr TSP (KT)	
23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug
	Noise (CKL) 24-hr TSP (CKL)			Noise (KT) 24-hr TSP (KT)		24-hr TSP (CKL)
30-Aug	31-Aug					

The schedule may be changed due to unforeseen circumstances (adverse weather, safety concerns, etc.)
*KT: Monitoring works in Kai Tak (KTD1a, KTD2b, KTD2c and KER1b)
**CKL: Monitoring works in Cha Kwo Ling (CKL1, CKL2)

Air Quality Monitoring Station
24-hr TSP
KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)
KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1b - Site Boundary at Cheung Yip Street
CKL1 - Flat 121 Cha Kwo Ling Village
CKL2 - Flat 103 Cha Kwo Ling Village

Noise Monitoring Station
KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)
KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)
KER1b - Site Boundary at Cheung Yip Street
CKL1 - Flat 121 Cha Kwo Ling Village
CKL2 - Flat 103 Cha Kwo Ling Village

APPENDIX C
COPIES OF CALIBRATION CERTIFICATES FOR AIR QUALITY MONITORING

TISCH Environmental

RECALIBRATION DUE DATE:
October 21, 2020

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	October 21, 2019	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 744.2	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **2456**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4200	3.2	2.00
2	3	4	1	1.0180	6.3	4.00
3	5	6	1	0.9030	7.9	5.00
4	7	8	1	0.8620	8.8	5.50
5	9	10	1	0.7120	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)
0.9849	0.6936	1.4066	0.9957	0.7012	0.8904
0.9808	0.9635	1.9892	0.9915	0.9740	1.2592
0.9787	1.0838	2.2240	0.9894	1.0957	1.4078
0.9775	1.1340	2.3325	0.9882	1.1464	1.4765
0.9724	1.3658	2.8131	0.9831	1.3807	1.7808
QSTD	**m=**	**2.08799**	**QA**	**m=**	**1.30746**
	b=	**-0.03545**		**b=**	**-0.02244**
	r=	**0.99989**		**r=**	**0.99989**

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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Website : www.fugro.com

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project : Environmantal Monitoring Works For Contract No. KLN/2015/07 — Date of Calibration: 18-Feb-20
Location : KER1b — Next Calibration Date: 17-May-20
Brand: Tisch — Technician: Tony Wan
Model: TE-5170 S/N: 3477

CONDITIONS

Sea Level Pressure (hPa):	1026.4	Corrected Pressure (mm Hg):	770
Temperature (℃):	14.7	Temperature (K):	288

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.08799
Model:	TE-5025A	Qstd Intercept:	-0.03545
Calibration Date:	21-Oct-19	Expiry Date:	21-Oct-20
S/N:	2456		

CALIBRATION

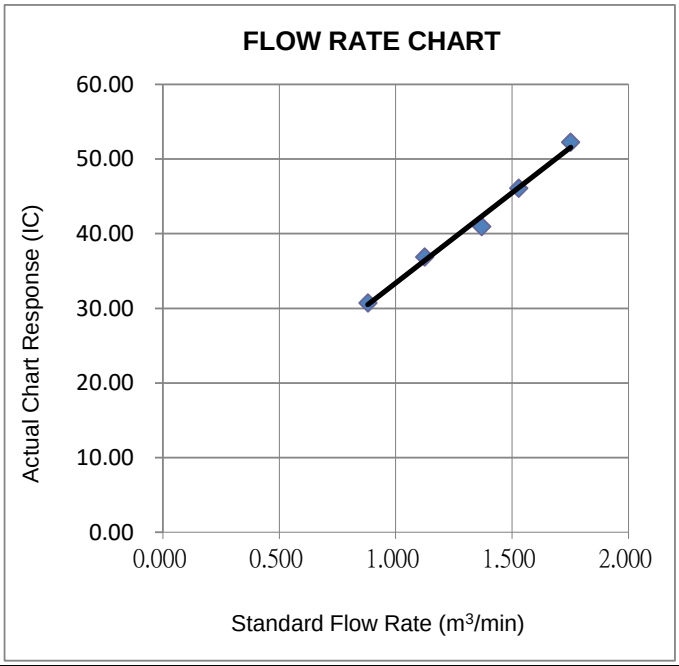
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION	
18	4.60	-7.90	12.500	1.751	51.00	52.24	Slope =	24.2236
13	3.40	-6.10	9.500	1.529	45.00	46.09	Intercept =	9.1388
10	2.40	-5.20	7.600	1.369	40.00	40.97	Corr. coeff.=	0.9953
7	1.00	-4.10	5.100	1.125	36.00	36.88		
5	0.30	-2.80	3.100	0.881	30.00	30.73		

Calculations:

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]
Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)
m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



Report Date: **20/2/2020**

Wan Ka Ho
Project Consultant

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Website : www.fugro.com

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project : Environmantal Monitoring Works For Contract No. KLN/2015/07 — Date of Calibration: 15-May-20
Location : KER1b — Next Calibration Date: 14-Aug-20
Brand: Tisch — Technician: Tony Wan
Model: TE-5170 S/N: 3477

CONDITIONS

Sea Level Pressure (hPa):	1008.3	Corrected Pressure (mm Hg):	756
Temperature (℃):	28.5	Temperature (K):	302

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.08799
Model:	TE-5025A	Qstd Intercept:	-0.03545
Calibration Date:	21-Oct-19	Expiry Date:	21-Oct-20
S/N:	2456		

CALIBRATION

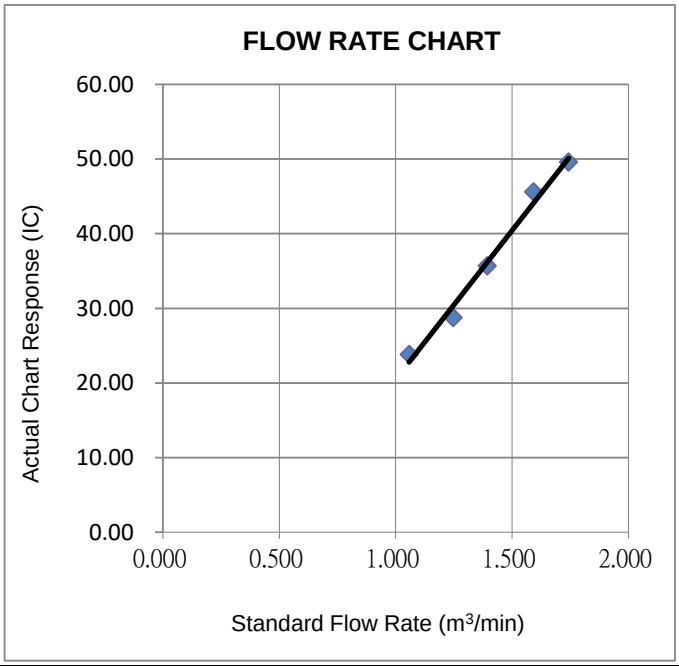
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION	
18	6.00	-7.20	13.200	1.743	50.00	49.59	Slope =	39.9042
13	4.50	-6.50	11.000	1.592	46.00	45.62	Intercept =	-19.4311
10	3.00	-5.40	8.400	1.394	36.00	35.70	Corr. coeff.=	0.9934
7	2.50	-4.20	6.700	1.246	29.00	28.76		
5	1.50	-3.30	4.800	1.058	24.00	23.80		

Calculations:

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]
Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)
m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



Report Date: **19/5/2020**

Wan Ka Ho
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TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project : Environmantal Monitoring Works For Contract No. KLN/2015/07
Date of Calibration: 9-Apr-20
Location : KTD1a
Next Calibration Date: 8-Jul-20
Brand: Tisch
Technician: Mike Kan
Model: TE-5170 S/N: 4037

CONDITIONS

Sea Level Pressure (hPa):	1017.5	Corrected Pressure (mm Hg):	763
Temperature (℃):	21.6	Temperature (K):	295

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.08799
Model:	TE-5025A	Qstd Intercept:	-0.03545
Calibration Date:	21-Oct-19	Expiry Date:	21-Oct-20
S/N:	2456		

CALIBRATION

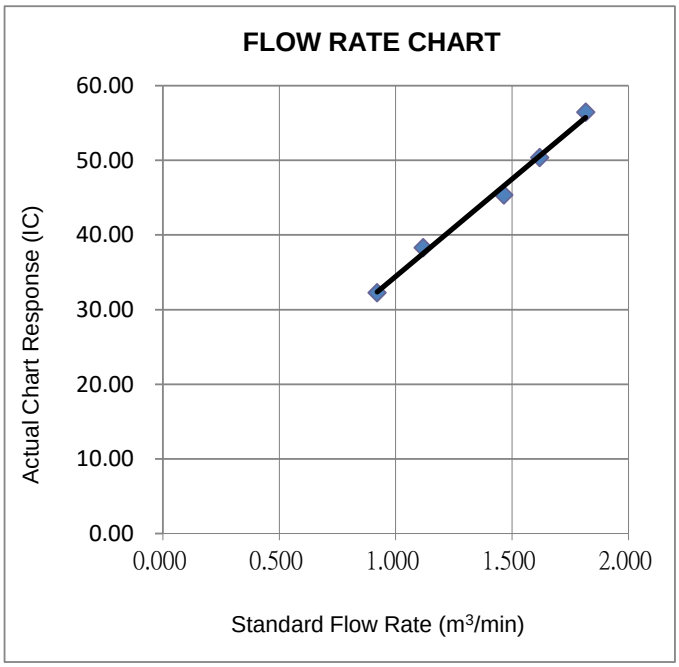
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION	
18	10.80	-3.10	13.900	1.817	56.00	56.44	Slope =	26.0899
13	9.20	-1.80	11.000	1.618	50.00	50.39	Intercept =	8.3490
10	8.40	-0.60	9.000	1.465	45.00	45.35	Corr. coeff.=	0.9964
7	6.60	1.40	5.200	1.118	38.00	38.30		
5	5.20	1.70	3.500	0.920	32.00	32.25		

Calculations:

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]
Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)
m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



Report Date: **14/4/2020**

Wan Ka Ho
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TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project : Environmantal Monitoring Works For Contract No. KLN/2015/07
Date of Calibration: 9-Apr-20
Location : KTD2c
Next Calibration Date: 8-Jul-20
Brand: Tisch
Technician: Mike Kan
Model: TE-5170 S/N: 3838

CONDITIONS

Sea Level Pressure (hPa):	1017.5	Corrected Pressure (mm Hg):	763
Temperature (℃):	21.6	Temperature (K):	295

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.08799
Model:	TE-5025A	Qstd Intercept:	-0.03545
Calibration Date:	21-Oct-19	Expiry Date:	21-Oct-20
S/N:	2456		

CALIBRATION

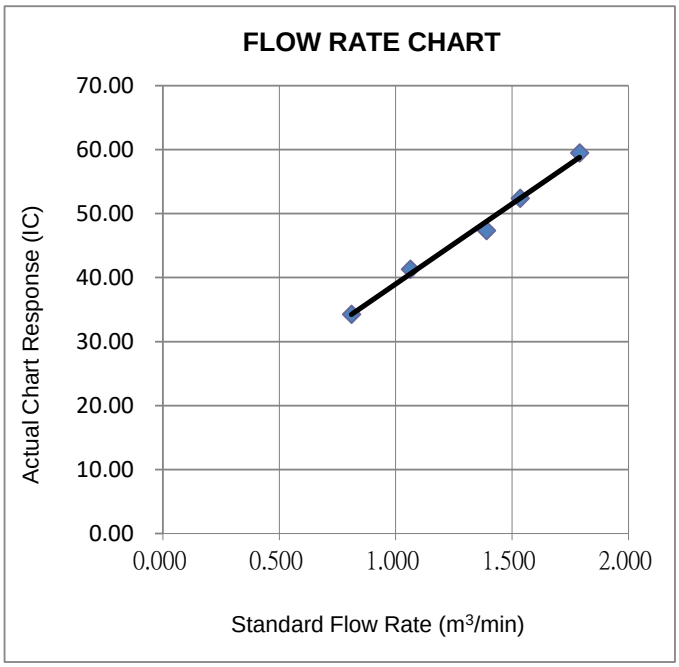
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION	
18	8.30	-5.20	13.500	1.791	59.00	59.46	Slope =	25.0637
13	6.80	-3.10	9.900	1.536	52.00	52.41	Intercept =	13.9296
10	5.90	-2.20	8.100	1.391	47.00	47.37	Corr. coeff.=	0.9960
7	4.30	-0.40	4.700	1.063	41.00	41.32		
5	3.40	0.70	2.700	0.810	34.00	34.27		

Calculations:

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]
Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)
m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



Report Date: **14/4/2020**

Wan Ka Ho
Project Consultant

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA20003/18/0001

Project No. CKL 1 - Flat 121 Cha Kwo Ling Village

Date: 9-Mar-20 Next Due Date: 9-May-20 Operator: SK

Equipment No.: A-01-18 Model No.: TE 5170 Serial No. 0723

Ambient Condition			
Temperature, Ta (K)	295.9	Pressure, Pa (mmHg)	755.4

Orifice Transfer Standard Information					
Serial No.	3746	Slope, mc	0.0592	Intercept, bc	-0.0274
Last Calibration Date:	17-Jan-20	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	17-Jan-21	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

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Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.0	3.61	61.40	8.9	2.98
2	9.5	3.08	52.55	5.9	2.43
3	7.2	2.68	45.81	4.9	2.21
4	4.7	2.17	37.10	3.2	1.79
5	3.1	1.76	30.22	2.0	1.41

By Linear Regression of Y on X

Slope , mw = **0.0487** **Intercept, bw =** **-0.0443**

Correlation coefficient* = **0.9964**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.20**

Remarks:

Conducted by: SK Wong Signature: Date: 9 March 2020

Checked by: Henry Leung Signature: Date: 9 March 2020

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA20003/55/0001

Project No. CKL 2 - Flat 103 Cha Kwo Ling Village

Date: 9-Mar-20 Next Due Date: 9-May-20 Operator: SK

Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956

Ambient Condition			
Temperature, Ta (K)	295.9	Pressure, Pa (mmHg)	755.4

Orifice Transfer Standard Information					
Serial No.	3746	Slope, mc	0.0592	Intercept, bc	-0.0274
Last Calibration Date:	17-Jan-20	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	17-Jan-21	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	12.9	3.59	61.16	8.9	2.98
2	10.0	3.16	53.91	7.4	2.72
3	7.3	2.70	46.13	6.3	2.51
4	4.4	2.10	35.91	4.9	2.21
5	2.6	1.61	27.71	3.8	1.95

By Linear Regression of Y on X

Slope , mw = 0.0303 **Intercept, bw = 1.1142**

Correlation coefficient* = 0.9991

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **5.84**

Remarks:

Conducted by: SK Wong Signature: Date: 9 March 2020

Checked by: Henry Leung Signature: Date: 9 March 2020

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA20003/18/0002

Project No. CKL 1 - Flat 121 Cha Kwo Ling Village

Date: 8-May-20 Next Due Date: 8-Jul-20 Operator: SK

Equipment No.: A-01-18 Model No.: TE 5170 Serial No. 0723

Ambient Condition			
Temperature, Ta (K)	302.3	Pressure, Pa (mmHg)	756.3

Orifice Transfer Standard Information					
Serial No.	3746	Slope, mc	0.0592	Intercept, bc	-0.0274
Last Calibration Date:	17-Jan-20	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	17-Jan-21	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	12.7	3.53	60.09	8.6	2.90
2	9.3	3.02	51.48	6.0	2.43
3	7.1	2.64	45.04	4.7	2.15
4	4.6	2.12	36.35	3.1	1.74
5	3.0	1.72	29.44	1.9	1.37

By Linear Regression of Y on X

Slope , mw = 0.0492 **Intercept, bw = -0.0725**

Correlation coefficient* = 0.9991

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.26**

Remarks:

Conducted by: SK Wong Signature: Date: 8 May 2020

Checked by: Henry Leung Signature: Date: 8 May 2020

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA20003/55/0002

Project No. CKL 2 - Flat 103 Cha Kwo Ling Village

Date: 8-May-20 Next Due Date: 8-Jul-20 Operator: SK

Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956

Ambient Condition			
Temperature, Ta (K)	302.3	Pressure, Pa (mmHg)	756.3

Orifice Transfer Standard Information					
Serial No.	3746	Slope, mc	0.0592	Intercept, bc	-0.0274
Last Calibration Date:	17-Jan-20	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	17-Jan-21	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	12.7	3.53	60.09	7.3	2.68
2	9.9	3.12	53.10	6.0	2.43
3	7.2	2.66	45.36	4.4	2.08
4	4.3	2.05	35.16	3.3	1.80
5	2.6	1.60	27.44	2.3	1.50

By Linear Regression of Y on X

Slope , mw = **0.0356** **Intercept, bw =** **0.5214**

Correlation coefficient* = **0.9974**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.29**

Remarks:

Conducted by: SK Wong Signature: Date: 8 May 2020

Checked by: Henry Leung Signature: Date: 8 May 2020

TISCH Environmental

RECALIBRATION DUE DATE:
January 17, 2021

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	January 17, 2020	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 744.2	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **3746**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4340	3.2	2.00
2	3	4	1	1.0180	6.4	4.00
3	5	6	1	0.9080	7.9	5.00
4	7	8	1	0.8700	8.7	5.50
5	9	10	1	0.7150	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)
0.9849	0.6868	1.4066	0.9957	0.6944	0.8904
0.9807	0.9633	1.9892	0.9914	0.9739	1.2592
0.9787	1.0779	2.2240	0.9894	1.0896	1.4078
0.9776	1.1237	2.3325	0.9883	1.1360	1.4765
0.9724	1.3601	2.8131	0.9831	1.3749	1.7808
QSTD	**m=**	**2.09221**	**QA**	**m=**	**1.31010**
	b=	**-0.02779**		**b=**	**-0.01759**
	r=	**0.99994**		**r=**	**0.99994**

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

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TOLL FREE: (877)263-7610
FAX: (513)467-9009

Cerificate of Calibration - Wind Monitoring Station

Description:	Yau Lai Estate, Bik Lai House
Manufacturer:	Davis Instruments
Model No.:	Davis7440
Serial No.:	MC01010A44
Equipment No.:	SA-03-04
Date of Calibration	21-Feb-2020
Next Due Date	21-Aug-2020

1. Performance check of Wind Speed

Wind Speed, m/s		Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V1)	D = V1 – V2
0.0	0.0	0.0
1.2	1.3	-0.1
2.0	2.1	-0.1
3.0	3.2	-0.2

2. Performance check of Wind Direction

Wind Direction (^{o})		Difference D (^{o})
Wind Direction Reading (V1)	Marine Compass Value (V1)	D = W1 - W2
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

Test Specification:

1. Performance Wind Speed Test - The wind meter was on-site calibrated against the anemometer

2. Performance Wind Direction Test - The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by: _____ Wong Shing Kwai

Approved by: _____ Henry Leung

APPENDIX D
WEATHER INFORMATION

Appendix D - Weather Conditions During Impact Monitoring Period

Date	Mean Air Temperature (°C)[1]	Mean Relative Humidity (%)[2]	Precipitation (mm)[3]
1-May-20	25.7	81	0.0
2-May-20	26.3	77	0.0
3-May-20	27.3	78	0.0
4-May-20	27.8	79	0.0
5-May-20	27.9	80	0.0
6-May-20	28.7	81	0.0
7-May-20	29.0	81	0.0
8-May-20	29.3	81	0.1
9-May-20	29.2	79	0.1
10-May-20	29.0	78	0.8
11-May-20	28.9	76	14.8
12-May-20	27.0	82	3.6
13-May-20	26.6	84	0.3
14-May-20	27.1	83	0.1
15-May-20	28.5	81	0.0
16-May-20	28.9	80	0.0
17-May-20	28.9	77	Trace
18-May-20	25.8	88	46.7
19-May-20	28.0	82	0.0
20-May-20	27.6	87	4.3
21-May-20	27.6	92	84.6
22-May-20	27.9	88	17.0
23-May-20	25.7	88	1.5
24-May-20	26.7	82	Trace
25-May-20	26.6	91	32.4
26-May-20	28.3	87	14.4
27-May-20	28.2	83	0.1
28-May-20	27.7	86	0.2
29-May-20	28.2	85	0.2
30-May-20	26.0	94	131.3
31-May-20	29.2	83	Trace

(Reporting Month: May 2020)

Remarks:

Source - Hong Kong Observatory

[1-3]Retrieved from Manned Weather Station (Hong Kong Observatory) (22°18'07" N, 114°10'27" E)

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
1 May 2020	1:00 AM	0	E
1 May 2020	2:00 AM	0	WSW
1 May 2020	3:00 AM	0	WSW
1 May 2020	4:00 AM	0	WSW
1 May 2020	5:00 AM	0	WSW
1 May 2020	6:00 AM	0	WSW
1 May 2020	7:00 AM	0	WSW
1 May 2020	8:00 AM	0	WSW
1 May 2020	9:00 AM	0	SSW
1 May 2020	10:00 AM	0	SE
1 May 2020	11:00 AM	0.4	SE
1 May 2020	12:00 PM	0.4	E
1 May 2020	1:00 PM	0.4	SSW
1 May 2020	2:00 PM	0.9	SE
1 May 2020	3:00 PM	1.3	SSW
1 May 2020	4:00 PM	0.9	SSW
1 May 2020	5:00 PM	0.9	SSW
1 May 2020	6:00 PM	0.4	SW
1 May 2020	7:00 PM	0.4	SSW
1 May 2020	8:00 PM	0.4	SW
1 May 2020	9:00 PM	0.4	SSW
1 May 2020	10:00 PM	0	SSW
1 May 2020	11:00 PM	0	S
2 May 2020	12:00 AM	0	S
2 May 2020	1:00 AM	0	S
2 May 2020	2:00 AM	0	S
2 May 2020	3:00 AM	0	S
2 May 2020	4:00 AM	0	WSW
2 May 2020	5:00 AM	0	SE
2 May 2020	6:00 AM	0	SE
2 May 2020	7:00 AM	0	S
2 May 2020	8:00 AM	0	S
2 May 2020	9:00 AM	0	SSE
2 May 2020	10:00 AM	0.4	SSW
2 May 2020	11:00 AM	0.9	SSE
2 May 2020	12:00 PM	0.4	SSW
2 May 2020	1:00 PM	0.9	E
2 May 2020	2:00 PM	1.3	SW
2 May 2020	3:00 PM	1.3	SW
2 May 2020	4:00 PM	1.3	WSW
2 May 2020	5:00 PM	1.3	SSW
2 May 2020	6:00 PM	0.9	SSW
2 May 2020	7:00 PM	0.9	SW
2 May 2020	8:00 PM	0.4	SW

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
2 May 2020	9:00 PM	1.3	SW
2 May 2020	10:00 PM	1.8	SW
2 May 2020	11:00 PM	1.8	SSW
3 May 2020	12:00 AM	1.8	SW
3 May 2020	1:00 AM	1.3	W
3 May 2020	2:00 AM	0.9	W
3 May 2020	3:00 AM	1.3	WSW
3 May 2020	4:00 AM	1.3	W
3 May 2020	5:00 AM	1.3	W
3 May 2020	6:00 AM	1.8	WSW
3 May 2020	7:00 AM	1.8	W
3 May 2020	8:00 AM	1.8	WSW
3 May 2020	9:00 AM	1.8	W
3 May 2020	10:00 AM	1.8	WSW
3 May 2020	11:00 AM	1.8	WSW
3 May 2020	12:00 PM	1.3	WSW
3 May 2020	1:00 PM	1.3	SW
3 May 2020	2:00 PM	1.3	SW
3 May 2020	3:00 PM	1.8	SW
3 May 2020	4:00 PM	1.8	SW
3 May 2020	5:00 PM	1.8	SW
3 May 2020	6:00 PM	1.3	SSW
3 May 2020	7:00 PM	1.8	SSW
3 May 2020	8:00 PM	2.7	SSW
3 May 2020	9:00 PM	3.1	SSW
3 May 2020	10:00 PM	2.7	SSW
3 May 2020	11:00 PM	1.8	SW
4 May 2020	12:00 AM	2.2	SW
4 May 2020	1:00 AM	2.2	WSW
4 May 2020	2:00 AM	2.7	WSW
4 May 2020	3:00 AM	2.2	WSW
4 May 2020	4:00 AM	2.2	WSW
4 May 2020	5:00 AM	1.8	W
4 May 2020	6:00 AM	2.2	WSW
4 May 2020	7:00 AM	2.7	WSW
4 May 2020	8:00 AM	1.3	W
4 May 2020	9:00 AM	1.3	W
4 May 2020	10:00 AM	1.8	WSW
4 May 2020	11:00 AM	1.3	SW
4 May 2020	12:00 PM	0.9	WSW
4 May 2020	1:00 PM	0.9	SE
4 May 2020	2:00 PM	1.3	SW
4 May 2020	3:00 PM	2.2	ESE
4 May 2020	4:00 PM	2.2	SE

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
4 May 2020	5:00 PM	3.1	SW
4 May 2020	6:00 PM	2.7	SSW
4 May 2020	7:00 PM	2.2	SSW
4 May 2020	8:00 PM	2.2	SW
4 May 2020	9:00 PM	1.8	SSW
4 May 2020	10:00 PM	1.8	WSW
4 May 2020	11:00 PM	1.8	SW
5 May 2020	12:00 AM	1.8	SSW
5 May 2020	1:00 AM	1.8	SW
5 May 2020	2:00 AM	2.2	SSW
5 May 2020	3:00 AM	1.3	SSW
5 May 2020	4:00 AM	1.8	SSW
5 May 2020	5:00 AM	1.3	SW
5 May 2020	6:00 AM	1.3	SSW
5 May 2020	7:00 AM	1.8	SSW
5 May 2020	8:00 AM	2.2	SW
5 May 2020	9:00 AM	2.2	SW
5 May 2020	10:00 AM	2.2	SW
5 May 2020	11:00 AM	2.7	WSW
5 May 2020	12:00 PM	2.7	SW
5 May 2020	1:00 PM	2.2	SSW
5 May 2020	2:00 PM	2.7	SSW
5 May 2020	3:00 PM	3.1	SSW
5 May 2020	4:00 PM	3.6	SW
5 May 2020	5:00 PM	3.1	SW
5 May 2020	6:00 PM	2.7	SSW
5 May 2020	7:00 PM	2.7	SSW
5 May 2020	8:00 PM	3.6	SSW
5 May 2020	9:00 PM	2.7	SSW
5 May 2020	10:00 PM	3.1	SSW
5 May 2020	11:00 PM	2.7	SSW
6 May 2020	12:00 AM	2.7	SSW
6 May 2020	1:00 AM	2.7	SSW
6 May 2020	2:00 AM	2.2	SW
6 May 2020	3:00 AM	1.3	SW
6 May 2020	4:00 AM	0.9	SSW
6 May 2020	5:00 AM	0.9	SSW
6 May 2020	6:00 AM	0.9	SSW
6 May 2020	7:00 AM	0.4	SE
6 May 2020	8:00 AM	0.4	ESE
6 May 2020	9:00 AM	0.4	ESE
6 May 2020	10:00 AM	0.9	SE
6 May 2020	11:00 AM	1.8	ESE
6 May 2020	12:00 PM	1.8	ESE

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
6 May 2020	1:00 PM	2.7	ESE
6 May 2020	2:00 PM	2.2	ESE
6 May 2020	3:00 PM	1.8	ESE
6 May 2020	4:00 PM	2.2	SW
6 May 2020	5:00 PM	1.8	ESE
6 May 2020	6:00 PM	1.8	ESE
6 May 2020	7:00 PM	1.3	ESE
6 May 2020	8:00 PM	1.8	SW
6 May 2020	9:00 PM	1.3	SW
6 May 2020	10:00 PM	0.9	SE
6 May 2020	11:00 PM	0.9	ESE
7 May 2020	12:00 AM	0.9	ESE
7 May 2020	1:00 AM	1.3	ESE
7 May 2020	2:00 AM	0.9	ESE
7 May 2020	3:00 AM	0.4	E
7 May 2020	4:00 AM	0.4	ESE
7 May 2020	5:00 AM	0.4	E
7 May 2020	6:00 AM	0.4	E
7 May 2020	7:00 AM	0.4	E
7 May 2020	8:00 AM	0.4	E
7 May 2020	9:00 AM	0.9	E
7 May 2020	10:00 AM	0.9	E
7 May 2020	11:00 AM	0.9	E
7 May 2020	12:00 PM	1.3	ESE
7 May 2020	1:00 PM	1.3	ESE
7 May 2020	2:00 PM	1.3	ESE
7 May 2020	3:00 PM	1.8	ESE
7 May 2020	4:00 PM	1.8	ESE
7 May 2020	5:00 PM	1.8	SW
7 May 2020	6:00 PM	1.3	SSW
7 May 2020	7:00 PM	0.4	E
7 May 2020	8:00 PM	0.4	ESE
7 May 2020	9:00 PM	0.4	ESE
7 May 2020	10:00 PM	0.4	ESE
7 May 2020	11:00 PM	0.4	E
8 May 2020	12:00 AM	0.4	ESE
8 May 2020	1:00 AM	0.9	E
8 May 2020	2:00 AM	0.4	ESE
8 May 2020	3:00 AM	0.9	ESE
8 May 2020	4:00 AM	0.9	SE
8 May 2020	5:00 AM	0.4	ESE
8 May 2020	6:00 AM	0.9	ESE
8 May 2020	7:00 AM	0.9	E
8 May 2020	8:00 AM	1.3	ESE

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
8 May 2020	9:00 AM	1.3	ESE
8 May 2020	10:00 AM	0.9	ESE
8 May 2020	11:00 AM	0.9	ESE
8 May 2020	12:00 PM	0.9	ESE
8 May 2020	1:00 PM	1.8	ESE
8 May 2020	2:00 PM	2.2	ESE
8 May 2020	3:00 PM	2.7	SE
8 May 2020	4:00 PM	2.7	SE
8 May 2020	5:00 PM	2.2	SE
8 May 2020	6:00 PM	1.8	E
8 May 2020	7:00 PM	1.8	SE
8 May 2020	8:00 PM	1.3	ESE
8 May 2020	9:00 PM	1.3	ESE
8 May 2020	10:00 PM	0.9	E
8 May 2020	11:00 PM	0.9	ESE
9 May 2020	12:00 AM	0.9	ESE
9 May 2020	1:00 AM	0.9	SE
9 May 2020	2:00 AM	1.3	SSW
9 May 2020	3:00 AM	1.8	SW
9 May 2020	4:00 AM	2.2	SW
9 May 2020	5:00 AM	1.8	SSW
9 May 2020	6:00 AM	1.3	SSW
9 May 2020	7:00 AM	1.3	SW
9 May 2020	8:00 AM	1.8	ESE
9 May 2020	9:00 AM	1.8	SW
9 May 2020	10:00 AM	1.8	SSW
9 May 2020	11:00 AM	1.8	ESE
9 May 2020	12:00 PM	1.3	SW
9 May 2020	1:00 PM	1.3	ESE
9 May 2020	2:00 PM	1.8	ESE
9 May 2020	3:00 PM	1.3	ESE
9 May 2020	4:00 PM	1.8	SSW
9 May 2020	5:00 PM	1.8	SE
9 May 2020	6:00 PM	1.3	ESE
9 May 2020	7:00 PM	1.3	ESE
9 May 2020	8:00 PM	1.3	ESE
9 May 2020	9:00 PM	1.3	ESE
9 May 2020	10:00 PM	0.9	ESE
9 May 2020	11:00 PM	0.9	ESE
10 May 2020	12:00 AM	1.3	SSW
10 May 2020	1:00 AM	1.8	SSW
10 May 2020	2:00 AM	1.8	S
10 May 2020	3:00 AM	1.3	SSW
10 May 2020	4:00 AM	1.8	SW

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
10 May 2020	5:00 AM	0.9	SSW
10 May 2020	6:00 AM	0.9	SSW
10 May 2020	7:00 AM	0.9	SSW
10 May 2020	8:00 AM	0.9	SSW
10 May 2020	9:00 AM	1.3	SW
10 May 2020	10:00 AM	1.8	WSW
10 May 2020	11:00 AM	1.8	WSW
10 May 2020	12:00 PM	1.8	WSW
10 May 2020	1:00 PM	1.3	SW
10 May 2020	2:00 PM	1.3	W
10 May 2020	3:00 PM	1.3	SW
10 May 2020	4:00 PM	1.8	SW
10 May 2020	5:00 PM	1.3	SSW
10 May 2020	6:00 PM	1.3	W
10 May 2020	7:00 PM	1.3	SW
10 May 2020	8:00 PM	1.3	WSW
10 May 2020	9:00 PM	0.4	SSW
10 May 2020	10:00 PM	0	S
10 May 2020	11:00 PM	0.4	WSW
11 May 2020	12:00 AM	0.4	SSW
11 May 2020	1:00 AM	0	SSE
11 May 2020	2:00 AM	0	WNW
11 May 2020	3:00 AM	0	WNW
11 May 2020	4:00 AM	0.4	WSW
11 May 2020	5:00 AM	0	WSW
11 May 2020	6:00 AM	0	WSW
11 May 2020	7:00 AM	0	WSW
11 May 2020	8:00 AM	0	WSW
11 May 2020	9:00 AM	0.4	SW
11 May 2020	10:00 AM	0.4	WSW
11 May 2020	11:00 AM	0.4	SSW
11 May 2020	12:00 PM	0.9	S
11 May 2020	1:00 PM	1.3	WSW
11 May 2020	2:00 PM	0.9	SW
11 May 2020	3:00 PM	0.9	S
11 May 2020	4:00 PM	0.9	SSW
11 May 2020	5:00 PM	0.9	SSW
11 May 2020	6:00 PM	0.4	SSW
11 May 2020	7:00 PM	0	SW
11 May 2020	8:00 PM	0	S
11 May 2020	9:00 PM	0.4	SSE
11 May 2020	10:00 PM	1.3	S
11 May 2020	11:00 PM	3.6	W
12 May 2020	12:00 AM	0.9	W

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
12 May 2020	1:00 AM	0.4	WSW
12 May 2020	2:00 AM	1.3	WSW
12 May 2020	3:00 AM	1.3	WSW
12 May 2020	4:00 AM	1.8	WSW
12 May 2020	5:00 AM	1.3	WSW
12 May 2020	6:00 AM	0.4	WSW
12 May 2020	7:00 AM	0.4	SSW
12 May 2020	8:00 AM	0.9	WSW
12 May 2020	9:00 AM	0	W
12 May 2020	10:00 AM	0	SSE
12 May 2020	11:00 AM	0	SE
12 May 2020	12:00 PM	0.4	ESE
12 May 2020	1:00 PM	0.4	WSW
12 May 2020	2:00 PM	0.4	SW
12 May 2020	3:00 PM	0.4	SSW
12 May 2020	4:00 PM	0.9	WSW
12 May 2020	5:00 PM	0	S
12 May 2020	6:00 PM	0	SE
12 May 2020	7:00 PM	0	SSE
12 May 2020	8:00 PM	0	S
12 May 2020	9:00 PM	0.4	SW
12 May 2020	10:00 PM	0	SW
12 May 2020	11:00 PM	0	SW
13 May 2020	12:00 AM	0	SW
13 May 2020	1:00 AM	0	SW
13 May 2020	2:00 AM	0	SW
13 May 2020	3:00 AM	0	SW
13 May 2020	4:00 AM	0	SW
13 May 2020	5:00 AM	0	SW
13 May 2020	6:00 AM	0.4	W
13 May 2020	7:00 AM	0	SSW
13 May 2020	8:00 AM	0.4	WSW
13 May 2020	9:00 AM	0.4	NE
13 May 2020	10:00 AM	0.4	E
13 May 2020	11:00 AM	1.3	NE
13 May 2020	12:00 PM	1.3	NE
13 May 2020	1:00 PM	0.9	NNE
13 May 2020	2:00 PM	1.3	SW
13 May 2020	3:00 PM	1.8	SSW
13 May 2020	4:00 PM	1.3	WSW
13 May 2020	5:00 PM	0.9	NE
13 May 2020	6:00 PM	1.3	NE
13 May 2020	7:00 PM	1.3	WSW
13 May 2020	8:00 PM	1.3	NE

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
13 May 2020	9:00 PM	1.3	WSW
13 May 2020	10:00 PM	1.3	WSW
13 May 2020	11:00 PM	1.3	NE
14 May 2020	12:00 AM	1.3	NE
14 May 2020	1:00 AM	0.9	NE
14 May 2020	2:00 AM	0.9	NE
14 May 2020	3:00 AM	0.9	NE
14 May 2020	4:00 AM	0.9	WSW
14 May 2020	5:00 AM	0.9	NE
14 May 2020	6:00 AM	0.9	ENE
14 May 2020	7:00 AM	0.9	ENE
14 May 2020	8:00 AM	0.9	NE
14 May 2020	9:00 AM	0.9	ENE
14 May 2020	10:00 AM	1.3	NE
14 May 2020	11:00 AM	0.9	NE
14 May 2020	12:00 PM	0.4	NE
14 May 2020	1:00 PM	0.4	NE
14 May 2020	2:00 PM	0.4	NE
14 May 2020	3:00 PM	0.4	NE
14 May 2020	4:00 PM	0.9	SSW
14 May 2020	5:00 PM	0.9	SW
14 May 2020	6:00 PM	0.9	SW
14 May 2020	7:00 PM	0.9	SW
14 May 2020	8:00 PM	0.4	SSW
14 May 2020	9:00 PM	0.9	SSW
14 May 2020	10:00 PM	0.9	WSW
14 May 2020	11:00 PM	0.9	S
15 May 2020	12:00 AM	0.9	SW
15 May 2020	1:00 AM	0.9	SSW
15 May 2020	2:00 AM	0.9	SW
15 May 2020	3:00 AM	0.9	SSW
15 May 2020	4:00 AM	0.4	WSW
15 May 2020	5:00 AM	0.9	SW
15 May 2020	6:00 AM	0.4	WSW
15 May 2020	7:00 AM	0.4	SW
15 May 2020	8:00 AM	0.9	SW
15 May 2020	9:00 AM	0.9	SSW
15 May 2020	10:00 AM	0.9	SW
15 May 2020	11:00 AM	1.3	SSW
15 May 2020	12:00 PM	0.9	SSW
15 May 2020	1:00 PM	0.9	SSW
15 May 2020	2:00 PM	0.9	WSW
15 May 2020	3:00 PM	0.9	WSW
15 May 2020	4:00 PM	0.9	SSW

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
15 May 2020	5:00 PM	1.3	S
15 May 2020	6:00 PM	1.3	SW
15 May 2020	7:00 PM	0.9	SW
15 May 2020	8:00 PM	0.4	SSW
15 May 2020	9:00 PM	0.4	S
15 May 2020	10:00 PM	0	S
15 May 2020	11:00 PM	0.4	S
16 May 2020	12:00 AM	0	SSE
16 May 2020	1:00 AM	0	ENE
16 May 2020	2:00 AM	0	ENE
16 May 2020	3:00 AM	0	ESE
16 May 2020	4:00 AM	0	ESE
16 May 2020	5:00 AM	0	ENE
16 May 2020	6:00 AM	0	ENE
16 May 2020	7:00 AM	0	ESE
16 May 2020	8:00 AM	0	NE
16 May 2020	9:00 AM	0	NW
16 May 2020	10:00 AM	0.4	SSW
16 May 2020	11:00 AM	0.4	SSW
16 May 2020	12:00 PM	0.9	WSW
16 May 2020	1:00 PM	0.9	WSW
16 May 2020	2:00 PM	1.3	E
16 May 2020	3:00 PM	1.3	SW
16 May 2020	4:00 PM	0.9	SW
16 May 2020	5:00 PM	0.9	SSW
16 May 2020	6:00 PM	0.4	SSW
16 May 2020	7:00 PM	0.9	SSW
16 May 2020	8:00 PM	0	SSE
16 May 2020	9:00 PM	0	SSE
16 May 2020	10:00 PM	0	SSE
16 May 2020	11:00 PM	0	SSW
17 May 2020	12:00 AM	0	S
17 May 2020	1:00 AM	0	S
17 May 2020	2:00 AM	0	SSE
17 May 2020	3:00 AM	0	SSE
17 May 2020	4:00 AM	0	S
17 May 2020	5:00 AM	0	SSE
17 May 2020	6:00 AM	0	SSE
17 May 2020	7:00 AM	0	S
17 May 2020	8:00 AM	0.4	SW
17 May 2020	9:00 AM	0	SSW
17 May 2020	10:00 AM	0.4	S
17 May 2020	11:00 AM	0.4	SSW
17 May 2020	12:00 PM	0.4	ESE

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
17 May 2020	1:00 PM	0.9	ESE
17 May 2020	2:00 PM	0.9	SSW
17 May 2020	3:00 PM	1.3	S
17 May 2020	4:00 PM	1.3	ESE
17 May 2020	5:00 PM	1.8	SSW
17 May 2020	6:00 PM	1.8	SSW
17 May 2020	7:00 PM	1.8	SW
17 May 2020	8:00 PM	1.3	SSW
17 May 2020	9:00 PM	1.8	SSW
17 May 2020	10:00 PM	1.3	SSW
17 May 2020	11:00 PM	0.9	SW
18 May 2020	12:00 AM	1.3	SSW
18 May 2020	1:00 AM	1.8	SSW
18 May 2020	2:00 AM	1.8	WSW
18 May 2020	3:00 AM	0	ESE
18 May 2020	4:00 AM	0	SSW
18 May 2020	5:00 AM	0.9	SW
18 May 2020	6:00 AM	0.4	SSW
18 May 2020	7:00 AM	0.9	W
18 May 2020	8:00 AM	0	W
18 May 2020	9:00 AM	0.4	SSW
18 May 2020	10:00 AM	1.8	SSW
18 May 2020	11:00 AM	4	SSW
18 May 2020	12:00 PM	0.9	WSW
18 May 2020	1:00 PM	0.9	SW
18 May 2020	2:00 PM	0.9	SSW
18 May 2020	3:00 PM	0.9	SE
18 May 2020	4:00 PM	0.4	S
18 May 2020	5:00 PM	1.8	SSW
18 May 2020	6:00 PM	0.4	ENE
18 May 2020	7:00 PM	0.4	ESE
18 May 2020	8:00 PM	0	S
18 May 2020	9:00 PM	0.4	SW
18 May 2020	10:00 PM	0.4	WSW
18 May 2020	11:00 PM	0.4	WSW
19 May 2020	12:00 AM	0.4	SW
19 May 2020	1:00 AM	0	SW
19 May 2020	2:00 AM	0	---
19 May 2020	3:00 AM	0	---
19 May 2020	4:00 AM	0	SSW
19 May 2020	5:00 AM	0	---
19 May 2020	6:00 AM	0	ENE
19 May 2020	7:00 AM	0	NE
19 May 2020	8:00 AM	0.4	ENE

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
19 May 2020	9:00 AM	0.4	SW
19 May 2020	10:00 AM	0.9	SW
19 May 2020	11:00 AM	0.9	SSW
19 May 2020	12:00 PM	0.9	SSW
19 May 2020	1:00 PM	1.3	SW
19 May 2020	2:00 PM	0.4	SSW
19 May 2020	3:00 PM	0.4	ENE
19 May 2020	4:00 PM	0.9	E
19 May 2020	5:00 PM	0.9	SSW
19 May 2020	6:00 PM	0.4	E
19 May 2020	7:00 PM	0.4	E
19 May 2020	8:00 PM	0.4	SW
19 May 2020	9:00 PM	0.4	SW
19 May 2020	10:00 PM	0.4	SSW
19 May 2020	11:00 PM	0	S
20 May 2020	12:00 AM	0	E
20 May 2020	1:00 AM	0	SE
20 May 2020	2:00 AM	0	ESE
20 May 2020	3:00 AM	0	ESE
20 May 2020	4:00 AM	0	SSW
20 May 2020	5:00 AM	0	ENE
20 May 2020	6:00 AM	0.4	NE
20 May 2020	7:00 AM	0.9	NNE
20 May 2020	8:00 AM	0.9	NE
20 May 2020	9:00 AM	0.9	ENE
20 May 2020	10:00 AM	1.3	NE
20 May 2020	11:00 AM	1.3	ENE
20 May 2020	12:00 PM	0.9	NE
20 May 2020	1:00 PM	0.9	NE
20 May 2020	2:00 PM	0.9	NNE
20 May 2020	3:00 PM	0.9	WSW
20 May 2020	4:00 PM	0.9	NE
20 May 2020	5:00 PM	1.3	SW
20 May 2020	6:00 PM	1.3	SW
20 May 2020	7:00 PM	1.3	WSW
20 May 2020	8:00 PM	0.9	WSW
20 May 2020	9:00 PM	1.3	E
20 May 2020	10:00 PM	1.3	SW
20 May 2020	11:00 PM	0.9	WSW
21 May 2020	12:00 AM	0.9	SSW
21 May 2020	1:00 AM	0.9	SW
21 May 2020	2:00 AM	0.4	SSW
21 May 2020	3:00 AM	0.9	W
21 May 2020	4:00 AM	1.8	W

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
21 May 2020	5:00 AM	0.9	ESE
21 May 2020	6:00 AM	0.4	SSE
21 May 2020	7:00 AM	0.4	SSW
21 May 2020	8:00 AM	0.4	SE
21 May 2020	9:00 AM	0.4	ESE
21 May 2020	10:00 AM	0.4	SW
21 May 2020	11:00 AM	0.4	ESE
21 May 2020	12:00 PM	0.4	ENE
21 May 2020	1:00 PM	0.9	SW
21 May 2020	2:00 PM	0.9	ENE
21 May 2020	3:00 PM	0.9	NE
21 May 2020	4:00 PM	1.8	ENE
21 May 2020	5:00 PM	0.4	ESE
21 May 2020	6:00 PM	0.9	SW
21 May 2020	7:00 PM	2.2	ESE
21 May 2020	8:00 PM	1.8	ESE
21 May 2020	9:00 PM	1.8	ESE
21 May 2020	10:00 PM	2.7	ESE
21 May 2020	11:00 PM	3.1	SE
22 May 2020	12:00 AM	3.1	ESE
22 May 2020	1:00 AM	1.8	SE
22 May 2020	2:00 AM	1.8	SW
22 May 2020	3:00 AM	1.8	SW
22 May 2020	4:00 AM	2.7	SW
22 May 2020	5:00 AM	3.6	SSW
22 May 2020	6:00 AM	3.6	SW
22 May 2020	7:00 AM	3.1	WSW
22 May 2020	8:00 AM	2.7	WSW
22 May 2020	9:00 AM	3.6	SSW
22 May 2020	10:00 AM	4.5	SSW
22 May 2020	11:00 AM	4.5	WSW
22 May 2020	12:00 PM	4.5	WSW
22 May 2020	1:00 PM	3.6	WSW
22 May 2020	2:00 PM	3.6	WSW
22 May 2020	3:00 PM	1.8	WSW
22 May 2020	4:00 PM	0.9	W
22 May 2020	5:00 PM	0.4	SW
22 May 2020	6:00 PM	0	SSW
22 May 2020	7:00 PM	0	SE
22 May 2020	8:00 PM	0	---
22 May 2020	9:00 PM	0	NE
22 May 2020	10:00 PM	0	NE
22 May 2020	11:00 PM	0.4	NE
23 May 2020	12:00 AM	0.9	NE

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
23 May 2020	1:00 AM	0.4	NE
23 May 2020	2:00 AM	0.4	NE
23 May 2020	3:00 AM	0.4	NE
23 May 2020	4:00 AM	0.4	NE
23 May 2020	5:00 AM	0.4	ENE
23 May 2020	6:00 AM	0.4	ESE
23 May 2020	7:00 AM	0.4	NE
23 May 2020	8:00 AM	0.4	E
23 May 2020	9:00 AM	0.9	NE
23 May 2020	10:00 AM	0.4	ENE
23 May 2020	11:00 AM	0.9	NE
23 May 2020	12:00 PM	0.4	SW
23 May 2020	1:00 PM	0.4	SSW
23 May 2020	2:00 PM	0.4	WNW
23 May 2020	3:00 PM	0.4	WSW
23 May 2020	4:00 PM	0.4	ENE
23 May 2020	5:00 PM	0.4	NE
23 May 2020	6:00 PM	0.9	WSW
23 May 2020	7:00 PM	0.9	SW
23 May 2020	8:00 PM	0.9	SSW
23 May 2020	9:00 PM	0.9	SW
23 May 2020	10:00 PM	0.9	SW
23 May 2020	11:00 PM	0.4	SW
24 May 2020	12:00 AM	0.4	SSW
24 May 2020	1:00 AM	0.4	E
24 May 2020	2:00 AM	0.4	NE
24 May 2020	3:00 AM	0	NE
24 May 2020	4:00 AM	0.4	ENE
24 May 2020	5:00 AM	0.9	NE
24 May 2020	6:00 AM	0.9	NNE
24 May 2020	7:00 AM	0.4	SW
24 May 2020	8:00 AM	0.4	NE
24 May 2020	9:00 AM	0.4	SW
24 May 2020	10:00 AM	0.4	NNE
24 May 2020	11:00 AM	0.4	NE
24 May 2020	12:00 PM	0.9	NE
24 May 2020	1:00 PM	0.9	NE
24 May 2020	2:00 PM	0.9	SW
24 May 2020	3:00 PM	0.9	WSW
24 May 2020	4:00 PM	0.4	SSW
24 May 2020	5:00 PM	0.9	NNE
24 May 2020	6:00 PM	0.4	WSW
24 May 2020	7:00 PM	0.4	SW
24 May 2020	8:00 PM	0	WSW

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
24 May 2020	9:00 PM	0.4	SW
24 May 2020	10:00 PM	0.4	SW
24 May 2020	11:00 PM	0.4	SW
25 May 2020	12:00 AM	0.4	SSW
25 May 2020	1:00 AM	0.4	SW
25 May 2020	2:00 AM	0	E
25 May 2020	3:00 AM	0	SSW
25 May 2020	4:00 AM	0	SE
25 May 2020	5:00 AM	0	SE
25 May 2020	6:00 AM	0	N
25 May 2020	7:00 AM	0	NNE
25 May 2020	8:00 AM	0	NW
25 May 2020	9:00 AM	0.4	SW
25 May 2020	10:00 AM	0.4	SW
25 May 2020	11:00 AM	0.4	W
25 May 2020	12:00 PM	0.4	SE
25 May 2020	1:00 PM	1.3	W
25 May 2020	2:00 PM	0	W
25 May 2020	3:00 PM	0	NE
25 May 2020	4:00 PM	0.4	SSW
25 May 2020	5:00 PM	0.4	WSW
25 May 2020	6:00 PM	0.4	WSW
25 May 2020	7:00 PM	0.4	SSW
25 May 2020	8:00 PM	0.4	SE
25 May 2020	9:00 PM	0	WSW
25 May 2020	10:00 PM	0	SW
25 May 2020	11:00 PM	0	S
26 May 2020	12:00 AM	0	W
26 May 2020	1:00 AM	0	WNW
26 May 2020	2:00 AM	0	E
26 May 2020	3:00 AM	0.4	SE
26 May 2020	4:00 AM	1.3	SW
26 May 2020	5:00 AM	1.3	SSW
26 May 2020	6:00 AM	1.3	SSW
26 May 2020	7:00 AM	0.9	ESE
26 May 2020	8:00 AM	0.4	ESE
26 May 2020	9:00 AM	0.9	SSE
26 May 2020	10:00 AM	2.2	SSW
26 May 2020	11:00 AM	1.3	SSW
26 May 2020	12:00 PM	1.3	SSW
26 May 2020	1:00 PM	0.9	SSW
26 May 2020	2:00 PM	2.2	SSW
26 May 2020	3:00 PM	0.9	SSW
26 May 2020	4:00 PM	1.3	SSW

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
26 May 2020	5:00 PM	1.3	SSW
26 May 2020	6:00 PM	0.4	ESE
26 May 2020	7:00 PM	0.9	WSW
26 May 2020	8:00 PM	0.4	WSW
26 May 2020	9:00 PM	0.9	WSW
26 May 2020	10:00 PM	0.4	WSW
26 May 2020	11:00 PM	0	SSW
27 May 2020	12:00 AM	0.4	SW
27 May 2020	1:00 AM	0.4	W
27 May 2020	2:00 AM	0.4	SW
27 May 2020	3:00 AM	0	WSW
27 May 2020	4:00 AM	0	WSW
27 May 2020	5:00 AM	0	WSW
27 May 2020	6:00 AM	0	WSW
27 May 2020	7:00 AM	0	NE
27 May 2020	8:00 AM	0	NE
27 May 2020	9:00 AM	0.4	WSW
27 May 2020	10:00 AM	0.4	NNE
27 May 2020	11:00 AM	0.9	ENE
27 May 2020	12:00 PM	0.4	SSW
27 May 2020	1:00 PM	0.4	NE
27 May 2020	2:00 PM	0.4	SW
27 May 2020	3:00 PM	0.4	S
27 May 2020	4:00 PM	0.4	SW
27 May 2020	5:00 PM	0.4	SW
27 May 2020	6:00 PM	0.4	WSW
27 May 2020	7:00 PM	0.4	NE
27 May 2020	8:00 PM	0.4	NE
27 May 2020	9:00 PM	0.9	NE
27 May 2020	10:00 PM	0.4	NE
27 May 2020	11:00 PM	0.4	NNE
28 May 2020	12:00 AM	0.4	NE
28 May 2020	1:00 AM	0	E
28 May 2020	2:00 AM	0.4	NE
28 May 2020	3:00 AM	0.4	NE
28 May 2020	4:00 AM	0.4	NE
28 May 2020	5:00 AM	0.4	NE
28 May 2020	6:00 AM	0.4	NE
28 May 2020	7:00 AM	0.4	NNE
28 May 2020	8:00 AM	0.4	NE
28 May 2020	9:00 AM	0.4	NE
28 May 2020	10:00 AM	0.4	NE
28 May 2020	11:00 AM	0.9	NE
28 May 2020	12:00 PM	0.9	NE

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
28 May 2020	1:00 PM	0.9	NE
28 May 2020	2:00 PM	0.9	NE
28 May 2020	3:00 PM	0.9	NE
28 May 2020	4:00 PM	0.4	NE
28 May 2020	5:00 PM	0.4	NE
28 May 2020	6:00 PM	0.4	NE
28 May 2020	7:00 PM	0.4	NE
28 May 2020	8:00 PM	0.4	NE
28 May 2020	9:00 PM	0.4	NE
28 May 2020	10:00 PM	0.9	SW
28 May 2020	11:00 PM	0.4	NE
29 May 2020	12:00 AM	0.4	NNE
29 May 2020	1:00 AM	0.4	NNE
29 May 2020	2:00 AM	0.4	NE
29 May 2020	3:00 AM	0.4	NE
29 May 2020	4:00 AM	0.4	NNE
29 May 2020	5:00 AM	0.4	NE
29 May 2020	6:00 AM	0.4	NE
29 May 2020	7:00 AM	0.4	NE
29 May 2020	8:00 AM	0.9	SW
29 May 2020	9:00 AM	0.9	SSW
29 May 2020	10:00 AM	0.9	SSW
29 May 2020	11:00 AM	0.4	ESE
29 May 2020	12:00 PM	0.4	SW
29 May 2020	1:00 PM	0.9	SW
29 May 2020	2:00 PM	0.4	SSW
29 May 2020	3:00 PM	0.9	SSW
29 May 2020	4:00 PM	0.9	S
29 May 2020	5:00 PM	0.4	SW
29 May 2020	6:00 PM	0.4	ESE
29 May 2020	7:00 PM	0.4	SE
29 May 2020	8:00 PM	0.4	ESE
29 May 2020	9:00 PM	0	SE
29 May 2020	10:00 PM	0.4	W
29 May 2020	11:00 PM	0.4	SSW
30 May 2020	12:00 AM	0.4	E
30 May 2020	1:00 AM	0.4	SSE
30 May 2020	2:00 AM	0	ESE
30 May 2020	3:00 AM	0.4	SSW
30 May 2020	4:00 AM	0.9	W
30 May 2020	5:00 AM	0.9	SSW
30 May 2020	6:00 AM	0.9	W
30 May 2020	7:00 AM	0.9	W
30 May 2020	8:00 AM	0.9	W

May 2020			
Wind Speed and Directions			
Date	**Time**	**Wind Speed m-s**	**Direction**
30 May 2020	9:00 AM	1.3	W
30 May 2020	10:00 AM	2.7	W
30 May 2020	11:00 AM	1.3	W
30 May 2020	12:00 PM	0.9	WSW
30 May 2020	1:00 PM	0	W
30 May 2020	2:00 PM	0	ESE
30 May 2020	3:00 PM	0.4	SW
30 May 2020	4:00 PM	0	NE
30 May 2020	5:00 PM	0	E
30 May 2020	6:00 PM	0	W
30 May 2020	7:00 PM	0.4	SSE
30 May 2020	8:00 PM	0.4	E
30 May 2020	9:00 PM	0.4	ESE
30 May 2020	10:00 PM	0.4	SW
30 May 2020	11:00 PM	0	WSW
31 May 2020	12:00 AM	0.4	ESE
31 May 2020	1:00 AM	0.4	ESE
31 May 2020	2:00 AM	0.9	ESE
31 May 2020	3:00 AM	1.3	ESE
31 May 2020	4:00 AM	0.9	S
31 May 2020	5:00 AM	1.3	SW
31 May 2020	6:00 AM	1.3	SSW
31 May 2020	7:00 AM	1.3	SSW
31 May 2020	8:00 AM	0.9	SSW
31 May 2020	9:00 AM	1.3	SSW
31 May 2020	10:00 AM	1.3	ESE
31 May 2020	11:00 AM	1.3	SW
31 May 2020	12:00 PM	2.2	ESE
31 May 2020	1:00 PM	2.7	ESE
31 May 2020	2:00 PM	2.7	ESE
31 May 2020	3:00 PM	2.7	ESE
31 May 2020	4:00 PM	2.2	ESE
31 May 2020	5:00 PM	2.2	ESE
31 May 2020	6:00 PM	2.2	ESE
31 May 2020	7:00 PM	1.3	SW
31 May 2020	8:00 PM	1.8	ESE
31 May 2020	9:00 PM	1.3	ESE
31 May 2020	10:00 PM	1.3	ESE
31 May 2020	11:00 PM	1.8	SSW
1 Jun 2020	12:00 AM	1.8	SSW

APPENDIX F
24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix F - 24-hour TSP Impact Monitoring Results

Location KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time (hrs.)	Flow Rate (m^3/min.)		Av. Flow (m^3/min)	Total vol. (m^3)	Conc. (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)
				Initial	Final			Initial	Final					
2-May-20	Fine	299.3	757.6	2.6874	2.8385	0.1511	24.0	1.67	1.67	1.67	2403.8	63	177	260
8-May-20	Cloudy	302.3	756.5	2.7029	2.8252	0.1223	24.0	1.50	1.52	1.51	2176.0	56		
14-May-20	Fine	300.1	758.5	2.6898	2.7780	0.0882	24.0	1.59	1.60	1.59	2292.6	38		
20-May-20	Cloudy	300.6	754.6	2.6520	2.7840	0.1320	24.0	1.66	1.67	1.67	2398.0	55		
26-May-20	Cloudy	301.3	755.8	2.6820	2.7937	0.1117	24.0	1.43	1.44	1.44	2067.6	54		
											Min	38		
											Max	63		
											Average	53		

Location KTD2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time (hrs.)	Flow Rate (m^3/min.)		Av. Flow (m^3/min)	Total vol. (m^3)	Conc. (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)
				Initial	Final			Initial	Final					
2-May-20	Fine	299.3	757.6	2.7074	2.8895	0.1821	24.0	1.63	1.64	1.63	2353.7	77	157	260
8-May-20	Cloudy	302.3	756.5	2.7091	2.8264	0.1173	24.0	1.42	1.44	1.43	2058.8	57		
14-May-20	Fine	300.1	758.5	2.7180	2.9103	0.1923	24.0	1.67	1.68	1.67	2409.8	80		
20-May-20	Cloudy	300.6	754.6	2.7347	2.8610	0.1263	24.0	1.50	1.52	1.51	2175.6	58		
26-May-20	Cloudy	301.3	755.8	2.7069	2.8194	0.1125	24.0	1.50	1.52	1.51	2174.9	52		
											Min	52		
											Max	80		
											Average	65		

Location KER1b - Site Boundary at Cheung Yip Street

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time (hrs.)	Flow Rate (m^3/min.)		Av. Flow (m^3/min)	Total vol. (m^3)	Conc. (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)
				Initial	Final			Initial	Final					
2-May-20	Fine	299.3	757.6	2.7056	2.8560	0.1504	24.0	1.71	1.58	1.64	2364.0	64	172	260
8-May-20	Cloudy	302.3	756.5	2.7169	2.8305	0.1136	24.0	1.49	1.51	1.50	2163.2	53		
14-May-20	Fine	300.1	758.5	2.7093	2.8630	0.1537	24.0	1.50	1.51	1.51	2259.5	68		
20-May-20	Cloudy	300.6	754.6	2.7370	2.8895	0.1525	24.0	1.58	1.59	1.59	2282.8	67		
26-May-20	Cloudy	301.3	755.8	2.7013	2.7382	0.0369	24.0	1.48	1.49	1.49	2138.7	17		
											Min	17		
											Max	68		
											Average	54		

*Remarks: Location KTD2b was relocated to Location KTD2c on 8 April 2020

Appendix F - 24-hour TSP Baseline Monitoring Results

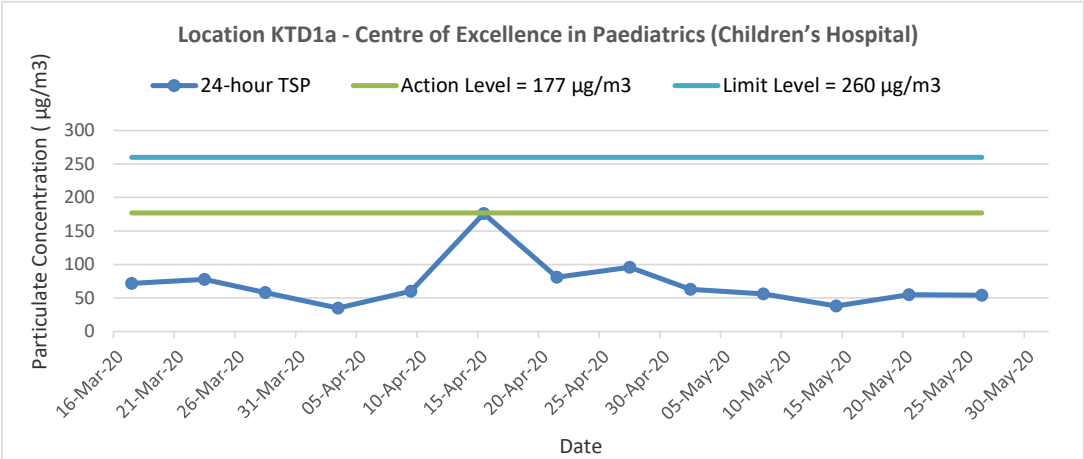
Location CKL1 - Flat 121 Cha Kwo Ling Village

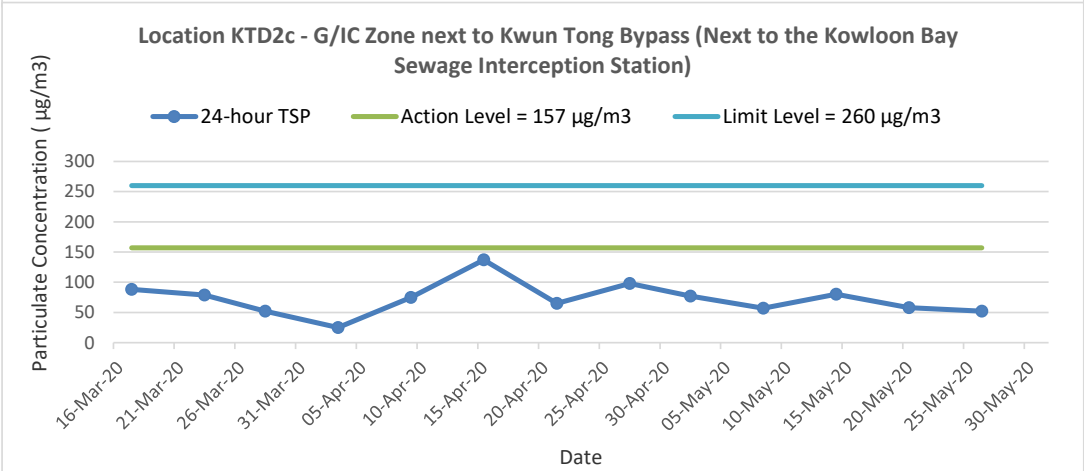
Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time (hrs.)	Flow Rate (m^3/min.)		Av. Flow (m^3/min)	Total vol. (m^3)	Conc. (μg/m^3)	Action Level (μg/m3)	Limit Level (μg/m3)
				Initial	Final		Initial	Final		Initial	Final					
5-May-20	Sunny	301.3	757.5	3.4891	3.6194	0.1303	687.1	711.1	24.0	1.21	1.21	1.21	1739.8	74.9	191.0	260.0
11-May-20	Sunny	301.0	758.9	3.4896	3.6818	0.1922	711.1	735.1	24.0	0.99	1.00	0.99	1431.7	134.2		
16-May-20	Sunny	300.4	755.5	3.4898	3.6221	0.1323	735.1	759.1	24.0	0.99	0.99	0.99	1429.9	92.5		
22-May-20	Cloudy	299.8	754.7	3.4840	3.5557	0.0717	759.1	783.1	24.0	0.99	1.00	0.99	1430.5	50.1		
28-May-20	Cloudy	301.0	758.5	3.5583	3.6473	0.0890	783.1	807.1	24.0	0.99	0.99	0.99	1431.3	62.2		
													Min	50.1		
													Max	134.2		
													Average	82.8		

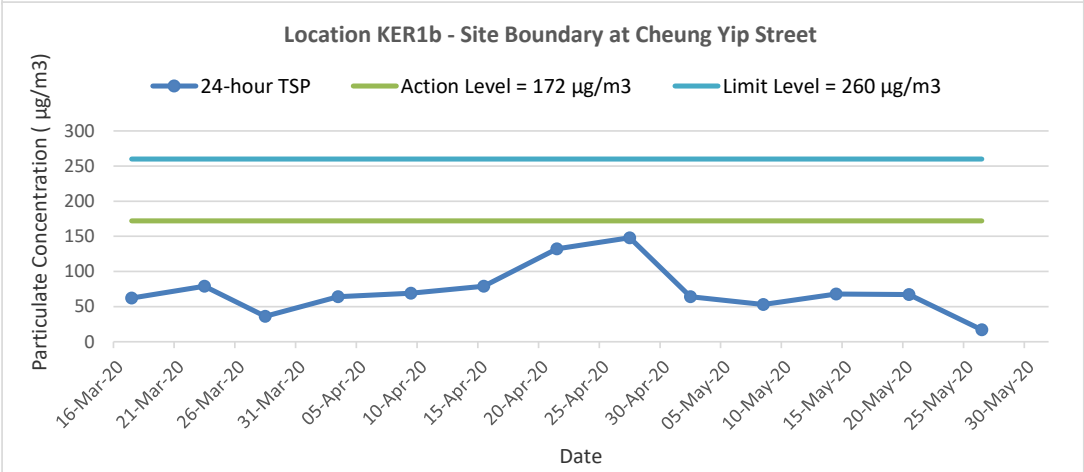
Location CKL2 - Flat 103 Cha Kwo Ling Village

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time (hrs.)	Flow Rate (m^3/min.)		Av. Flow (m^3/min)	Total vol. (m^3)	Conc. (μg/m^3)	Action Level (μg/m3)	Limit Level (μg/m3)
				Initial	Final		Initial	Final		Initial	Final					
5-May-20	Sunny	301.3	757.5	3.4719	3.5934	0.1215	12824.3	12848.3	24.0	1.20	1.20	1.20	1728.6	70.3	183.0	260.0
11-May-20	Sunny	301.0	758.9	3.4701	3.5933	0.1232	12848.3	12872.3	24.0	1.00	1.00	1.00	1436.6	85.8		
16-May-20	Sunny	300.4	755.5	3.5033	3.6386	0.1353	12872.3	12896.3	24.0	0.99	1.00	1.00	1434.9	94.3		
22-May-20	Cloudy	299.8	754.7	3.4963	3.5900	0.0937	12896.3	12920.3	24.0	0.99	1.00	1.00	1435.5	65.3		
28-May-20	Cloudy	301.0	758.5	3.5113	3.5619	0.0506	12920.3	12944.3	24.0	1.00	1.00	1.00	1436.3	35.2		
													Min	35.2		
													Max	94.3		
													Average	70.2		

24-hr TSP Concentration Levels



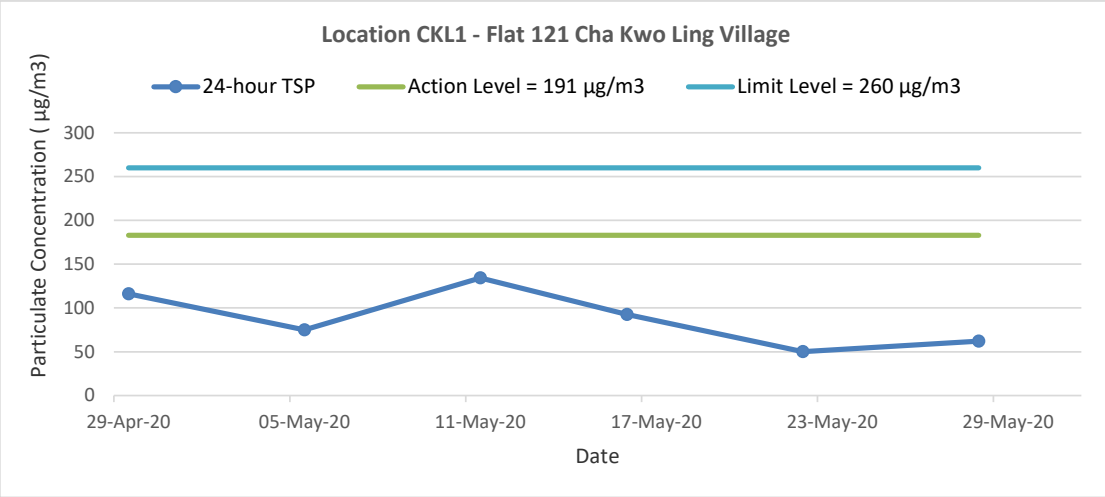


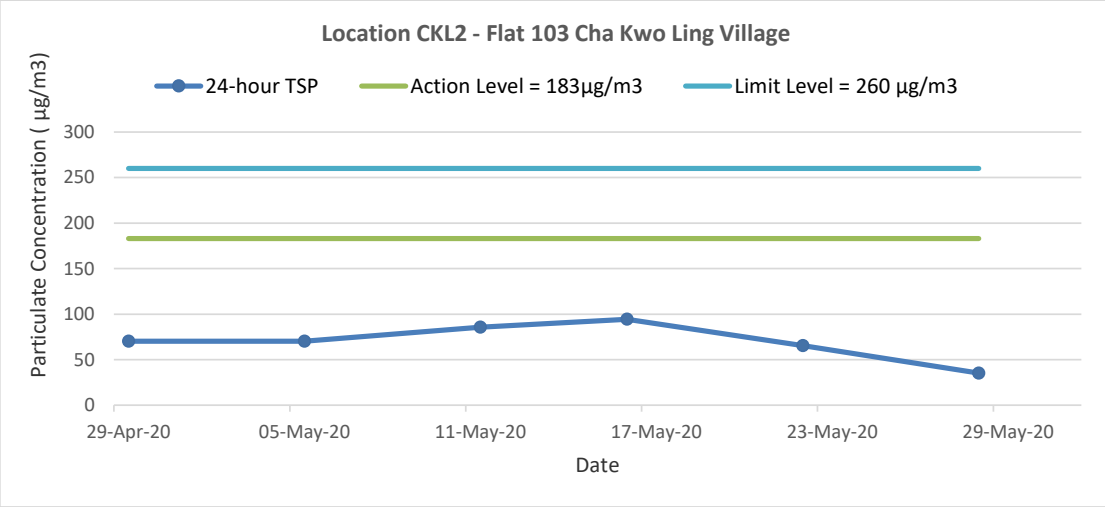


*Remarks: Location KTD2b was relocated to Location KTD2c on 8 April 2020

Title	Contract No. ED/2018/04 - Trunk Road T2 and Infrastructure Works For Developments at the Former South Apron	Date: May-20	Project No.: MA20003	CINOTECH
	Graphical Presentation of 24-hour TSP Monitoring Results		Appendix: F	

24-hr TSP Concentration Levels





Title	Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron	Date: May-20	Project No.: MA20003	CINOTECH
	Graphical Presentation of 24-hour TSP Monitoring Results		Appendix: F	

APPENDIX G
COPIES OF CALIBRATION CERTIFICATES FOR NOISE MONITORING

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Hong Kong.
Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com

MateriaLab

Report no.: 183057CA196350

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Address : Room 723 & 725, 7/F., Block B Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Chung, N.T.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

	Meter	Microphone	Preamplifier
Model No. :	CEL-63X	CE-251	CEL-495
Serial No. :	1488289	02789	004065

Next Calibration Date : 23-Oct-2020

Specification Limit : EN 61672: 2003 Type 1

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Date of Calibration : 24-Oct-2019 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : By direct comparison

Calibration Results :

Parameters		Mean Value (dB)	Specification Limit(dB)
A-weighting frequency response	4000Hz	2.1	2.6 to -0.6
	2000Hz	1.6	2.8 to -0.4
	1000Hz	0.1	1.1 to -1.1
	500Hz	-3.3	-1.8 to -4.6
	250Hz	-8.7	-7.2 to -10.0
	125Hz	-16.2	-14.6 to -17.6
	63Hz	-26.2	-24.7 to -27.7
	31.5Hz	-38.9	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.0	± 0.6
	104dB-114dB	0.0	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
4. The equipment does comply with EN 61672: 2003 Type 1 sound level meter for the above measurement.
5 The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 1-11-2019 Certified by : K.T. Leung Date : 1-11-2019

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Hong Kong.

Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com

MateriaLab

Report no.: 183057CA196305

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Address : Room 723 & 725, 7/F., Block B Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Chung, N.T.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

	Meter	Microphone	Preamplifier
Model No. :	CEL-63X	CE-251	CEL-495
Serial No. :	1488295	02809	003921

Next Calibration Date : 16-Oct-2020

Specification Limit : EN 61672: 2003 Type 1

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Date of Calibration : 17-Oct-2019 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : By direct comparison

Calibration Results :

Parameters		Mean Value (dB)	Specification Limit(dB)
A-weighting frequency response	4000Hz	1.4	2.6 to -0.6
	2000Hz	1.3	2.8 to -0.4
	1000Hz	0.0	1.1 to -1.1
	500Hz	-3.4	-1.8 to -4.6
	250Hz	-8.7	-7.2 to -10.0
	125Hz	-16.2	-14.6 to -17.6
	63Hz	-26.2	-24.7 to -27.7
	31.5Hz	-39.1	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.0	± 0.6
	104dB-114dB	0.0	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
4. The equipment does comply with EN 61672: 2003 Type 1 sound level meter for the above measurement.
5 The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 23-10-2019 Certified by : K L Young Date : 24-10-2019

Leung Kwok Tai (Assistant Manager)

CA-R-297 (22/07/2009)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Hong Kong.

Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com

MateriaLab

Report no.: 183057CA195873(1)

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model CEL-120/1)
Serial No.	:	4358251
Equipment ID	:	N-34
Next Calibration Date	:	25-Jul-2020
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration :	26-Jul-2019	Ambient Temperature : 22 °C
Calibration Location :	Calibration Laboratory of MateriaLab	
Method Used	:	By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	-0.1 dB	±0.4dB
114dB	0.0 dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 26-7-2019 Certified by : K.T.Leung Date : 26-7-2019

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Hong Kong.

Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com

MateriaLab

Report no.: 183057CA195873

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model CEL-120/1)
Serial No.	:	4358289
Equipment ID	:	N-35
Next Calibration Date	:	25-Jul-2020
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration :	26-Jul-2019	Ambient Temperature : 22 °C
Calibration Location :	Calibration Laboratory of FTS	
Method Used	:	By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	0.1 dB	±0.4dB
114dB	0.0 dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 26-7-2019 Certified by : RT Leung Date : 26-7-2019

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

Calibration Certificate

0023157

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong Customer Code : SVEC09005	Object 1 : SVAN959 SLM Serial No. /Ref. No. : 11275 / N-08-01 Object 2 : Microphone Serial No. /Ref. No. : 22452 Manufacturer : BSWAtech
Date of calibration: 08/01/2020 Date of the recommended re-calibration: 08/01/2021	Certificate No.: 0023157 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	94.2dB	+0.2dB	+/- 1.5dB	1
114.0dB	113.9dB	-0.1dB	+/- 1.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
5.The calibrations certificate may not be reproduced.

Measured value(s) within **the allowable deviation.**

Performed by

Calibration Technician

Approved by

Quality Manager

Appleone Calibration Laboratory Ltd. Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR Tel: +852 2370 4437 Fax: +852 2114 0393

Equipment no.: N-12-02

Calibration Certificate

0022522

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong Customer Code : SVEC09005	Object 1 : BSWA 308 SLM Serial No. /Ref. No. : 570187 / 550841 Object 2 : Serial No. /Ref. No. : Manufacturer : BSWAtech
Date of calibration: 23/09/2019 Date of the recommended re-calibration: 23/09/2020	Certificate No.: 0022522 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	94.0dB	0.0dB	+/- 1.5dB	1
114.0dB	113.9dB	-0.1dB	+/- 1.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
5.The calibrations certificate may not be reproduced.

Measured value(s) within **the allowable deviation.**

Performed by

Calibration Technician

Approved by

Quality Manager

Calibration Certificate

0022673

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong Customer Code : SVEC09005	Object 1 : ST-120 sound calibrator Serial No. /Ref. No. : 181001608 Object 2 : Serial No. /Ref. No. : Manufacturer : Soundtek
Date of calibration: 24/10/2019 Date of the recommended re-calibration: 24/10/2020	Certificate No.: 0022673 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	94.0dB	0.0dB	+/- 0.3dB	1
114.0dB	114.1dB	+0.1dB	+/- 0.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
5.The calibrations certificate may not be reproduced.

Measured value(s) within **the allowable deviation.**

Performed by

Calibration Technician

Approved by

Quality Manager

Appleone Calibration Laboratory Ltd. Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR Tel: +852 2370 4437 Fax: +852 2114 0393

Calibration Certificate

0022675

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong Customer Code : SVEC09005	Object 1 : ST-120 sound calibrator Serial No. /Ref. No. : 181001637 Object 2 : Serial No. /Ref. No. : Manufacturer : Soundtek
Date of calibration: 24/10/2019 Date of the recommended re-calibration: 24/10/2020	Certificate No.: 0022675 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	94.0dB	0.0dB	+/- 0.3dB	1
114.0dB	114.0dB	0.0dB	+/- 0.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
5.The calibrations certificate may not be reproduced.

Measured value(s) within **the allowable deviation.**

Performed by

Calibration Technician

Approved by

Quality Manager

Appleone Calibration Laboratory Ltd. Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR Tel: +852 2370 4437 Fax: +852 2114 0393

APPENDIX H
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix H - Noise Monitoring Results

(0700-1900 hrs on Normal Weekdays)

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)						
Date	Time	Weather	Unit: dB (A) (30-min)			
			Measured Noise Level			Baseline Level
			L_{eq}	L_{10}	L_{90}	L_{eq}
2-May-20	08:35	Fine	67	71	63	78
8-May-20	08:32	Cloudy	68	71	64	78
14-May-20	09:00	Fine	68	71	65	78
20-May-20	08:43	Cloudy	66	69	60	78
26-May-20	10:19	Cloudy	68	72	65	78

KTD 2c: G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station)						
Date	Time	Weather	Unit: dB (A) (30-min)			
			Measured Noise Level			Baseline Level
			L_{eq}	L_{10}	L_{90}	L_{eq}
2-May-20	10:00	Fine	73	75	70	64
8-May-20	09:53	Cloudy	73	74	71	64
14-May-20	09:40	Fine	74	75	70	64
20-May-20	10:14	Cloudy	75	79	71	64
26-May-20	08:43	Cloudy	74	77	72	64

KER1b - Site Boundary at Cheung Yip Street						
Date	Time	Weather	Unit: dB (A) (30-min)			
			Measured Noise Level			Baseline Level
			L_{eq}	L_{10}	L_{90}	L_{eq}
2-May-20	09:20	Fine	73	76	70	65
8-May-20	09:14	Cloudy	74	77	71	65
14-May-20	10:27	Fine	74	75	72	65
20-May-20	09:26	Cloudy	71	72	69	65
26-May-20	09:28	Cloudy	73	76	70	65

*Remarks: Location KTD2b was relocated to Location KTD2c on 8 April 2020.

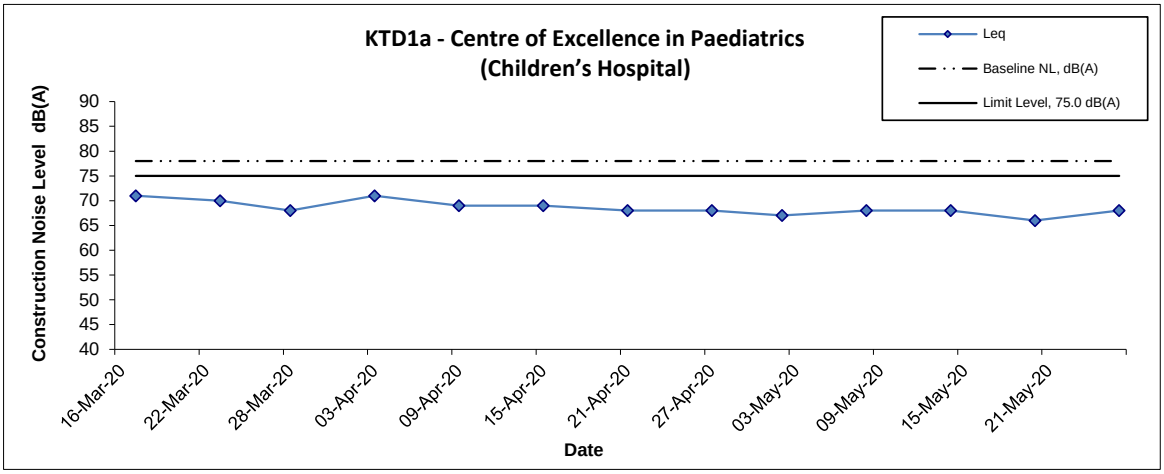
Appendix H - Noise Monitoring Results

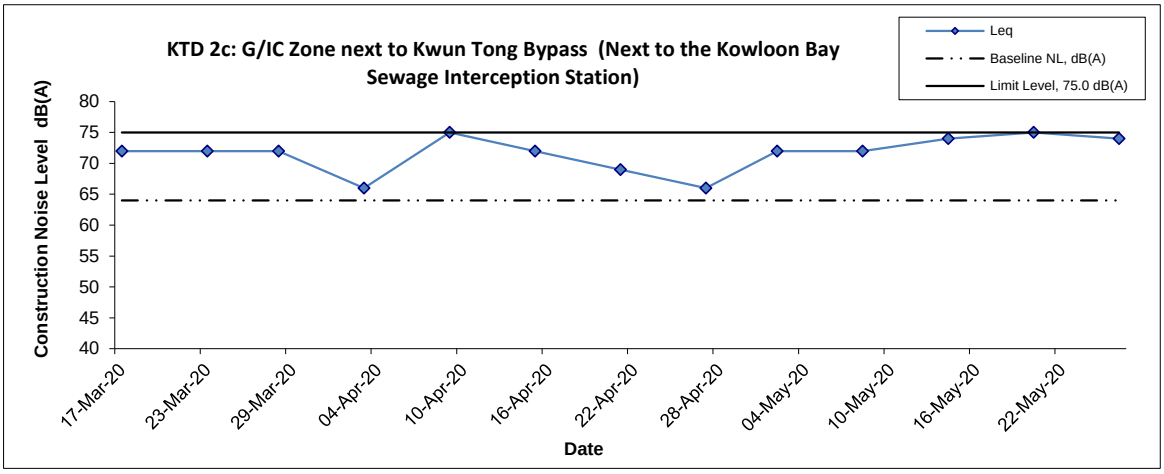
(0700-1900 hrs on Normal Weekdays)

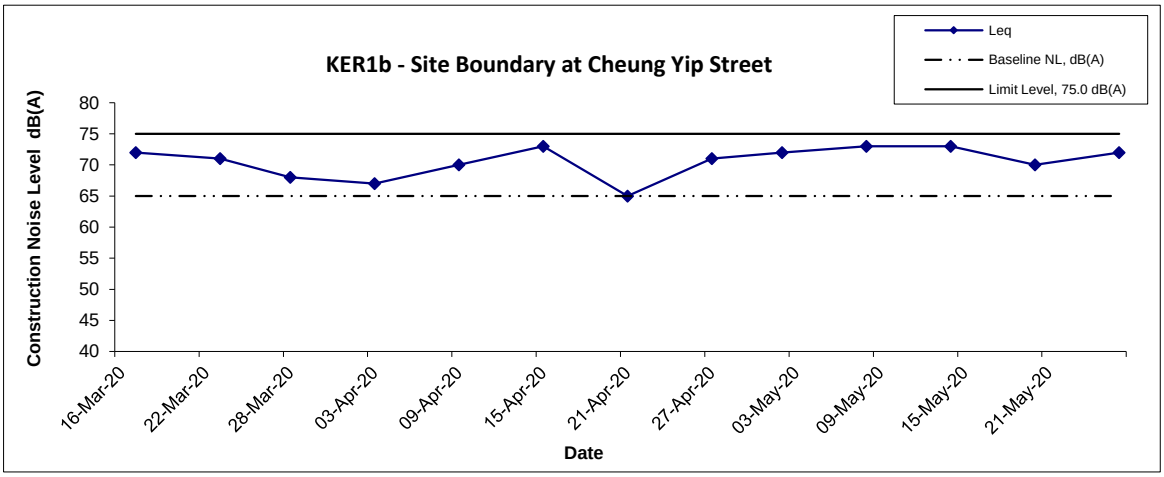
Location CKL1 - Flat 121 Cha Kwo Ling Village						
Date	Time	Weather	Unit: dB (A) (30-min)			
			Measured Noise Level			Baseline Level
			L_{eq}	L_{10}	L_{90}	L_{eq}
4-May-20	14:50	Sunny	70.5	74.5	58.5	72.4
12-May-20	13:35	Fine	69.1	72.6	56.8	72.4
18-May-20	13:35	Cloudy	67.1	70.6	59.1	72.4
29-May-20	10:50	Cloudy	73.4	75.1	64.6	72.4

Location CKL2 - Flat 103 Cha Kwo Ling Village						
Date	Time	Weather	Unit: dB (A) (30-min)			
			Measured Noise Level			Baseline Level
			L_{eq}	L_{10}	L_{90}	L_{eq}
4-May-20	14:17	Sunny	68.1	71.9	57.7	71.4
12-May-20	13:00	Fine	67.9	71.7	56.1	71.4
18-May-20	13:00	Cloudy	68.9	72.6	58.2	71.4
29-May-20	11:30	Cloudy	68.4	71.9	60.6	71.4

Noise Levels



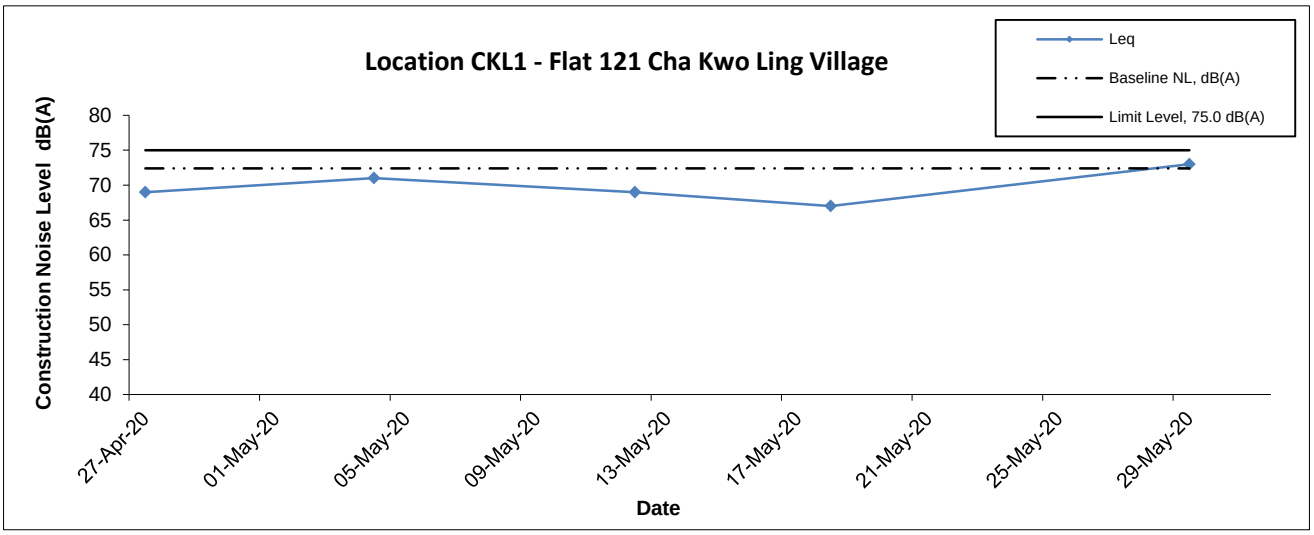


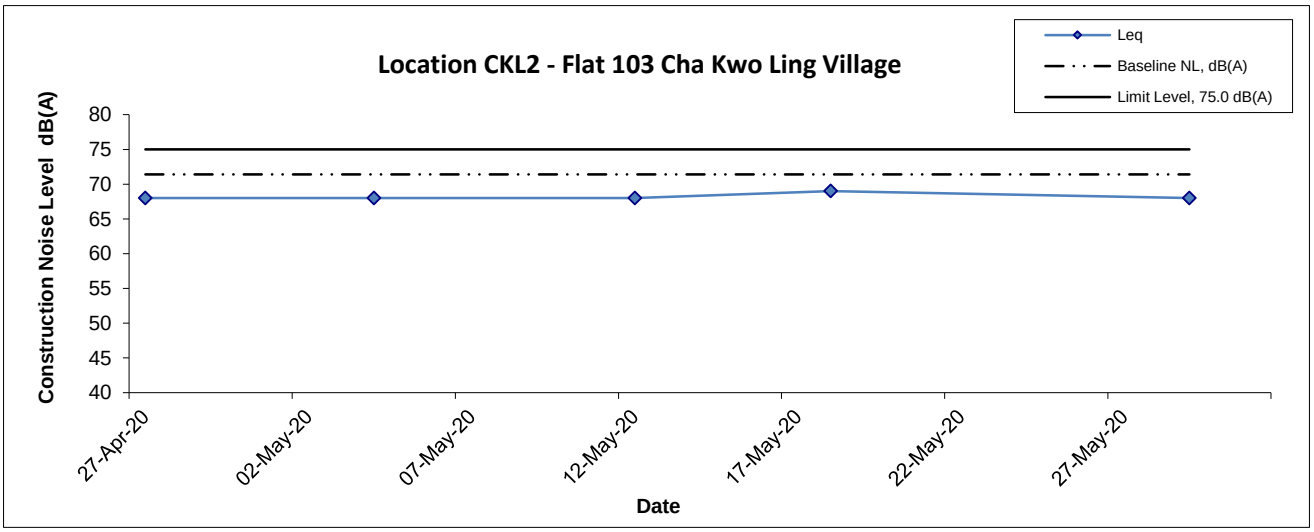


*Remarks: Location KTD2b was relocated to Location KTD2c on 8 April 2020.

Title: Contract No. ED/2018/04 - Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron Graphical Presentation of Construction Noise Monitoring Results	Date: May 20	Project No. MA20003 Appendix H	CINOTECH

Noise Levels





Title: Kai Tak Development – Trunk Road T2 and Infrastructure Works at the Former South Apron Graphical Presentation of Construction Noise Monitoring Results	Date: May 20	Project No. MA20003 Appendix H	CINOTECH

APPENDIX I
SITE AUDIT SUMMARY

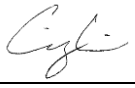
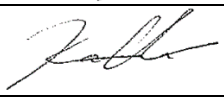
Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	200507
Date	07 May 2020 (Thursday)
Time	09:30 – 12:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
200507 – R2	***B. Water Quality*** • Manhole should be covered and sealed.	*B8*
	C. Air Quality • No environmental deficiency was identified during site inspection.	
200507 – R1	***D. Construction Noise Impact*** • Air compressor with door opened is observed.	*D9*
	E. Waste/Chemical Management • No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape • No environmental deficiency was identified during site inspection.	
	G. Permits/Licences • No environmental deficiency was identified during site inspection.	
	H. Marine Ecology • No environmental deficiency was identified during site inspection.	
	I. Others • Follow-up on previous audit session (Ref No.:200429), all items has been rectified.	

	Name	Signature	Date
Recorded by	Tim Lui		7 May 2020
Checked by	Karina Chan		7 May 2020

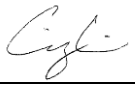
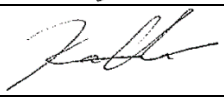
Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	200514
Date	14 May 2020 (Thursday)
Time	09:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality • No environmental deficiency was identified during site inspection. ***C. Air Quality*** • No environmental deficiency was identified during site inspection. ***D. Construction Noise Impact*** • No environmental deficiency was identified during site inspection. ***E. Waste/Chemical Management*** • No environmental deficiency was identified during site inspection. ***F. Visual and Landscape*** • No environmental deficiency was identified during site inspection. ***G. Permits/Licences*** • No environmental deficiency was identified during site inspection. ***H. Marine Ecology*** • No environmental deficiency was identified during site inspection. ***I. Others*** • Follow-up on previous audit session (Ref No.:200507), item 200507 – R1 has been rectified. And the follow-up actions are needed to be reviewed for item 200507 – R2.	

	Name	Signature	Date
Recorded by	Tim Lui		14 May 2020
Checked by	Karina Chan		14 May 2020

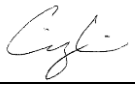
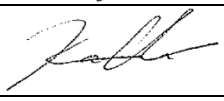
Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	200521
Date	21 May 2020 (Thursday)
Time	09:30 – 12:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
200521-R1	***B. Water Quality*** • Water pond is found at the CKL site. Drainage system should be adequately designed for storm flow. ***C. Air Quality*** • No environmental deficiency was identified during site inspection. ***D. Construction Noise Impact*** • No environmental deficiency was identified during site inspection. ***E. Waste/Chemical Management*** • No environmental deficiency was identified during site inspection.	*B9,B13i*
200521-R2	***F. Visual and Landscape*** • Existing tree to be retained on site should be protected carefully. ***G. Permits/Licences*** • No environmental deficiency was identified during site inspection. ***H. Marine Ecology*** • No environmental deficiency was identified during site inspection. ***I. Others*** • Follow-up on previous audit session (Ref No.:200514), item 200507 – R2 has been rectified.	*F1*

	Name	Signature	Date
Recorded by	Tim Lui		21 May 2020
Checked by	Karina Chan		21 May 2020

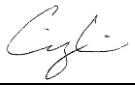
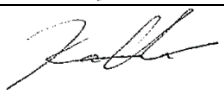
Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	200528
Date	28 May 2020 (Thursday)
Time	09:30 – 12:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality • No environmental deficiency was identified during site inspection. ***C. Air Quality*** • No environmental deficiency was identified during site inspection. ***D. Construction Noise Impact*** • No environmental deficiency was identified during site inspection. ***E. Waste/Chemical Management*** • No environmental deficiency was identified during site inspection. ***F. Visual and Landscape*** • No environmental deficiency was identified during site inspection. ***G. Permits/Licences*** • No environmental deficiency was identified during site inspection. ***H. Marine Ecology*** • No environmental deficiency was identified during site inspection. ***I. Others*** • Follow-up on previous audit session (Ref No.:200521), item 200521 – R1 has been rectified. As portion Q was not inspected this audit (Ref No.:200528), item 200521 – R2 needs to be follow-up on the next audit session.	

	Name	Signature	Date
Recorded by	Tim Lui		28 May 2020
Checked by	Karina Chan		28 May 2020

APPENDIX J
EVENT AND ACTION PLANS

Appendix J - Event Action Plans

Table J-1 Event/Action Plan for Air Construction Dust Monitoring

Event	Action			
	ET	IEC	ER	Contractor
Action Level				
1. Exceedance for one sample	1. Identify source, investigate the causes of complaint and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods agreed with the ER as appropriate.
2. Exceedance by two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER 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;	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures if required; 4. Advise the ER on the effectiveness of the proposed remedial measures;	1. Notify Contractor; 2. Ensure remedial measures properly implemented.	1. Submit proposals for remedial actions to IEC within three working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

Appendix J - Event Action Plans

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
	7. If exceedance continues, arrange meeting with IEC, Contractor and ER; 8. If exceedance stops, cease additional monitoring.			
Limit level				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform the IEC, ER, and Contractor; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC 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; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to the ER and copy to the ET and IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
2. Exceedance for two or more consecutive	1. Notify IEC, ER and Contractor; 2. Identify source;	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;	1. Confirm receipt of notification of exceedance in writing;	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial

Appendix J - Event Action Plans

Event	Action			
	ET	IEC	ER	Contractor
samples	3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures with the ER to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER and ET accordingly; 3. Supervise the implementation of remedial measures.	2. Notify Contractor; 3. In consolidation with the IEC and ET, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 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.	actions to ER and copy to the IEC and ET within three working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix J - Event Action Plans

Table J-2 Event/Action Plan for Construction Noise Monitoring

Event	Action			
	ET	IEC	ER	Contractor
Action Level	1. Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC and Contractor; 4. Discuss jointly with the ER and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the monitoring data submitted by the ET; 2. Review the construction methods and proposed redial measures by the Contractor, and advise the ET and ER if the proposed remedial measures would be sufficient.	1. Notify Contractor; 2. Require Contractor to propose remedial measures for implementation if required.	1. Submit noise mitigation proposals to the ER and copy to the IEC and ET; 2. Implement noise mitigation proposals.
Limit Level	1. Notify IEC, ER and Contractor; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Carry out analysis of Contractor's working	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to the ER and copy to the ET and IEC within 3 working days of notification;

Appendix J - Event Action Plans

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
	procedures to determine possible mitigation to be implemented; 5. Record the causes and action taken for the exceedances; 6. Increase the monitoring frequency; 7. Assess the effectiveness of the Contractor's remedial action with the ER and keep the IEC informed of the results; 8. If exceedance stops, cease additional monitoring.	ER accordingly; 3. Supervise the implementation of remedial measures.	problem; 4. Ensure remedial measures properly implemented; 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.	3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix J - Event Action Plans

Table J-3 Event/Action Plan for Landscape and Visual

Event	Action			
	ET	IEC	ER	Contractor
Non-conformity on one occasion	1. Identify Source; 2. Inform the IEC and the ER; 3. Discuss remedial actions with IEC, ER and Contractor 4. Monitor remedial actions until rectification has been completed.	1. Check report; 2. Check Contractor's working method; 3. Discuss with ET and the Contractor on possible remedial measures; 4. Advise ER on effectiveness of proposed remedial measures; 5. Check implementation of remedial measures	1. Notify Contractor; 2. Ensure remedial measures are properly implemented.	1. Amend working methods; 2. Rectify damage and undertake any necessary replacement.

Appendix J - Event Action Plans

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Repeated Non-conformity	1. Identify source; 2. Inform the IEC and the ER; 3. Increase monitoring frequency; 4. Discuss remedial actions with the IEC, the ER and the Contractor; 5. Monitor remedial actions until rectification has been completed; 6. If exceedance stops, cease additional monitoring.	1. Check monitoring report; 2. Check Contractor's working method; 3. Discuss with ET and the Contractor on possible remedial measures; 4. Advise ER on effectiveness of proposed remedial measures; 5. Check implementation of remedial measures	1. Notify Contractor; 2. Ensure remedial measures are properly implemented.	1. Amend working methods; 2. Rectify damage and undertake any necessary replacement.

APPENDIX K
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
Air Quality Impact									
S2.3.1.1	The specific mitigation comprises the following: watering of the construction areas 12 times per day to reduce dust emissions by 91.7%, with reference to the "Control of Open Fugitive Dust Sources" (USEPA AP-42). The amount of water to be applied would be 0.91L/m^2 for the respective watering frequency;	To minimize dust emission during construction works	All relevant works sites, conveyor belts and stockpiles	Contractor and Sub-contractors	APCO / EIAO	Y	Y		^
	Dust enclosures with watering would be provided along the loading ramps and conveyor belts for unloading the C&D materials to the barge for dust suppression; and								^
	3-sided barriers around the stockpiling areas WA3 and WA4.								^
S2.3.1.2	The dust control measures detailed below shall also be incorporated into the Contract Specification where practicable as an integral part of good construction practice: Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather;	To minimize dust emission during construction works	All relevant works sites	Contractor and Sub-contractors	APCO / EIAO	Y	Y		^
	Use of frequent watering for particularly dusty construction areas and areas close to ASRs;								^
	Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines;								^
	Open stockpiles shall be avoided or covered. Prevent placing dusty material storage piles near ASRs;								^
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations;								^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
	Establishment and use of vehicle wheel and body washing facilities at the exit points of the site;								^
	Imposition of speed controls for vehicles on unpaved site roads, 8 km per hour is the recommended limit;								^
	Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs;								^
	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 fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; and								^
	Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system.								^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
Noise Impact									
S3.4.1.1	The use of quieter plant, including Quality Powered Mechanical Equipment (QPME) is specified for the list of equipment: - Concrete lorry mixer - Dump Truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne - Generator, Super Silenced, 70 dB(A) at 7m - Poker, vibratory, Hand-held (electric) - Water Pump, Submersible (Electric) - Mobile Crane - KOBELCO CKS900 - Excavator, wheeled/tracked - HYUNDAI R80CR-9	To minimise air-borne noise impacts	All relevant works sites	Contractor and Sub-contractors	NCO / EIAO		Y		^
S3.4.1.1	Use of temporary or fixed noise barriers with a surface density of at least 10kg/m^2 to screen noise from movable and stationary plant.	To minimise air-borne noise impacts	All relevant works sites	Contractor and Sub-contractors	NCO / EIAO		Y		^
S3.4.1.1	Use of enclosures with covers at top and three sides and a surface density of at least 10kg/m^2 to screen noise from generally static noisy plant such as air compressors.	To minimise air-borne noise impacts	All relevant works sites	Contractor and Sub-contractors	NCO / EIAO		Y		^
S3.4.1.1	Use of acoustic fabric for the silent piling system, drill rigs, rock drills etc.	To minimise air-borne noise impacts	All relevant works sites	Contractor and Sub-contractors	NCO / EIAO		Y		N/A(1)
S3.4.1.1	Proper fitting of silencers and mufflers on the ventilation fans.	To minimise air-borne noise impacts	All relevant works sites	Contractor and Sub-contractors	NCO / EIAO		Y		N/A(1)
S3.4.1.1	Implementation of good site practice: Only well-maintained plant should be operated on-site and plants should be serviced regularly during the construction period;	To minimise air-borne noise impacts	All relevant works sites	Contractor and Sub-contractors	NCO / EIAO		Y		^
	Mobile plant, if any, should be sited as far from NSRs as possible;								^
	Plant known to emit noise strongly in one direction should, wherever possible, be properly orientated so that the noise is directed away from the nearby NSRs;								^
	Use of site hoarding as a noise barrier to screen noise at low level NSRs;								^
	Machines and plant that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum; and								^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
	Any material stockpiles and other structures should be effectively utilised, wherever practicable, to screen the noise from on-site construction activities.								N/A(1)
	The advancing speed of the TBM should be restricted to 2m/hr in order to ensure compliance with the daytime ground-borne noise limits.								N/A(1)
Water Quality									
S4.2.1.1	In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), construction phase mitigation measures shall include the following: Surface run-off from the construction site, including all Works Areas, will be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. At the establishment of works sites and works areas including the barging point, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided to divert the storm water to the silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the Contractor prior to the commencement of construction and the catch-pits and perimeter channels would be constructed in advance of site formation works and earthworks;	To control water quality impact from construction site runoff and general construction activities	All works sites	Contractor and Sub-contractors	Water Pollution Control Ordinance / ProPECC PN 1/94		Y		*
	Dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas and Works Areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap;								*
	The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. The sizes may vary depending upon the flow rate, but for a flow rate of $0.1m^3/s$, a sedimentation basin of $30m^3$ would be required and for a flow rate of $0.5m^3/s$ the basin would be $150m^3$. All effluent discharged from the construction site should comply with the standards stipulated in the TM-DSS. The detailed design of the sand/silt traps shall be undertaken by the Contractor prior to the commencement of construction;								N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
	In accordance with ProPECC PN 1/94, the construction works should be programmed to minimise surface excavation works during rainy seasons (April to September), as far as practicable. All exposed earth areas should be completed and vegetated as soon as possible after the earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means;								^
	The overall slope of works sites should be kept to a minimum to reduce the erosive potential of surface water flows, and all trafficked areas and access roads should be protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during the prolonged periods of inclement weather and the reduction of surface sheet flows;								^
	All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure their proper and efficient operation at all times particularly following rainstorms. Deposited silts and grits 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 season is inevitable, they should be dug and backfilled in short sections wherever practicable. The water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;								N/A(1)
	Open stockpiles of construction materials (for example, aggregates, sand and fill material) should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system;								^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers;								*
	Precautions to be taken at any time of the year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted and during or after rainstorms, are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events;								N/A(1)
	All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at the exit of every construction site 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 section of access road leading to, and exiting from, the wheel-washing bay to public roads should be paved with sufficient backfall toward the wheel- washing bay to prevent vehicle tracking of soil and silty water to public roads and drains;								^
	Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources, specifically Works Areas WA1, WA2, WA4 and WA5 where plant maintenance is proposed. 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 oil interceptors to prevent flushing during heavy rain;								N/A(1)
	The construction solid waste, debris and rubbish on-site should be collected, handled and disposed of properly to avoid causing any water quality impacts. The requirements for solid waste management are detailed in Section 11 Waste Management of this EIA report; and								^
	All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching the nearby WSRs.								^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
S4.2.1.1 and 4.3.1.5	There is a need to apply to the EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Minimum distances of 100m should be maintained between the discharge points of construction site effluent and the existing seawater intakes. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc, can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license	To control water quality impact from effluent discharge from construction site	All works sites	Contractor and Sub-contractors	Water Pollution Control Ordinance		Y		N/A(1)
S4.2.1.1	Specific mitigation measures for the tunnelling works using TBM, soft ground and mechanical excavation techniques should include the following: The cut-and-cover tunnelling works should be conducted sequentially as far as practicable to limit the amount of construction wastewater generated from the exposed areas during the wet season (April to September);	To minimize construction water quality impact from tunnelling and excavation works	All tunnelling and excavation portion	Contractor and Sub-contractors	TMEIA TMwater ProPECC PN 1/94 WPCO		Y		N/A
	Uncontaminated discharge should pass through settlement tanks prior to discharge;								N/A
	If contaminated groundwater is found during the course of the works, no direct discharge of groundwater from contaminated areas should be adopted. Any contaminated groundwater should be properly treated in compliance with the requirements of the TM-DSS. If wastewater treatment is to be deployed for treating the contaminated groundwater, the wastewater treatment unit should deploy suitable treatment processes (e.g. oil interceptor/activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (such as TPH) to an undetectable range;								N/A
	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 Section 2.3 of TM-DSS;								N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
	The baseline groundwater quality shall be determined prior to the selection 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 TPH products should be removed as necessary by installing the petrol interceptor;								N/A
	The wastewater with high concentrations of SS should be treated such as by settlement in tanks with sufficient retention time before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater.								N/A
S4.2.1.1	In order to prevent any accidental release of bentonite slurry from getting into the surrounding environment, the following specific control measures shall be followed to reduce the risk and impacts of accidental spillage: All bentonite slurry should be stored in a container that resistant to corrosion, maintained in good conditions and securely closed;	To control water quality impact from bentonite slurry	All relevant works sites	Contractor and Sub-contractors	WPCO		Y		N/A(1)
	The container should be labelled in English and Chinese and note that the container is for storage of bentonite slurry only;								N/A(1)
	The storage container should be placed on an area of impermeable flooring and bunded with capacity to accommodate 110% of the volume of the container size or 20% by volume stored in the area and enclosed with at least 3 sides;								N/A(1)
	The storage container should be sufficiently covered to prevent rainfall entering the container or bunded area (water collected within the bund must be tested and disposed of as chemical waste, if necessary);								N/A(1)
	An emergency clean up kit shall be readily available where bentonite fluid will be stored or used; and								N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
	The handling and disposal of bentonite slurries should be undertaken in accordance within ProPECC PN 1/94. Surplus bentonite slurries used in construction works shall be reconditioned and reused wherever practicable. Residual bentonite slurry shall be disposed of from the site as soon as possible as stipulated in Clause 8.56 of the General Specification for Civil Engineering Works. The Contractor should explore alternative disposal outlets for the residual bentonite slurry (dewatered bentonite slurry to be disposed to a public filling area and liquid bentonite slurry, if mixed with inert fill material, to be disposed to a public filling area) and disposal at landfill should be the last resort.								N/A(1)
S4.2.1.1	The proposed barging point at South Apron will not involve marine works like dredging or modifying the submerged portion of the existing seawall. As such, no direct adverse water quality impacts are anticipated during its construction or operation. However, mitigation measures as outlined above should be applied to minimise water quality impacts from site run-off and temporary open stockpiles of spoil at the proposed barging point, where appropriate. Other good site practices include: All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;	To minimize construction water quality impact from barging point	Barging Point	Contractor and Sub-contractors	EIAO-TM WPCO		Y		N/A(1)
	All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material;								N/A(1)
	Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site; and								N/A(1)
	Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation.								N/A(1)
S4.2.1.1	If chemical toilets and sewage holding tanks are required for handling sewage generated by the construction workforce, a licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	To minimize construction water quality impact from sewage and effluent	All works sites	Contractor	WPCO		Y		^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
S4.2.1.1	In order to protect against impacts to the surrounding marine waters of the KTTS and Victoria Harbour in the event of an accidental spillage of fuel or oil, the Contractor will be required to prepare a spill response plan to the satisfaction of AFCD, EPD, FSD, Police, TD and WSD to define procedures for the control, containment and clean-up of any spillage that could occur on the construction site.	To control water quality impact from accidental chemical spillage	All works sites	Contractor	EIAO-TM WPCO WDO		Y		N/A(1)
S4.2.1.1	The Contractor must, also, register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	To control water quality impact from accidental chemical spillage	All works sites	Contractor	EIAO-TM WPCO WDO		Y		N/A(1)
S4.2.1.1	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	To control water quality impact from accidental chemical spillage	All works sites	Contractor	EIAO-TM WPCO WDO		Y		N/A(1)
S4.2.1.1	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;	To control water quality impact from accidental chemical spillage	All works sites	Contractor	EIAO-TM WPCO WDO		Y		N/A(1)
	Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and								N/A(1)
	Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.								N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
S4.2.1.1	The road drainage in the tunnel should pass through oil interceptors to remove oil, and grease before being discharged into the public storm water drainage system;	To mitigate runoff from tunnel during the operational phase	Tunnel	CEDD	WPCO			Y	N/A
	Silt traps and oil interceptors should be cleaned and maintained regularly; and								N/A
	The oily contents of oil interceptors should be transferred to an appropriate disposal facility, or to be collected for reuse, if possible.								N/A
Marine Ecology									
S5.3.1.1	Good construction practice measures have been recommended to be implemented as follows: Avoid damage and disturbance to the remaining and surrounding natural habitat;	Minimize waste generation during construction	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3		Y		N/A(1)
	Placement of equipment in designated areas within the existing disturbed land;								N/A(1)
	Spoil heaps should be covered at all times;								N/A(1)
	Construction activities should be restricted to the designated works areas; and								N/A(1)
	Disturbed areas to be reinstated immediately after completion of the works.								N/A(1)
Fisheries									
S6.2.1.2	No fisheries specific mitigation measures.								

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
Landscape and Visual									
S7.2.1.2	All works shall be carefully designed to minimize impacts on existing landscape resources and visually sensitive receivers. Existing trees within works area shall be retained and protected.	To minimise impact on existing trees	All relevant works sites	CEDD's Contractor	EIAO TM	Y	Y		#
S7.2.1.2	Existing trees of good quality and condition that are unavoidably affected by the works should be transplanted.	To minimise impact on existing trees	All relevant works sites	CEDD's Contractor	EIAO TM	Y	Y		N/A(1)
S7.2.1.2	Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance.	To prevent unnecessary dust and dirt contaminating the air and adjacent areas.	All relevant works sites	CEDD's Contractor	EIAO TM		Y		N/A(1)
S7.2.1.2	Construction plant and building material shall be orderly and carefully stored in order to create a neat and tidy visual appearance.	To mitigate potential visually obtrusive areas	All relevant works sites	CEDD's Contractor	EIAO TM		Y		^
S7.2.1.2	Erection of decorative screen hoarding should be designed to be compatible with the existing urban context.	To mitigate and screen any potential visually obtrusive areas and enhance urban environment	All relevant works sites	CEDD's Contractor	EIAO TM		Y		^
S7.2.1.2	All lighting in construction site shall be carefully controlled to minimize light pollution and night-time glare to nearby residences and GIC user. The contractor shall consider other security measures, which shall minimize the visual impacts.	To mitigate light pollution and adverse visual impacts on surrounding environment	All relevant works sites	CEDD's Contractor	EIAO TM		Y		N/A(1)
S7.2.1.2	Compensatory tree planting shall be incorporated along all roadside amenity areas affected by the construction works. The required numbers and locations of compensatory trees shall be determined and agreed with the Government during Tree Removal Application process under ETWB TCW No. 3/2006.	To reinstate and maximise compensatory tree numbers to equal or greater conditions	All relevant works sites	CEDD's Contractor	EIAO TM		Y		N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
S7.2.1.2	Compensatory tree planting shall be incorporated by the Project. The required numbers of compensatory trees shall follow the requirements of ETWB TCW No. 3/2006. Loss of amenity area adjacent to the Kwun Tong By-pass and planting areas in KTD South Apron will be mitigated by the creation of the Kai Tak South Apron: Amenity Area, which will be equal to or larger than the current provision.	To reinstate and maximise compensatory tree	All relevant works sites	CEDD's Contractor	EIAO TM		Y		N/A(1)
S7.2.1.2	Trees and shrubs and climbers etc. shall be planted to soften and screen proposed roads, central strip and associated structure, and to enhance streetscape greening effect where appropriate.	To mitigate hard surfaces and hard standing landscape areas and to soften and enhance proposed design features	All relevant works sites	CEDD's Contractor	EIAO TM	Y		Y	N/A
S7.2.1.2	All works area, excavated area and disturbed area for tunnel construction and temporary road diversion or any other proposed works shall be reinstated to former conditions or better, with reasonable landscape treatment and to the satisfaction of the relevant Government departments.	To reinstate and maximise hard and soft landscape areas to equal or greater conditions	All relevant works sites	CEDD's Contractor	EIAO TM	Y		Y	N/A
S7.2.1.2	Tunnel portals and all above ground structures shall be sensitively designed to ensure the element with colour, texture and tonal quality being compatible to the existing urban context. Trees and shrub planting to minimize the potential adverse landscape and visual impacts shall be included where space permits. Roof top greening and vertical greening shall also be provided.	To mitigate hard surfaces and hard standing landscape areas and to soften and enhance proposed design features	All relevant works sites	CEDD's Contractor	EIAO TM	Y		Y	N/A
S7.2.1.2	All works shall be carefully designed to minimize impacts on existing landscape resources and visually sensitive receivers. Existing trees within works area shall be retained and protected.	To minimise impact on existing trees	All relevant works sites	CEDD's Contractor	EIAO TM	Y		Y	N/A
S7.2.1.2	Existing trees of good quality and condition that are unavoidably affected by the works should be transplanted.	To minimise impact on existing trees	All relevant works sites	CEDD's Contractor	EIAO TM	Y		Y	N/A
Cultural Heritage									
S8.2.1.1 and 8.2.1.2	No culture heritage specific mitigation measures								

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
Waste Management Implication									
S9.2.1.2	The requirements as stipulated in the ETWB TC(W) No.19/2005 Environmental Management on Construction Sites and the other relevant guidelines should be included in the Particular Specification for the future contractor as appropriate.	To keep trace of the generation, minimization, reuse and disposal of C&D materials	All areas / throughout construction period	Contractor	ETWB TC(W) No.19/2005		Y		N/A
S9.2.1.2	The future contractor should be requested to submit an outline Waste Management Plan (WMP) prior to the commencement of construction work, in accordance with the ETWB TC(W) No.19/2005 so as to provide an overall framework of waste management and reduction. The WMP should include: - Waste management policy; - Record of generated waste; - Waste reduction target; - Waste reduction programme; - Role and responsibility of waste management team; - Benefit of waste management; - Analysis of waste materials; - Reuse, recycling and disposal plans; - Transportation process of waste products; and - Monitoring and action plan.	To keep trace of the generation, minimization, reuse and disposal of C&D	All areas / throughout construction period	Contractor	ETWB TC(W) No.19/2005		Y		N/A(1)
S9.2.1.2	The waste management hierarchy should be strictly followed. This hierarchy should be adopted to evaluate the waste management options in order to maximise the extent of waste reduction and cost reduction. The records of quantities of waste generated, recycled and disposed (locations) should be properly documented.	To keep trace of the generation, minimization, reuse and disposal of C&D	All areas / throughout construction period	Contractor	ETWB TC(W) No.19/2005		Y		N/A(1)
S9.2.1.2	A trip-ticket system should be established in accordance with DevB TC(W) No. 6/2010 and Waste Disposal (Charges for Disposal of Construction Waste) Regulation to monitor the disposal of public fill and solid wastes at public filling facilities and landfills, and to control fly-tipping. A trip-ticket system would be included as one of the contractual requirements for the future contractor to strictly implement. The Engineer would also regularly audit the effectiveness of the system.	To monitor disposal of waste and control fly-tipping	All areas / throughout construction period	Contractor	DEVB TC(W) No. 6/2010		Y		N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
S9.2.1.2	A recording system for the amount of waste generated, recycled and disposed (locations) should be established. The future contractor should also provide proper training to workers regarding the appropriate concepts of site cleanliness and waste management procedures, e.g. waste reduction, reuse and recycling all the time.	To monitor disposal of waste and control fly-tipping	All areas / throughout construction period	Contractor	DEVB TC(W) No. 6/2010		Y		N/A(1)
S9.2.1.2	The CEDD should be timely notified of the estimated spoil volumes to be generated and the PFC should be notified and agreement sort on the disposal of surplus inert C&D materials e.g. good quality rock during detailed design of the Trunk Road T2 Project. Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and to ensure acceptability at public filling areas or reclamation sites.	To monitor disposal of waste and control fly-tipping	All areas / throughout construction period	Contractor	DEVB TC(W) No. 6/2010		Y		N/A(1)
S9.2.1.2	The extent of cutting operation should be optimised where possible. Earth retaining structures and bored pile walls should be proposed to minimise the extent of cutting.	To minimize, reuse and disposal of C&D materials	All areas / throughout construction period	Contractor	DevB TC(W) No.6/2010		Y		N/A(1)
S9.2.1.2	Inert C&D materials from road pavement would be reused for backfilling where possible	To minimize, reuse and disposal of C&D materials	All areas / throughout construction period	Contractor	DevB TC(W) No.6/2010		Y		N/A(1)
S9.2.1.2	TBM generated alluvium and other C&D materials should be treated at a slurry treatment plant prior to transferring to Public Fill Reception Facilities.	To minimize, reuse and disposal of C&D materials	TMB works area / during TBM works	Contractor	DevB TC(W) No.6/2010		Y		N/A(1)
S9.2.1.2	The site and surroundings should be kept tidy and litter free.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
S9.2.1.2	No waste is allowed to be burnt on site.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		^
S9.2.1.2	Make provisions in contract documents to allow and promote the use of recycled aggregates where appropriate.	To implement good site practice for handling, sorting reuse and recycling of wastes	Detailed Design	Design Consultant	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010	Y			N/A(1)
S9.2.1.2	Prohibit the future contractor to dispose of C&D materials at any sensitive locations e.g. natural habitat, etc. The future contractor should propose the final disposal sites in the WMP for approval before implementation.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		N/A(1)
S9.2.1.2	Stockpiled C&D materials should be covered by tarpaulin and/or watered as appropriate to prevent windblown dust and surface run off.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		^
S9.2.1.2	Excavated C&D materials in trucks should be covered by tarpaulins to reduce the potential for spillage and dust generation.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		^
S9.2.1.2	Wheel washing facilities should be used by all trucks leaving the site to prevent transferring mud trails onto public roads.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		^
S9.2.1.2	Excavated marine deposit (sediment) should be disposed of in a gazetted marine disposal ground under the requirements of the DASO or treated for backfilling.	To ensure proper disposal of marine sediment	All areas / throughout construction period	Contractor	ETWB TC(W) No.34/2002		Y		N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
S9.2.1.2	Standard formwork or pre-fabrication should be used as far as practicable to minimise the C&D materials arising. The use of more durable formwork or plastic facing for construction works should also be considered. The use of wooden hoardings should be avoided and metal hoarding should be used to facilitate recycling. Purchasing of construction materials should be carefully planned in order to avoid over-ordering and wastage.	To minimize, reuse and disposal of C&D materials	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		N/A(1)
S9.2.1.2	The future contractor should recycle as many C&D materials as possible on-site. The public fill and C&D waste should be segregated and stored in separate containers or skips to facilitate the reuse or recycling of materials and proper disposal. Where practicable, the concrete and masonry should be crushed and used as fill materials. Steel reinforcement bar should be collected for use by scrap steel mills. Different areas of the sites should be considered for segregation and storage activities.	To minimize, reuse and disposal of C&D materials	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		^
S9.2.1.2	All falsework should be steel instead of wood as far as practicable.	To minimize, reuse and disposal of C&D materials	All areas / throughout construction period	Contractor	DevB TC(W) No.6/2010		Y		N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
S9.2.1.2	Chemical waste producers should register with the EPD and chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows: - Suitable for the substance to be held, resistant to corrosion, maintained in good conditions and securely closed; - Having a capacity of <450L unless the specifications have been approved by the EPD; and - Displaying a label in English and Chinese according to the instructions prescribed in Schedule 2 of the Regulations. - Clearly labelled and used solely for the storage of chemical wastes; - Enclosed with at least 3 sides; - Impermeable floor and bund with capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is greatest; - Adequate ventilation; - Sufficiently covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and - Incompatible materials are adequately separated.	To properly store the chemical waste within works sites and works areas	All areas / throughout construction period	Contractor	Code of Practice on the Packaging, Handling and Storage of Chemical Wastes		Y		N/A(1)
S9.2.1.2	Waste oils, chemicals or solvents should not be disposed of to drain.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	EIAO TM		Y		^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
S9.2.1.2	Adequate numbers of portable toilets should be provided for on-site workers. Portable toilets should be maintained in reasonable states, which will not deter the workers from utilising them. Night soil should be regularly collected by licensed collectors.	To ensure proper disposal of sewage sludge	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		N/A(1)
S9.2.1.2	General refuse arising on-site should be stored in enclosed bins or compaction units separately from C&D and chemical wastes. Sufficient dustbins should be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By- laws. In addition, general refuse should be cleared daily and disposed of to the nearest licensed landfill. Burning of refuse on construction sites is prohibited.	To separate the general refuse from other waste types and proper disposal of the refuse	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance		Y		^
S9.2.1.2	All waste containers should be in a secure area on hardstanding.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance		Y		^
S9.2.1.2	Aluminium cans should be collected and recovered from the waste stream by reputable collectors if they are segregated and easily accessible. Separately labelled bins for their deposition should be provided as far as practicable.	To implement on-site sorting facilitating reuse and recycling of materials as well as proper disposal of waste	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance		Y		N/A(1)
S9.2.1.2	Office wastes can be reduced by recycling of paper if such volume is sufficiently large to warrant collection. Participation in a local collection scheme by the future contractor should be advocated. Waste separation facilities for paper, aluminium cans, plastic bottles, etc should be provided on-site.	To separate the general refuse from other waste types and proper disposal of the refuse	Site Offices / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance		Y		N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
S9.2.1.2	Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including waste reduction, reuse and recycling.	To implement good site practice for handling, sorting reuse and recycling of wastes	Contract Mobilisation	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance		Y		N/A(1)
S9.2.1.2	During construction phase, regular site inspections and supervision of the waste management procedures shall be undertaken as part of the EM&A procedures.	To ensure proper control, all waste is removed from site areas as appropriate and illegal disposal of waste is not being undertaken	All areas / throughout construction period	Contractor	EIAO TM		Y		^

Remarks: EM&A Programme under EP-451/2013	
D	Design
C	Construction
Y	Yes
O	Operation
^	Compliance of mitigation measure;
N/A N/A(1)	Not applicable at this stage; Not observed;
*	Recommendation was made during site audit but improved/retified by the contractor;
#	Recommendation was made during site audit but not yet improved/retified by the contractor;
X	Non-compliance of mitigation measure;
●	Non-compliance but rectified by the contractor.

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

Contract No. ED/2018/04
Trunk Road T2 and Infrastructure Works for Development at the Former South Apron

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

Reporting Month: May 2020

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

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

APPENDIX M
SUMMARY OF EXCEEDANCE

Contract No. ED/2018/04
Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron

Appendix M – Summary of Exceedance

Reporting Month: May 2020

(A) Exceedance Report for Air Quality
(NIL in the reporting month)

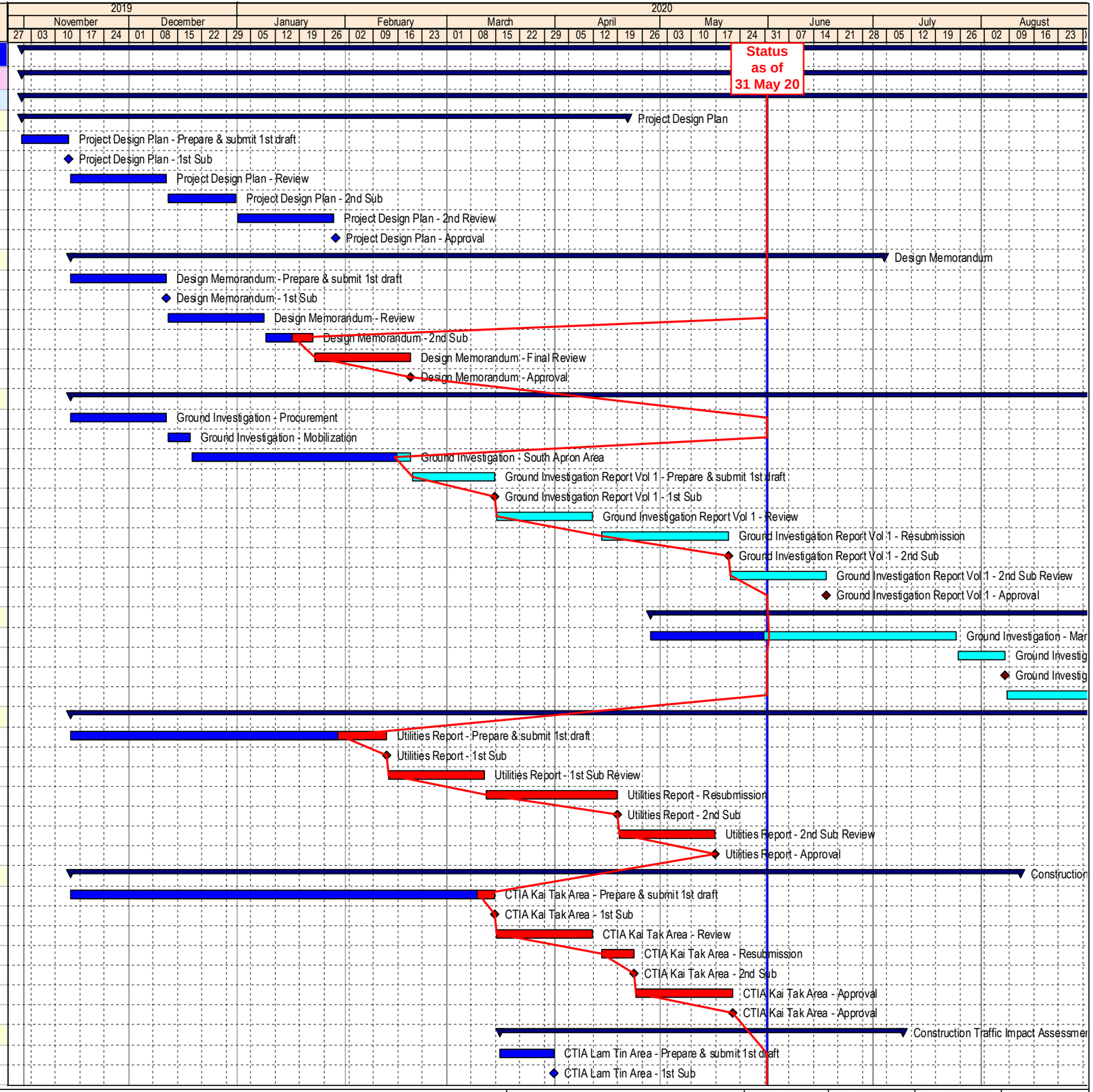
(B) Exceedance Report for Construction Noise
(NIL in the reporting month)

(C) Summary of Landscape and Visual Non-Conformity
1 Deficiency was observed in the reporting month –

Physical protections (e.g. fencing) were not observed at some existing trees in the CKL site on 21 May 2020. The Contractor was reminded immediately to protect existing trees properly. The follow-up of such deficiency will be updated in the next reporting month.

APPENDIX N
TENTATIVE CONSTRUCTION PROGRAMME

Activity Name	Dur	01V0 Start	01V0 Finish
WORKS PROGRAMME (01V0)	379	31-Oct-19	04-Feb-21
DESIGN SUBMISSION & APPROVAL	291	31-Oct-19	21-Oct-20
GENERAL	260	31-Oct-19	12-Sep-20
Project Design Plan	71	31-Oct-19	29-Jan-20
Project Design Plan - Prepare & submit 1st draft	14	31-Oct-19	13-Nov-19
Project Design Plan - 1st Sub	0		13-Nov-19
Project Design Plan - Review	28	14-Nov-19	11-Dec-19
Project Design Plan - 2nd Sub	15	12-Dec-19	31-Dec-19
Project Design Plan - 2nd Review	28	01-Jan-20	28-Jan-20
Project Design Plan - Approval	0		29-Jan-20
Design Memorandum	78	14-Nov-19	19-Feb-20
Design Memorandum - Prepare & submit 1st draft	24	14-Nov-19	11-Dec-19
Design Memorandum - 1st Sub	0		11-Dec-19
Design Memorandum - Review	28	12-Dec-19	08-Jan-20
Design Memorandum - 2nd Sub	12	09-Jan-20	22-Jan-20
Design Memorandum - Final Review	28	23-Jan-20	19-Feb-20
Design Memorandum - Approval	0	19-Feb-20	19-Feb-20
Ground Investigation Report - Kai Tak Area	175	14-Nov-19	17-Jun-20
Ground Investigation - Procurement	24	14-Nov-19	11-Dec-19
Ground Investigation - Mobilization	6	12-Dec-19	18-Dec-19
Ground Investigation - South Apron Area	48	19-Dec-19	19-Feb-20
Ground Investigation Report Vol 1 - Prepare & submit 1st draft	21	20-Feb-20	14-Mar-20
Ground Investigation Report Vol 1 - 1st Sub	0	14-Mar-20	14-Mar-20
Ground Investigation Report Vol 1 - Review	28	15-Mar-20	11-Apr-20
Ground Investigation Report Vol 1 - Resubmission	30	14-Apr-20	20-May-20
Ground Investigation Report Vol 1 - 2nd Sub	0	20-May-20	20-May-20
Ground Investigation Report Vol 1 - 2nd Sub Review	28	21-May-20	17-Jun-20
Ground Investigation Report Vol 1 - Approval	0		17-Jun-20
Ground Investigation Report - Tunnel	108	28-Apr-20	04-Sep-20
Ground Investigation - Marine GI	72	28-Apr-20	24-Jul-20
Ground Investigation Report Vol 2 - Prepare & submit 1st draft	12	25-Jul-20	07-Aug-20
Ground Investigation Report Vol 2 - 1st Sub	0		07-Aug-20
Ground Investigation Report Vol 2 - Review 1st Sub	28	08-Aug-20	04-Sep-20
Utilities Report	148	14-Nov-19	16-May-20
Utilities Report - Prepare & submit 1st draft	72	14-Nov-19	12-Feb-20
Utilities Report - 1st Sub	0	12-Feb-20	12-Feb-20
Utilities Report - 1st Sub Review	28	13-Feb-20	11-Mar-20
Utilities Report - Resubmission	30	12-Mar-20	18-Apr-20
Utilities Report - 2nd Sub	0	18-Apr-20	18-Apr-20
Utilities Report - 2nd Sub Review	28	19-Apr-20	16-May-20
Utilities Report - Approval	0	16-May-20	16-May-20
Construction Traffic Impact Assessment - Kai Tak Area	152	14-Nov-19	21-May-20
CTIA Kai Tak Area - Prepare & submit 1st draft	99	14-Nov-19	14-Mar-20
CTIA Kai Tak Area - 1st Sub	0	14-Mar-20	14-Mar-20
CTIA Kai Tak Area - Review	28	15-Mar-20	11-Apr-20
CTIA Kai Tak Area - Resubmission	9	14-Apr-20	23-Apr-20
CTIA Kai Tak Area - 2nd Sub	0	23-Apr-20	23-Apr-20
CTIA Kai Tak Area - Approval	28	24-Apr-20	21-May-20
CTIA Kai Tak Area - Approval	0	21-May-20	21-May-20
Construction Traffic Impact Assessment - Lam Tin Area	87	16-Mar-20	02-Jul-20
CTIA Lam Tin Area - Prepare & submit 1st draft	14	16-Mar-20	31-Mar-20
CTIA Lam Tin Area - 1st Sub	0		31-Mar-20



Data Date: 31-May-20

Project ID: T210010-10

Milestone
Planned Bar
Critical Activity
Progress Milestone
Progress Bar
Summary

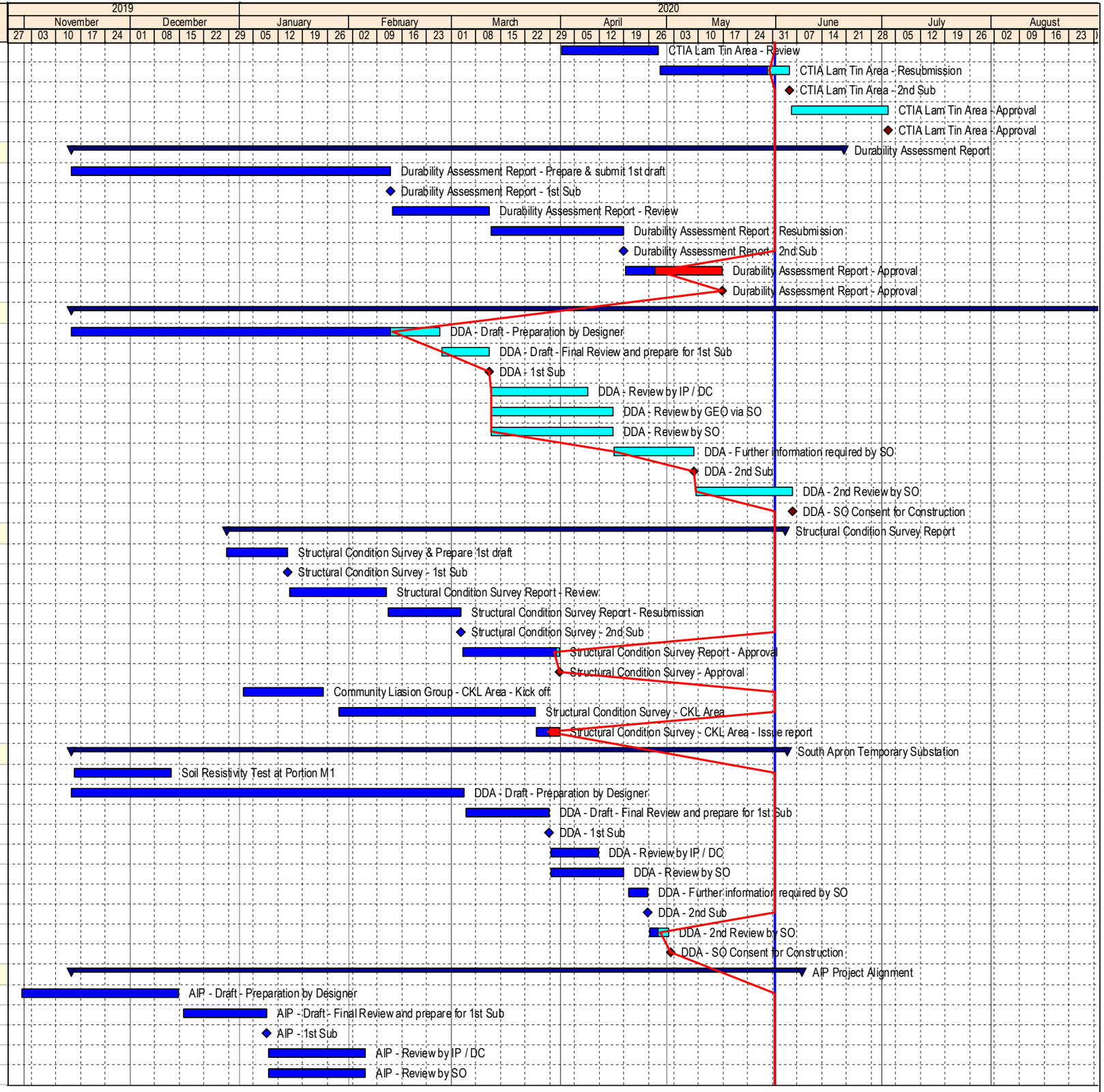
ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

Three Months Rolling Programme

BOUYGUES TRAVAUX PUBLICS

Date	Revision	Checked	Approved
05-Nov-19	00V0	WYu	
18-Dec-19	00V1	WYu	
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
CTIA Lam Tin Area - Review	28	01-Apr-20	28-Apr-20
CTIA Lam Tin Area - Resubmission	30	29-Apr-20	04-Jun-20
CTIA Lam Tin Area - 2nd Sub	0		04-Jun-20
CTIA Lam Tin Area - Approval	28	05-Jun-20	02-Jul-20
CTIA Lam Tin Area - Approval	0		02-Jul-20
Durability Assessment Report	148	14-Nov-19	16-May-20
Durability Assessment Report - Prepare & submit 1st draft	72	14-Nov-19	12-Feb-20
Durability Assessment Report - 1st Sub	0		12-Feb-20
Durability Assessment Report - Review	28	13-Feb-20	11-Mar-20
Durability Assessment Report - Resubmission	30	12-Mar-20	18-Apr-20
Durability Assessment Report - 2nd Sub	0		18-Apr-20
Durability Assessment Report - Approval	28	19-Apr-20	16-May-20
Durability Assessment Report - Approval	0	16-May-20	16-May-20
ACABAS	165	14-Nov-19	05-Jun-20
DDA - Draft - Preparation by Designer	84	14-Nov-19	26-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	12	27-Feb-20	11-Mar-20
DDA - 1st Sub	0	11-Mar-20	11-Mar-20
DDA - Review by IP / DC	28	12-Mar-20	08-Apr-20
DDA - Review by GEO via SO	35	12-Mar-20	15-Apr-20
DDA - Review by SO	35	12-Mar-20	15-Apr-20
DDA - Further information required by SO	18	16-Apr-20	08-May-20
DDA - 2nd Sub	0	08-May-20	08-May-20
DDA - 2nd Review by SO	28	09-May-20	05-Jun-20
DDA - SO Consent for Construction	0		05-Jun-20
Structural Condition Survey Report	77	28-Dec-19	31-Mar-20
Structural Condition Survey & Prepare 1st draft	14	28-Dec-19	14-Jan-20
Structural Condition Survey - 1st Sub	0		14-Jan-20
Structural Condition Survey Report - Review	28	15-Jan-20	11-Feb-20
Structural Condition Survey Report - Resubmission	18	12-Feb-20	03-Mar-20
Structural Condition Survey - 2nd Sub	0		03-Mar-20
Structural Condition Survey Report - Approval	28	04-Mar-20	31-Mar-20
Structural Condition Survey - Approval	0	31-Mar-20	31-Mar-20
Community Liasion Group - CKL Area - Kick off	20	02-Jan-20	24-Jan-20
Structural Condition Survey - CKL Area	48	29-Jan-20	24-Mar-20
Structural Condition Survey - CKL Area - Issue report	6	25-Mar-20	31-Mar-20
South Apron Temporary Substation	135	14-Nov-19	02-May-20
Soil Resistivity Test at Portion M1	24	15-Nov-19	12-Dec-19
DDA - Draft - Preparation by Designer	90	14-Nov-19	04-Mar-20
DDA - Draft - Final Review and prepare for 1st Sub	21	05-Mar-20	28-Mar-20
DDA - 1st Sub	0		28-Mar-20
DDA - Review by IP / DC	14	29-Mar-20	11-Apr-20
DDA - Review by SO	21	29-Mar-20	18-Apr-20
DDA - Further information required by SO	6	20-Apr-20	25-Apr-20
DDA - 2nd Sub	0		25-Apr-20
DDA - 2nd Review by SO	6	26-Apr-20	01-May-20
DDA - SO Consent for Construction	0	02-May-20	02-May-20
AIP Project Alignment	96	31-Oct-19	26-Feb-20
AIP - Draft - Preparation by Designer	39	31-Oct-19	14-Dec-19
AIP - Draft - Final Review and prepare for 1st Sub	18	16-Dec-19	08-Jan-20
AIP - 1st Sub	0		08-Jan-20
AIP - Review by IP / DC	28	09-Jan-20	05-Feb-20
AIP - Review by SO	28	09-Jan-20	05-Feb-20



Data Date: 31-May-20

Project ID: T210010-10

Milestone
Planned Bar
Critical Activity
Progress Milestone
Progress Bar
Summary

ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

Three Months Rolling Programme

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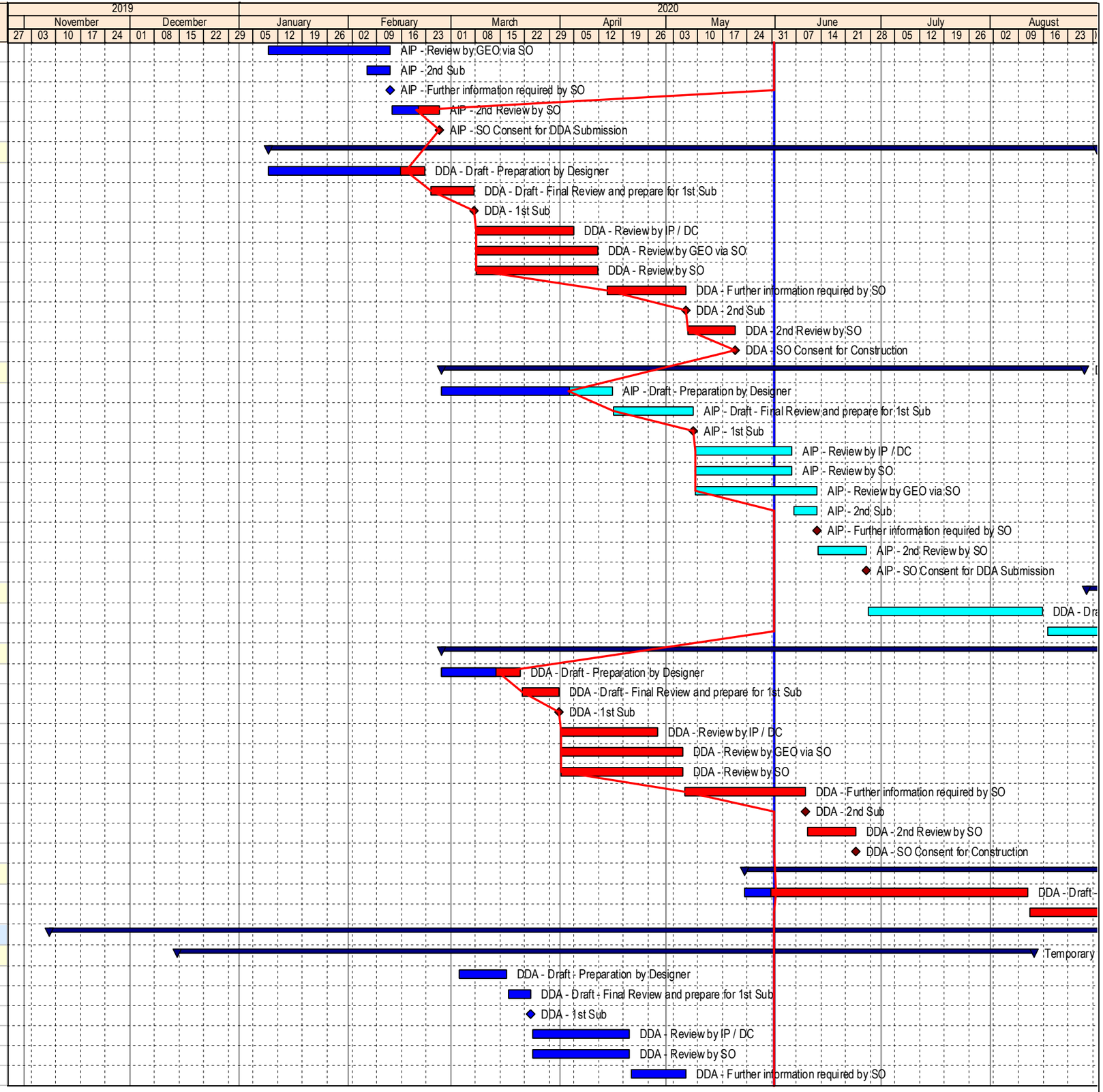
05-Nov-19	00V0	WYu	
18-Dec-19	00V1	WYu	
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
AIP - Review by GEO via SO	35	09-Jan-20	12-Feb-20
AIP - 2nd Sub	7	06-Feb-20	12-Feb-20
AIP - Further information required by SO	0		12-Feb-20
AIP - 2nd Review by SO	14	13-Feb-20	26-Feb-20
AIP - SO Consent for DDA Submission	0	26-Feb-20	26-Feb-20
DDA Project Alignment	106	09-Jan-20	20-May-20
DDA - Draft - Preparation by Designer	36	09-Jan-20	22-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	12	24-Feb-20	07-Mar-20
DDA - 1st Sub	0	07-Mar-20	07-Mar-20
DDA - Review by IP / DC	28	08-Mar-20	04-Apr-20
DDA - Review by GEO via SO	35	08-Mar-20	11-Apr-20
DDA - Review by SO	35	08-Mar-20	11-Apr-20
DDA - Further information required by SO	18	14-Apr-20	06-May-20
DDA - 2nd Sub	0	06-May-20	06-May-20
DDA - 2nd Review by SO	14	07-May-20	20-May-20
DDA - SO Consent for Construction	0	20-May-20	20-May-20
DDA Roadworks and Street Furniture	98	27-Feb-20	26-Jun-20
AIP - Draft - Preparation by Designer	39	27-Feb-20	15-Apr-20
AIP - Draft - Final Review and prepare for 1st Sub	18	16-Apr-20	08-May-20
AIP - 1st Sub	0	08-May-20	08-May-20
AIP - Review by IP / DC	28	09-May-20	05-Jun-20
AIP - Review by SO	28	09-May-20	05-Jun-20
AIP - Review by GEO via SO	35	09-May-20	12-Jun-20
AIP - 2nd Sub	7	06-Jun-20	12-Jun-20
AIP - Further information required by SO	0		12-Jun-20
AIP - 2nd Review by SO	14	13-Jun-20	26-Jun-20
AIP - SO Consent for DDA Submission	0		26-Jun-20
DDA Traffic Sign, Road Marking & Sign Gantry	66	27-Jun-20	12-Sep-20
DDA - Draft - Preparation by Designer	42	27-Jun-20	15-Aug-20
DDA - Draft - Final Review and prepare for 1st Sub	24	17-Aug-20	12-Sep-20
DDA Street Lighting	96	27-Feb-20	23-Jun-20
DDA - Draft - Preparation by Designer	20	27-Feb-20	20-Mar-20
DDA - Draft - Final Review and prepare for 1st Sub	9	21-Mar-20	31-Mar-20
DDA - 1st Sub	0	31-Mar-20	31-Mar-20
DDA - Review by IP / DC	28	01-Apr-20	28-Apr-20
DDA - Review by GEO via SO	35	01-Apr-20	05-May-20
DDA - Review by SO	35	01-Apr-20	05-May-20
DDA - Further information required by SO	30	06-May-20	09-Jun-20
DDA - 2nd Sub	0		09-Jun-20
DDA - 2nd Review by SO	14	10-Jun-20	23-Jun-20
DDA - SO Consent for Construction	0		23-Jun-20
DDA Permanent Utility Design for Kai Tak Area	91	23-May-20	08-Sep-20
DDA - Draft - Preparation by Designer	67	23-May-20	11-Aug-20
DDA - Draft - Final Review and prepare for 1st Sub	24	12-Aug-20	08-Sep-20
MISC. TEMP WORKS	195	08-Nov-19	07-Jul-20
Temporary works and Dewatering Measures for Excavation < 7m	63	03-Mar-20	20-May-20
DDA - Draft - Preparation by Designer	12	03-Mar-20	16-Mar-20
DDA - Draft - Final Review and prepare for 1st Sub	6	17-Mar-20	23-Mar-20
DDA - 1st Sub	0		23-Mar-20
DDA - Review by IP / DC	28	24-Mar-20	20-Apr-20
DDA - Review by SO	28	24-Mar-20	20-Apr-20
DDA - Further information required by SO	12	21-Apr-20	06-May-20



Data Date: 31-May-20

Project ID: T210010-10

Milestone
Planned Bar
Critical Activity
Progress Milestone
Progress Bar
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ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

Three Months Rolling Programme

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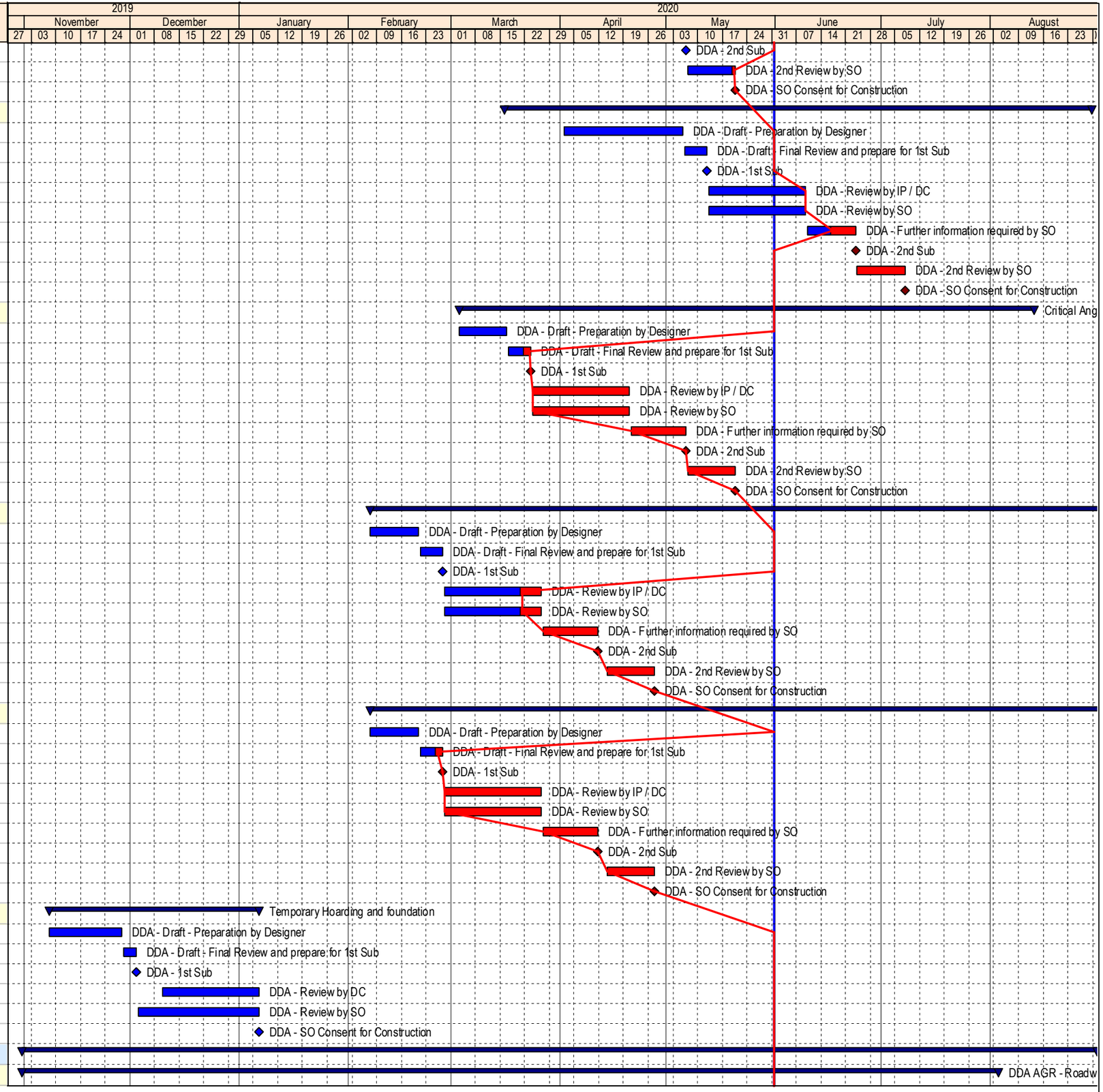
05-Nov-19	00V0	WYu	
18-Dec-19	00V1	WYu	
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
DDA - 2nd Sub	0		06-May-20
DDA - 2nd Review by SO	14	07-May-20	20-May-20
DDA - SO Consent for Construction	0	20-May-20	20-May-20
Typical Design of Formworks and Falseworks	76	02-Apr-20	07-Jul-20
DDA - Draft - Preparation by Designer	24	02-Apr-20	05-May-20
DDA - Draft - Final Review and prepare for 1st Sub	6	06-May-20	12-May-20
DDA - 1st Sub	0		12-May-20
DDA - Review by IP / DC	28	13-May-20	09-Jun-20
DDA - Review by SO	28	13-May-20	09-Jun-20
DDA - Further information required by SO	12	10-Jun-20	23-Jun-20
DDA - 2nd Sub	0		23-Jun-20
DDA - 2nd Review by SO	14	24-Jun-20	07-Jul-20
DDA - SO Consent for Construction	0		07-Jul-20
Critical Angle for Temporary Slope Stability	63	03-Mar-20	20-May-20
DDA - Draft - Preparation by Designer	12	03-Mar-20	16-Mar-20
DDA - Draft - Final Review and prepare for 1st Sub	6	17-Mar-20	23-Mar-20
DDA - 1st Sub	0	23-Mar-20	23-Mar-20
DDA - Review by IP / DC	28	24-Mar-20	20-Apr-20
DDA - Review by SO	28	24-Mar-20	20-Apr-20
DDA - Further information required by SO	12	21-Apr-20	06-May-20
DDA - 2nd Sub	0	06-May-20	06-May-20
DDA - 2nd Review by SO	14	07-May-20	20-May-20
DDA - SO Consent for Construction	0	20-May-20	20-May-20
Seawall checkings for temporary cases (Loading / Unloading)	66	07-Feb-20	27-Apr-20
DDA - Draft - Preparation by Designer	12	07-Feb-20	20-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	6	21-Feb-20	27-Feb-20
DDA - 1st Sub	0		27-Feb-20
DDA - Review by IP / DC	28	28-Feb-20	26-Mar-20
DDA - Review by SO	28	28-Feb-20	26-Mar-20
DDA - Further information required by SO	12	27-Mar-20	11-Apr-20
DDA - 2nd Sub	0	11-Apr-20	11-Apr-20
DDA - 2nd Review by SO	14	14-Apr-20	27-Apr-20
DDA - SO Consent for Construction	0	27-Apr-20	27-Apr-20
Barging Point design at Portion P	66	07-Feb-20	27-Apr-20
DDA - Draft - Preparation by Designer	12	07-Feb-20	20-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	6	21-Feb-20	27-Feb-20
DDA - 1st Sub	0	27-Feb-20	27-Feb-20
DDA - Review by IP / DC	28	28-Feb-20	26-Mar-20
DDA - Review by SO	28	28-Feb-20	26-Mar-20
DDA - Further information required by SO	12	27-Mar-20	11-Apr-20
DDA - 2nd Sub	0	11-Apr-20	11-Apr-20
DDA - 2nd Review by SO	14	14-Apr-20	27-Apr-20
DDA - SO Consent for Construction	0	27-Apr-20	27-Apr-20
Temporary Hoarding and foundation	48	08-Nov-19	06-Jan-20
DDA - Draft - Preparation by Designer	18	08-Nov-19	28-Nov-19
DDA - Draft - Final Review and prepare for 1st Sub	3	29-Nov-19	02-Dec-19
DDA - 1st Sub	0		02-Dec-19
DDA - Review by DC	28	10-Dec-19	06-Jan-20
DDA - Review by SO	35	03-Dec-19	06-Jan-20
DDA - SO Consent for Construction	0		06-Jan-20
AT-GRADE ROAD [AGR]	202	31-Oct-19	07-Jul-20
DDA AGR - Roadworks	162	31-Oct-19	19-May-20



Data Date: 31-May-20

Project ID: T210010-10

◆ Milestone

▭ Planned Bar

🟥 Critical Activity

◆ Progress Milestone

▬ Progress Bar

▼ Summary

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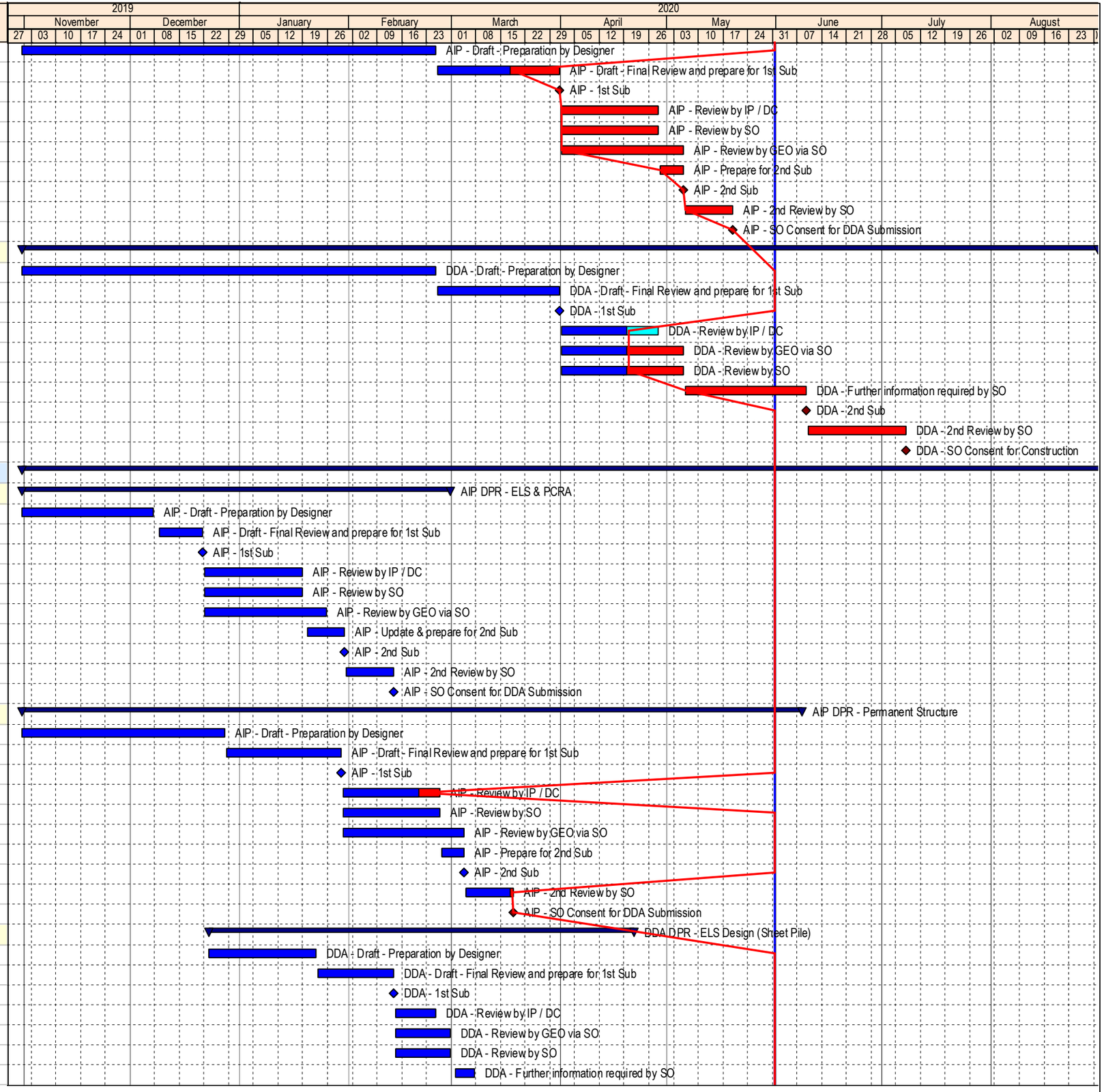
05-Nov-19	00V0	WYu	
18-Dec-19	00V1	WYu	
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
AIP - Draft - Preparation by Designer	95	31-Oct-19	25-Feb-20
AIP - Draft - Final Review and prepare for 1st Sub	30	26-Feb-20	31-Mar-20
AIP - 1st Sub	0	31-Mar-20	31-Mar-20
AIP - Review by IP / DC	28	01-Apr-20	28-Apr-20
AIP - Review by SO	28	01-Apr-20	28-Apr-20
AIP - Review by GEO via SO	35	01-Apr-20	05-May-20
AIP - Prepare for 2nd Sub	7	29-Apr-20	05-May-20
AIP - 2nd Sub	0	05-May-20	05-May-20
AIP - 2nd Review by SO	14	06-May-20	19-May-20
AIP - SO Consent for DDA Submission	0	19-May-20	19-May-20
DDA AGR - Permanent Utility Design	202	31-Oct-19	07-Jul-20
DDA - Draft - Preparation by Designer	95	31-Oct-19	25-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	30	26-Feb-20	31-Mar-20
DDA - 1st Sub	0		31-Mar-20
DDA - Review by IP / DC	28	01-Apr-20	28-Apr-20
DDA - Review by GEO via SO	35	01-Apr-20	05-May-20
DDA - Review by SO	35	01-Apr-20	05-May-20
DDA - Further information required by SO	30	06-May-20	09-Jun-20
DDA - 2nd Sub	0		09-Jun-20
DDA - 2nd Review by SO	28	10-Jun-20	07-Jul-20
DDA - SO Consent for Construction	0		07-Jul-20
DEPRESSED ROAD [DPR]	263	31-Oct-19	16-Sep-20
AIP DPR - ELS & PCRA	85	31-Oct-19	13-Feb-20
AIP - Draft - Preparation by Designer	33	31-Oct-19	07-Dec-19
AIP - Draft - Final Review and prepare for 1st Sub	12	09-Dec-19	21-Dec-19
AIP - 1st Sub	0		21-Dec-19
AIP - Review by IP / DC	28	22-Dec-19	18-Jan-20
AIP - Review by SO	28	22-Dec-19	18-Jan-20
AIP - Review by GEO via SO	35	22-Dec-19	25-Jan-20
AIP - Update & prepare for 2nd Sub	7	20-Jan-20	30-Jan-20
AIP - 2nd Sub	0		30-Jan-20
AIP - 2nd Review by SO	14	31-Jan-20	13-Feb-20
AIP - SO Consent for DDA Submission	0		13-Feb-20
AIP DPR - Permanent Structure	114	31-Oct-19	18-Mar-20
AIP - Draft - Preparation by Designer	48	31-Oct-19	27-Dec-19
AIP - Draft - Final Review and prepare for 1st Sub	24	28-Dec-19	29-Jan-20
AIP - 1st Sub	0		29-Jan-20
AIP - Review by IP / DC	28	30-Jan-20	26-Feb-20
AIP - Review by SO	28	30-Jan-20	26-Feb-20
AIP - Review by GEO via SO	35	30-Jan-20	04-Mar-20
AIP - Prepare for 2nd Sub	7	27-Feb-20	04-Mar-20
AIP - 2nd Sub	0		04-Mar-20
AIP - 2nd Review by SO	14	05-Mar-20	18-Mar-20
AIP - SO Consent for DDA Submission	0	18-Mar-20	18-Mar-20
DDA DPR - ELS Design (Sheet Pile)	68	23-Dec-19	17-Mar-20
DDA - Draft - Preparation by Designer	24	23-Dec-19	22-Jan-20
DDA - Draft - Final Review and prepare for 1st Sub	16	23-Jan-20	13-Feb-20
DDA - 1st Sub	0		13-Feb-20
DDA - Review by IP / DC	12	14-Feb-20	25-Feb-20
DDA - Review by GEO via SO	16	14-Feb-20	29-Feb-20
DDA - Review by SO	16	14-Feb-20	29-Feb-20
DDA - Further information required by SO	6	02-Mar-20	07-Mar-20



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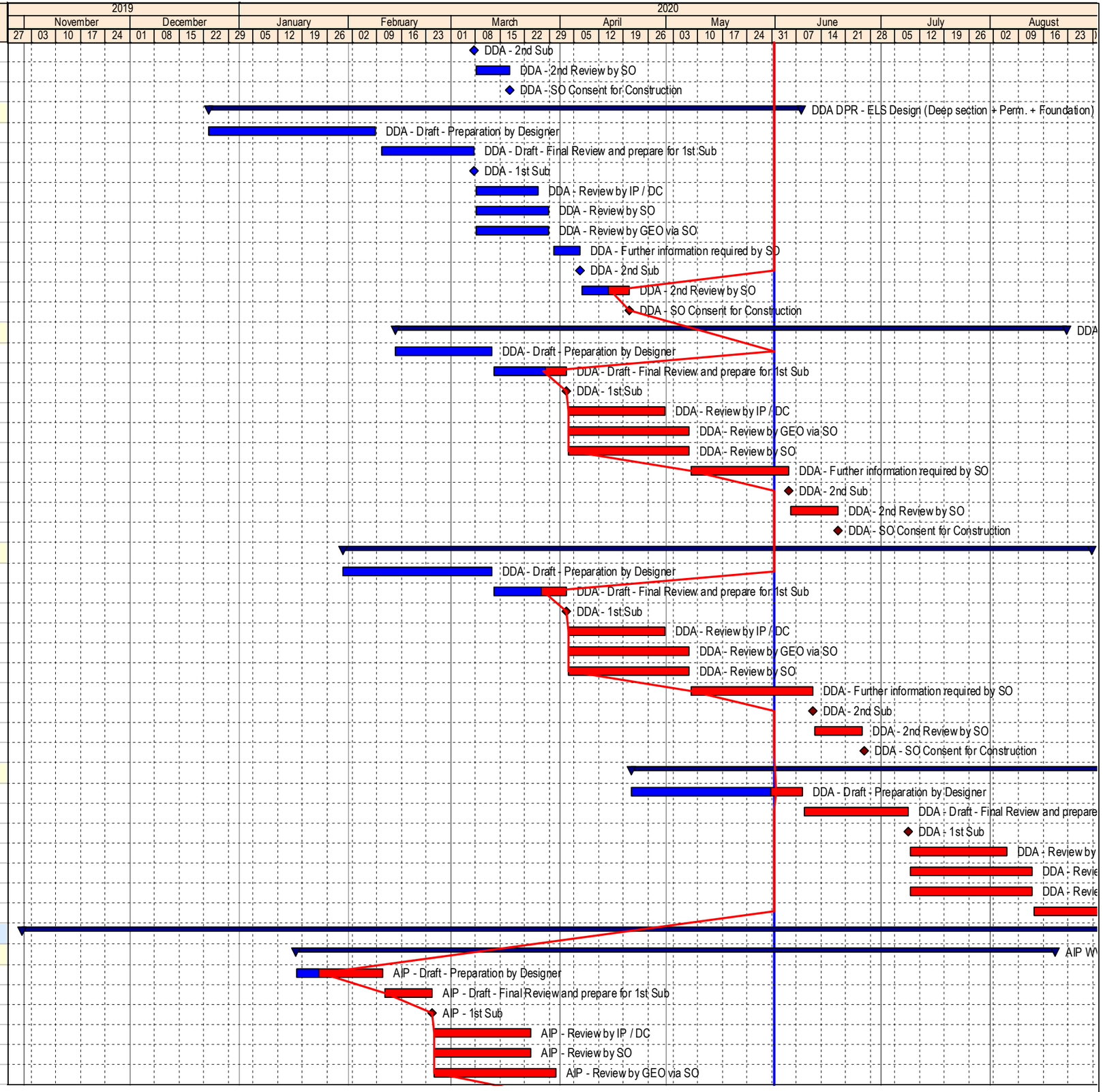
Activity Name	Dur	01V0 Start	01V0 Finish
DDA - 2nd Sub	0		07-Mar-20
DDA - 2nd Review by SO	10	08-Mar-20	17-Mar-20
DDA - SO Consent for Construction	0		17-Mar-20
DDA DPR - ELS Design (Deep section + Perm. + Foundation)	94	23-Dec-19	20-Apr-20
DDA - Draft - Preparation by Designer	36	23-Dec-19	08-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	24	10-Feb-20	07-Mar-20
DDA - 1st Sub	0		07-Mar-20
DDA - Review by IP / DC	18	08-Mar-20	25-Mar-20
DDA - Review by SO	21	08-Mar-20	28-Mar-20
DDA - Review by GEO via SO	21	08-Mar-20	28-Mar-20
DDA - Further information required by SO	6	30-Mar-20	06-Apr-20
DDA - 2nd Sub	0		06-Apr-20
DDA - 2nd Review by SO	14	07-Apr-20	20-Apr-20
DDA - SO Consent for Construction	0	20-Apr-20	20-Apr-20
DDA DPR - Horizontal Element + Pump Test + DCRA	103	14-Feb-20	18-Jun-20
DDA - Draft - Preparation by Designer	24	14-Feb-20	12-Mar-20
DDA - Draft - Final Review and prepare for 1st Sub	18	13-Mar-20	02-Apr-20
DDA - 1st Sub	0	02-Apr-20	02-Apr-20
DDA - Review by IP / DC	28	03-Apr-20	30-Apr-20
DDA - Review by GEO via SO	35	03-Apr-20	07-May-20
DDA - Review by SO	35	03-Apr-20	07-May-20
DDA - Further information required by SO	24	08-May-20	04-Jun-20
DDA - 2nd Sub	0		04-Jun-20
DDA - 2nd Review by SO	14	05-Jun-20	18-Jun-20
DDA - SO Consent for Construction	0		18-Jun-20
Technical Note - King Post	121	30-Jan-20	26-Jun-20
DDA - Draft - Preparation by Designer	37	30-Jan-20	12-Mar-20
DDA - Draft - Final Review and prepare for 1st Sub	18	13-Mar-20	02-Apr-20
DDA - 1st Sub	0	02-Apr-20	02-Apr-20
DDA - Review by IP / DC	28	03-Apr-20	30-Apr-20
DDA - Review by GEO via SO	35	03-Apr-20	07-May-20
DDA - Review by SO	35	03-Apr-20	07-May-20
DDA - Further information required by SO	30	08-May-20	11-Jun-20
DDA - 2nd Sub	0		11-Jun-20
DDA - 2nd Review by SO	14	12-Jun-20	25-Jun-20
DDA - SO Consent for Construction	0		26-Jun-20
DDA DPR - Permanent Structure	124	21-Apr-20	16-Sep-20
DDA - Draft - Preparation by Designer	40	21-Apr-20	08-Jun-20
DDA - Draft - Final Review and prepare for 1st Sub	24	09-Jun-20	08-Jul-20
DDA - 1st Sub	0		08-Jul-20
DDA - Review by IP / DC	28	09-Jul-20	05-Aug-20
DDA - Review by GEO via SO	35	09-Jul-20	12-Aug-20
DDA - Review by SO	35	09-Jul-20	12-Aug-20
DDA - Further information required by SO	30	13-Aug-20	16-Sep-20
WEST VENTILATION BUILDING [WVB]	280	31-Oct-19	08-Oct-20
AIP WVB - ELS Design & PCRA	70	17-Jan-20	14-Apr-20
AIP - Draft - Preparation by Designer	18	17-Jan-20	10-Feb-20
AIP - Draft - Final Review and prepare for 1st Sub	12	11-Feb-20	24-Feb-20
AIP - 1st Sub	0	24-Feb-20	24-Feb-20
AIP - Review by IP / DC	28	25-Feb-20	23-Mar-20
AIP - Review by SO	28	25-Feb-20	23-Mar-20
AIP - Review by GEO via SO	35	25-Feb-20	30-Mar-20



Data Date: 31-May-20

Project ID: T210010-10

Milestone
Planned Bar
Critical Activity
Progress Milestone
Progress Bar
Summary

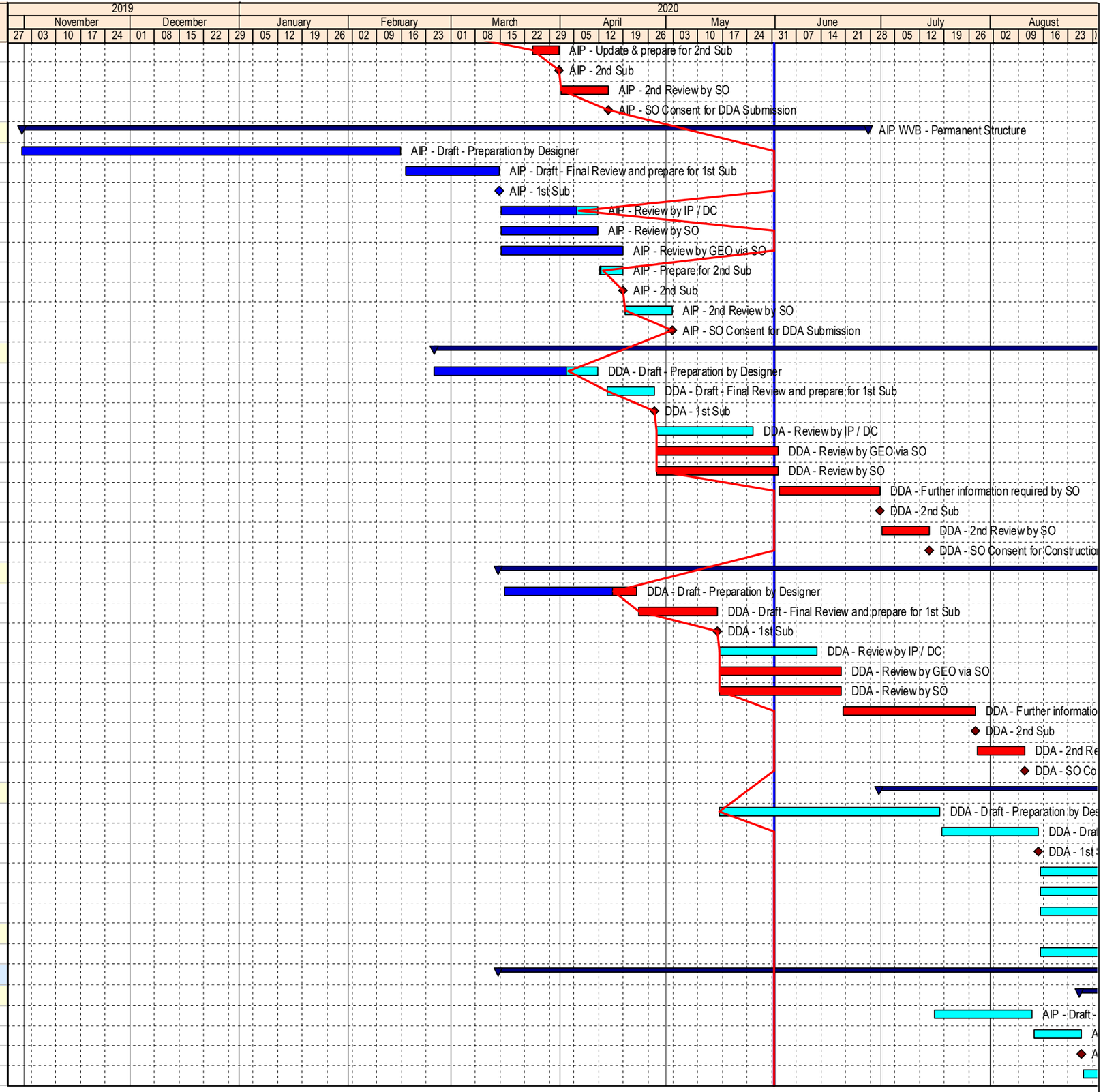
ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

Three Months Rolling Programme

BOUYGUES TRAVAUX PUBLICS

Date	Revision	Checked	Approved
05-Nov-19	00V0	WYu	
18-Dec-19	00V1	WYu	
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
AIP - Update & prepare for 2nd Sub	7	24-Mar-20	31-Mar-20
AIP - 2nd Sub	0	31-Mar-20	31-Mar-20
AIP - 2nd Review by SO	14	01-Apr-20	14-Apr-20
AIP - SO Consent for DDA Submission	0	14-Apr-20	14-Apr-20
AIP WVB - Permanent Structure	148	31-Oct-19	02-May-20
AIP - Draft - Preparation by Designer	87	31-Oct-19	15-Feb-20
AIP - Draft - Final Review and prepare for 1st Sub	24	17-Feb-20	14-Mar-20
AIP - 1st Sub	0		14-Mar-20
AIP - Review by IP / DC	28	15-Mar-20	11-Apr-20
AIP - Review by SO	28	15-Mar-20	11-Apr-20
AIP - Review by GEO via SO	35	15-Mar-20	18-Apr-20
AIP - Prepare for 2nd Sub	7	12-Apr-20	18-Apr-20
AIP - 2nd Sub	0	18-Apr-20	18-Apr-20
AIP - 2nd Review by SO	14	19-Apr-20	02-May-20
AIP - SO Consent for DDA Submission	0	02-May-20	02-May-20
DDA WVB - ELS Design (DCRA + Dewatering & Pumping Test)	114	25-Feb-20	14-Jul-20
DDA - Draft - Preparation by Designer	39	25-Feb-20	11-Apr-20
DDA - Draft - Final Review and prepare for 1st Sub	12	14-Apr-20	27-Apr-20
DDA - 1st Sub	0	27-Apr-20	27-Apr-20
DDA - Review by IP / DC	28	28-Apr-20	25-May-20
DDA - Review by GEO via SO	35	28-Apr-20	01-Jun-20
DDA - Review by SO	35	28-Apr-20	01-Jun-20
DDA - Further information required by SO	24	02-Jun-20	30-Jun-20
DDA - 2nd Sub	0		30-Jun-20
DDA - 2nd Review by SO	14	01-Jul-20	14-Jul-20
DDA - SO Consent for Construction	0		14-Jul-20
DDA WVB - Foundation Design	120	16-Mar-20	10-Aug-20
DDA - Draft - Preparation by Designer	30	16-Mar-20	22-Apr-20
DDA - Draft - Final Review and prepare for 1st Sub	18	23-Apr-20	15-May-20
DDA - 1st Sub	0	15-May-20	15-May-20
DDA - Review by IP / DC	28	16-May-20	12-Jun-20
DDA - Review by GEO via SO	35	16-May-20	19-Jun-20
DDA - Review by SO	35	16-May-20	19-Jun-20
DDA - Further information required by SO	30	20-Jun-20	27-Jul-20
DDA - 2nd Sub	0		27-Jul-20
DDA - 2nd Review by SO	14	28-Jul-20	10-Aug-20
DDA - SO Consent for Construction	0		10-Aug-20
DDA WVB - Accommodation (SoA)	106	16-May-20	18-Sep-20
DDA - Draft - Preparation by Designer	52	16-May-20	17-Jul-20
DDA - Draft - Final Review and prepare for 1st Sub	24	18-Jul-20	14-Aug-20
DDA - 1st Sub	0		14-Aug-20
DDA - Review by IP / DC	28	15-Aug-20	11-Sep-20
DDA - Review by GEO via SO	35	15-Aug-20	18-Sep-20
DDA - Review by SO	35	15-Aug-20	18-Sep-20
DDA WVB - Permanent Structure	45	15-Aug-20	08-Oct-20
DDA - Draft - Preparation by Designer	45	15-Aug-20	08-Oct-20
SOUTH APRON ADIT	164	16-Mar-20	30-Sep-20
AIP South Apron Adit - ELS & PCRA	66	16-Jul-20	30-Sep-20
AIP - Draft - Preparation by Designer	24	16-Jul-20	12-Aug-20
AIP - Draft - Final Review and prepare for 1st Sub	12	13-Aug-20	26-Aug-20
AIP - 1st Sub	0		26-Aug-20
AIP - Review by IP / DC	28	27-Aug-20	23-Sep-20



Data Date: 31-May-20

Project ID: T210010-10

Milestone
Planned Bar
Critical Activity
Progress Milestone
Progress Bar
Summary

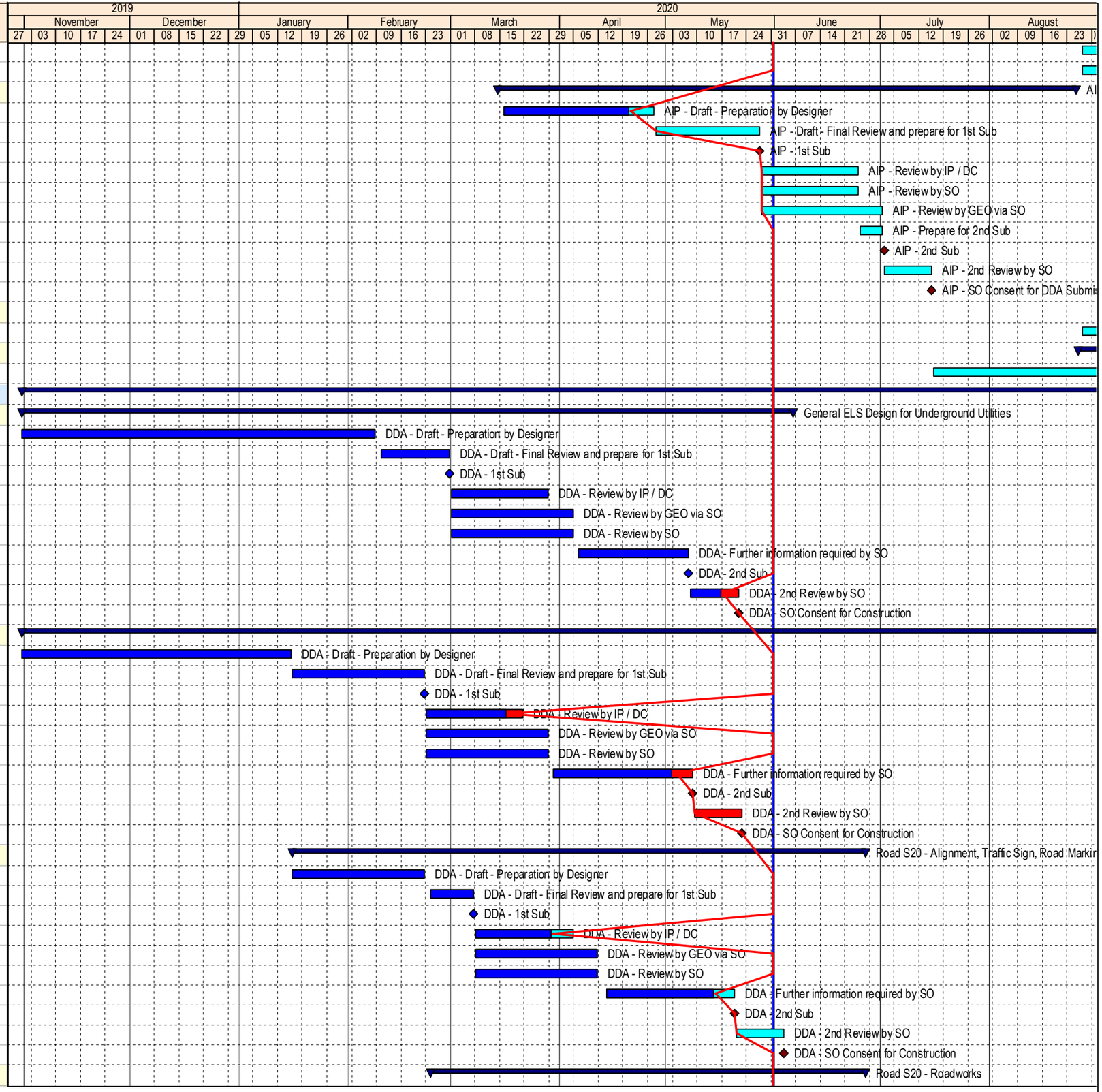
ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

Three Months Rolling Programme

BOUYGUES TRAVAUX PUBLICS

Date	Revision	Checked	Approved
05-Nov-19	00V0	WYu	
18-Dec-19	00V1	WYu	
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
AIP - Review by SO	28	27-Aug-20	23-Sep-20
AIP - Review by GEO via SO	35	27-Aug-20	30-Sep-20
AIP South Apron Adit - Permanent Structure	98	16-Mar-20	15-Jul-20
AIP - Draft - Preparation by Designer	34	16-Mar-20	27-Apr-20
AIP - Draft - Final Review and prepare for 1st Sub	24	28-Apr-20	27-May-20
AIP - 1st Sub	0	27-May-20	27-May-20
AIP - Review by IP / DC	28	28-May-20	24-Jun-20
AIP - Review by SO	28	28-May-20	24-Jun-20
AIP - Review by GEO via SO	35	28-May-20	01-Jul-20
AIP - Prepare for 2nd Sub	7	25-Jun-20	01-Jul-20
AIP - 2nd Sub	0		02-Jul-20
AIP - 2nd Review by SO	14	02-Jul-20	15-Jul-20
AIP - SO Consent for DDA Submission	0		15-Jul-20
DDA South Apron Adit - ELS Design / Pumping Test	30	27-Aug-20	30-Sep-20
DDA - Draft - Preparation by Designer	30	27-Aug-20	30-Sep-20
DDA South Apron Adit - Permanent Structure	45	16-Jul-20	05-Sep-20
DDA - Draft - Preparation by Designer	45	16-Jul-20	05-Sep-20
SOUTH APRON ROAD WORKS	272	31-Oct-19	26-Sep-20
General ELS Design for Underground Utilities	164	31-Oct-19	21-May-20
DDA - Draft - Preparation by Designer	81	31-Oct-19	08-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	18	10-Feb-20	29-Feb-20
DDA - 1st Sub	0		29-Feb-20
DDA - Review by IP / DC	28	01-Mar-20	28-Mar-20
DDA - Review by GEO via SO	35	01-Mar-20	04-Apr-20
DDA - Review by SO	35	01-Mar-20	04-Apr-20
DDA - Further information required by SO	24	06-Apr-20	07-May-20
DDA - 2nd Sub	0		07-May-20
DDA - 2nd Review by SO	14	08-May-20	21-May-20
DDA - SO Consent for Construction	0	21-May-20	21-May-20
Road S20 - Permanent Utility Design	165	31-Oct-19	22-May-20
DDA - Draft - Preparation by Designer	63	31-Oct-19	15-Jan-20
DDA - Draft - Final Review and prepare for 1st Sub	30	16-Jan-20	22-Feb-20
DDA - 1st Sub	0		22-Feb-20
DDA - Review by IP / DC	28	23-Feb-20	21-Mar-20
DDA - Review by GEO via SO	35	23-Feb-20	28-Mar-20
DDA - Review by SO	35	23-Feb-20	28-Mar-20
DDA - Further information required by SO	30	30-Mar-20	08-May-20
DDA - 2nd Sub	0	08-May-20	08-May-20
DDA - 2nd Review by SO	14	09-May-20	22-May-20
DDA - SO Consent for Construction	0	22-May-20	22-May-20
Road S20 - Alignment, Traffic Sign, Road Marking and Traffic Lig	112	16-Jan-20	03-Jun-20
DDA - Draft - Preparation by Designer	30	16-Jan-20	22-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	12	24-Feb-20	07-Mar-20
DDA - 1st Sub	0		07-Mar-20
DDA - Review by IP / DC	28	08-Mar-20	04-Apr-20
DDA - Review by GEO via SO	35	08-Mar-20	11-Apr-20
DDA - Review by SO	35	08-Mar-20	11-Apr-20
DDA - Further information required by SO	30	14-Apr-20	20-May-20
DDA - 2nd Sub	0	20-May-20	20-May-20
DDA - 2nd Review by SO	14	21-May-20	03-Jun-20
DDA - SO Consent for Construction	0		03-Jun-20
Road S20 - Roadworks	93	24-Feb-20	16-Jun-20



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Project ID: T210010-10

Milestone
Planned Bar
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ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

Three Months Rolling Programme

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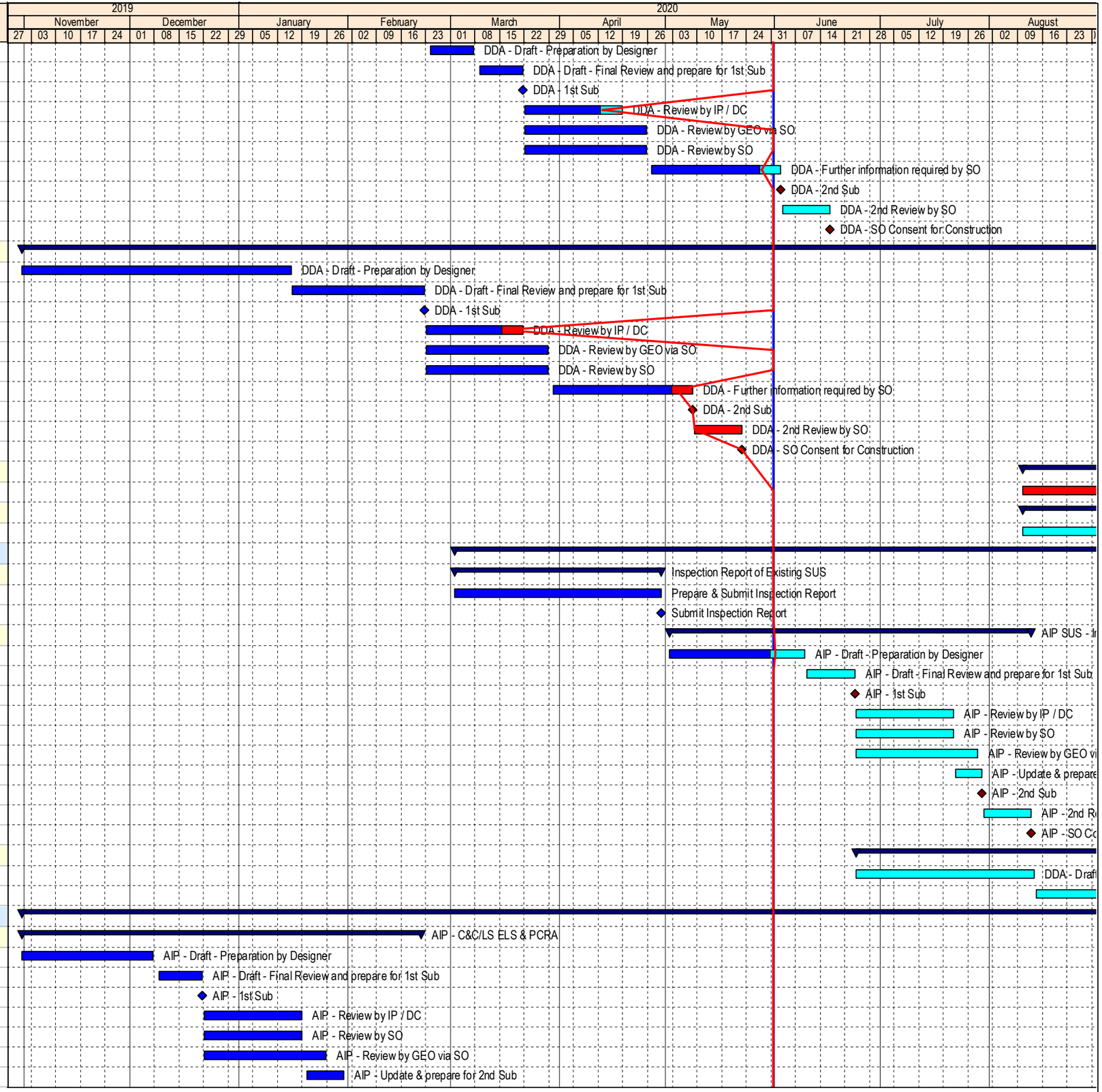
18-Dec-19	00V1	WYu	
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
DDA - Draft - Preparation by Designer	12	24-Feb-20	07-Mar-20
DDA - Draft - Final Review and prepare for 1st Sub	12	09-Mar-20	21-Mar-20
DDA - 1st Sub	0		21-Mar-20
DDA - Review by IP / DC	28	22-Mar-20	18-Apr-20
DDA - Review by GEO via SO	35	22-Mar-20	25-Apr-20
DDA - Review by SO	35	22-Mar-20	25-Apr-20
DDA - Further information required by SO	30	27-Apr-20	02-Jun-20
DDA - 2nd Sub	0		02-Jun-20
DDA - 2nd Review by SO	14	03-Jun-20	16-Jun-20
DDA - SO Consent for Construction	0		16-Jun-20
AMAWBC	165	31-Oct-19	22-May-20
DDA - Draft - Preparation by Designer	63	31-Oct-19	15-Jan-20
DDA - Draft - Final Review and prepare for 1st Sub	30	16-Jan-20	22-Feb-20
DDA - 1st Sub	0		22-Feb-20
DDA - Review by IP / DC	28	23-Feb-20	21-Mar-20
DDA - Review by GEO via SO	35	23-Feb-20	28-Mar-20
DDA - Review by SO	35	23-Feb-20	28-Mar-20
DDA - Further information required by SO	30	30-Mar-20	08-May-20
DDA - 2nd Sub	0	08-May-20	08-May-20
DDA - 2nd Review by SO	14	09-May-20	22-May-20
DDA - SO Consent for Construction	0	22-May-20	22-May-20
[STE] District Cooling System	42	10-Aug-20	26-Sep-20
DDA - Draft - Preparation by Designer	42	10-Aug-20	26-Sep-20
[STE] Hoi Bun Road / Cheung Yip Street / Wang Chiu Road Junc	39	10-Aug-20	23-Sep-20
DDA - Draft - Preparation by Designer	39	10-Aug-20	23-Sep-20
SUPPORTING UNDERGROUND STRUCTURE [SUS]	159	02-Mar-20	10-Sep-20
Inspection Report of Existing SUS	48	02-Mar-20	29-Apr-20
Prepare & Submit Inspection Report	48	02-Mar-20	29-Apr-20
Submit Inspection Report	0		29-Apr-20
AIP SUS - Internal Structure	86	02-May-20	12-Aug-20
AIP - Draft - Preparation by Designer	33	02-May-20	09-Jun-20
AIP - Draft - Final Review and prepare for 1st Sub	12	10-Jun-20	23-Jun-20
AIP - 1st Sub	0		23-Jun-20
AIP - Review by IP / DC	28	24-Jun-20	21-Jul-20
AIP - Review by SO	28	24-Jun-20	21-Jul-20
AIP - Review by GEO via SO	35	24-Jun-20	28-Jul-20
AIP - Update & prepare for 2nd Sub	7	22-Jul-20	29-Jul-20
AIP - 2nd Sub	0		29-Jul-20
AIP - 2nd Review by SO	14	30-Jul-20	12-Aug-20
AIP - SO Consent for DDA Submission	0		12-Aug-20
DDA SUS - Internal Structure	66	24-Jun-20	10-Sep-20
DDA - Draft - Preparation by Designer	42	24-Jun-20	13-Aug-20
DDA - Draft - Final Review and prepare for 1st Sub	24	14-Aug-20	10-Sep-20
C&C TUNNEL / LAUNCHING SHAFT [C&C / LS]	291	31-Oct-19	21-Oct-20
AIP - C&C/LS ELS & PCRA	90	31-Oct-19	19-Feb-20
AIP - Draft - Preparation by Designer	33	31-Oct-19	07-Dec-19
AIP - Draft - Final Review and prepare for 1st Sub	12	09-Dec-19	21-Dec-19
AIP - 1st Sub	0		21-Dec-19
AIP - Review by IP / DC	28	22-Dec-19	18-Jan-20
AIP - Review by SO	28	22-Dec-19	18-Jan-20
AIP - Review by GEO via SO	35	22-Dec-19	25-Jan-20
AIP - Update & prepare for 2nd Sub	7	20-Jan-20	30-Jan-20



Data Date: 31-May-20

Project ID: T210010-10

Milestone
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ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

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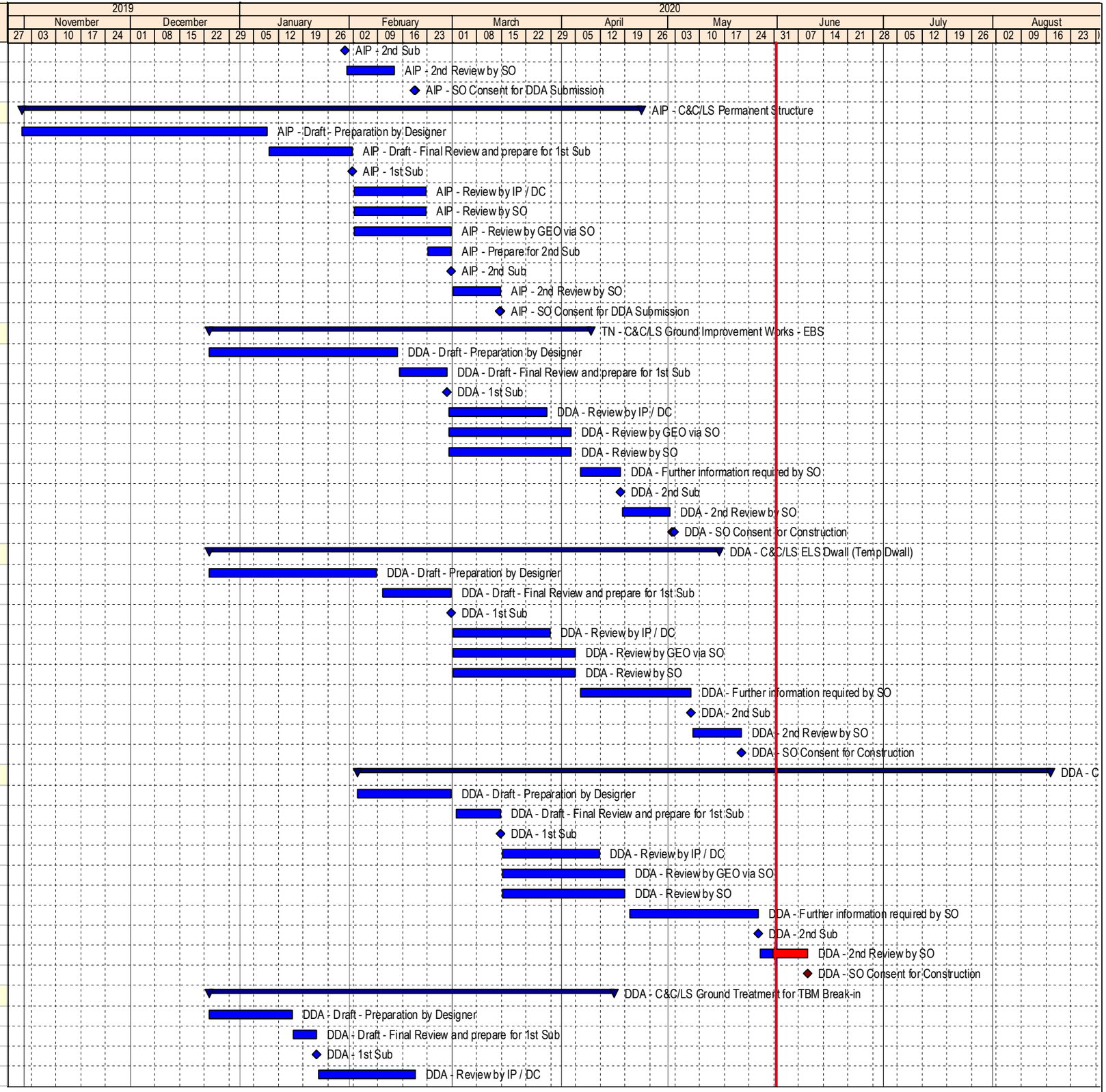
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
AIP - 2nd Sub	0		30-Jan-20
AIP - 2nd Review by SO	14	31-Jan-20	13-Feb-20
AIP - SO Consent for DDA Submission	0		19-Feb-20
AIP - C&C/LS Permanent Structure	111	31-Oct-19	14-Mar-20
AIP - Draft - Preparation by Designer	57	31-Oct-19	08-Jan-20
AIP - Draft - Final Review and prepare for 1st Sub	18	09-Jan-20	01-Feb-20
AIP - 1st Sub	0		01-Feb-20
AIP - Review by IP / DC	21	02-Feb-20	22-Feb-20
AIP - Review by SO	21	02-Feb-20	22-Feb-20
AIP - Review by GEO via SO	28	02-Feb-20	29-Feb-20
AIP - Prepare for 2nd Sub	7	23-Feb-20	29-Feb-20
AIP - 2nd Sub	0		29-Feb-20
AIP - 2nd Review by SO	14	01-Mar-20	14-Mar-20
AIP - SO Consent for DDA Submission	0		14-Mar-20
TN - C&C/LS Ground Improvement Works - EBS	102	23-Dec-19	02-May-20
DDA - Draft - Preparation by Designer	41	23-Dec-19	14-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	12	15-Feb-20	28-Feb-20
DDA - 1st Sub	0		28-Feb-20
DDA - Review by IP / DC	28	29-Feb-20	27-Mar-20
DDA - Review by GEO via SO	35	29-Feb-20	03-Apr-20
DDA - Review by SO	35	29-Feb-20	03-Apr-20
DDA - Further information required by SO	9	06-Apr-20	17-Apr-20
DDA - 2nd Sub	0		17-Apr-20
DDA - 2nd Review by SO	14	18-Apr-20	01-May-20
DDA - SO Consent for Construction	0		02-May-20
DDA - C&C/LS ELS Dwall (Temp Dwall)	119	23-Dec-19	21-May-20
DDA - Draft - Preparation by Designer	36	23-Dec-19	08-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	18	10-Feb-20	29-Feb-20
DDA - 1st Sub	0		29-Feb-20
DDA - Review by IP / DC	28	01-Mar-20	28-Mar-20
DDA - Review by GEO via SO	35	01-Mar-20	04-Apr-20
DDA - Review by SO	35	01-Mar-20	04-Apr-20
DDA - Further information required by SO	24	06-Apr-20	07-May-20
DDA - 2nd Sub	0		07-May-20
DDA - 2nd Review by SO	14	08-May-20	21-May-20
DDA - SO Consent for Construction	0		21-May-20
DDA - C&C/LS Foundation (Perm. Dwall + Foundation within Sha	105	03-Feb-20	09-Jun-20
DDA - Draft - Preparation by Designer	24	03-Feb-20	29-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	12	02-Mar-20	14-Mar-20
DDA - 1st Sub	0		14-Mar-20
DDA - Review by IP / DC	28	15-Mar-20	11-Apr-20
DDA - Review by GEO via SO	35	15-Mar-20	18-Apr-20
DDA - Review by SO	35	15-Mar-20	18-Apr-20
DDA - Further information required by SO	30	20-Apr-20	26-May-20
DDA - 2nd Sub	0		26-May-20
DDA - 2nd Review by SO	14	27-May-20	09-Jun-20
DDA - SO Consent for Construction	0		09-Jun-20
DDA - C&C/LS Ground Treatment for TBM Break-in	81	23-Dec-19	01-Apr-20
DDA - Draft - Preparation by Designer	18	23-Dec-19	15-Jan-20
DDA - Draft - Final Review and prepare for 1st Sub	6	16-Jan-20	22-Jan-20
DDA - 1st Sub	0		22-Jan-20
DDA - Review by IP / DC	28	23-Jan-20	19-Feb-20



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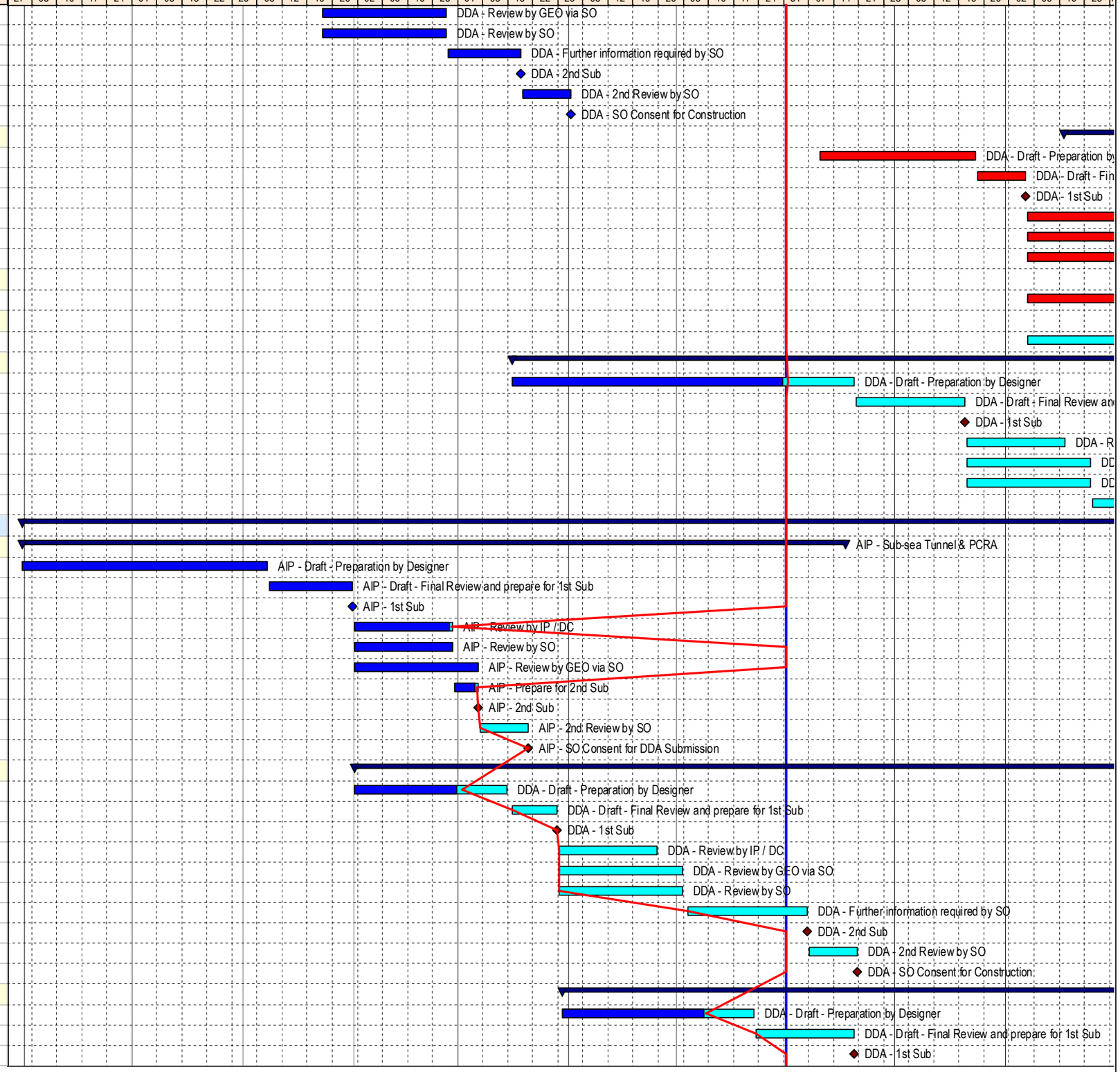
DDA - Review by GEO via SO	35	23-Jan-20	26-Feb-20
DDA - Review by SO	35	23-Jan-20	26-Feb-20
DDA - Further information required by SO	18	27-Feb-20	18-Mar-20
DDA - 2nd Sub	0		18-Mar-20
DDA - 2nd Review by SO	14	19-Mar-20	01-Apr-20
DDA - SO Consent for Construction	0		01-Apr-20
DDA - C&C/LS ELS Strutting & Dewatering +DCRA	78	10-Jun-20	10-Sep-20
DDA - Draft - Preparation by Designer	36	10-Jun-20	23-Jul-20
DDA - Draft - Final Review and prepare for 1st Sub	12	24-Jul-20	06-Aug-20
DDA - 1st Sub	0		06-Aug-20
DDA - Review by IP / DC	28	07-Aug-20	03-Sep-20
DDA - Review by GEO via SO	35	07-Aug-20	10-Sep-20
DDA - Review by SO	35	07-Aug-20	10-Sep-20
DDA - C&C/LS Base Slab & Associated Cast-in for TBM Launching	36	07-Aug-20	17-Sep-20
DDA - Draft - Preparation by Designer	36	07-Aug-20	17-Sep-20
DDA - LS Tympanum Structure for TBM Launching	63	07-Aug-20	21-Oct-20
DDA - Draft - Preparation by Designer	63	07-Aug-20	21-Oct-20
DDA - LS Gantry Crane Foundation & Load Test	168	16-Mar-20	07-Oct-20
DDA - Draft - Preparation by Designer	78	16-Mar-20	19-Jun-20
DDA - Draft - Final Review and prepare for 1st Sub	24	20-Jun-20	20-Jul-20
DDA - 1st Sub	0		20-Jul-20
DDA - Review by IP / DC	28	21-Jul-20	17-Aug-20
DDA - Review by GEO via SO	35	21-Jul-20	24-Aug-20
DDA - Review by SO	35	21-Jul-20	24-Aug-20
DDA - Further information required by SO	36	25-Aug-20	07-Oct-20
SUB-SEA TBM TUNNEL	259	31-Oct-19	11-Sep-20
AIP - Sub-sea Tunnel & PCRA	116	31-Oct-19	20-Mar-20
AIP - Draft - Preparation by Designer	56	31-Oct-19	07-Jan-20
AIP - Draft - Final Review and prepare for 1st Sub	18	08-Jan-20	31-Jan-20
AIP - 1st Sub	0		31-Jan-20
AIP - Review by IP / DC	28	01-Feb-20	28-Feb-20
AIP - Review by SO	28	01-Feb-20	28-Feb-20
AIP - Review by GEO via SO	35	01-Feb-20	06-Mar-20
AIP - Prepare for 2nd Sub	7	29-Feb-20	06-Mar-20
AIP - 2nd Sub	0	06-Mar-20	06-Mar-20
AIP - 2nd Review by SO	14	07-Mar-20	20-Mar-20
AIP - SO Consent for DDA Submission	0	20-Mar-20	20-Mar-20
DDA - Sub-sea Tunnel - Precast Segment Lining + DCRA	116	01-Feb-20	20-Jun-20
DDA - Draft - Preparation by Designer	37	01-Feb-20	14-Mar-20
DDA - Draft - Final Review and prepare for 1st Sub	12	16-Mar-20	28-Mar-20
DDA - 1st Sub	0	28-Mar-20	28-Mar-20
DDA - Review by IP / DC	28	29-Mar-20	25-Apr-20
DDA - Review by GEO via SO	35	29-Mar-20	02-May-20
DDA - Review by SO	35	29-Mar-20	02-May-20
DDA - Further information required by SO	30	04-May-20	06-Jun-20
DDA - 2nd Sub	0		06-Jun-20
DDA - 2nd Review by SO	14	07-Jun-20	20-Jun-20
DDA - SO Consent for Construction	0		20-Jun-20
DDA - Special Segment for CP construction	136	30-Mar-20	11-Sep-20
DDA - Draft - Preparation by Designer	42	30-Mar-20	22-May-20
DDA - Draft - Final Review and prepare for 1st Sub	24	23-May-20	19-Jun-20
DDA - 1st Sub	0		19-Jun-20



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Progress Bar
Summary

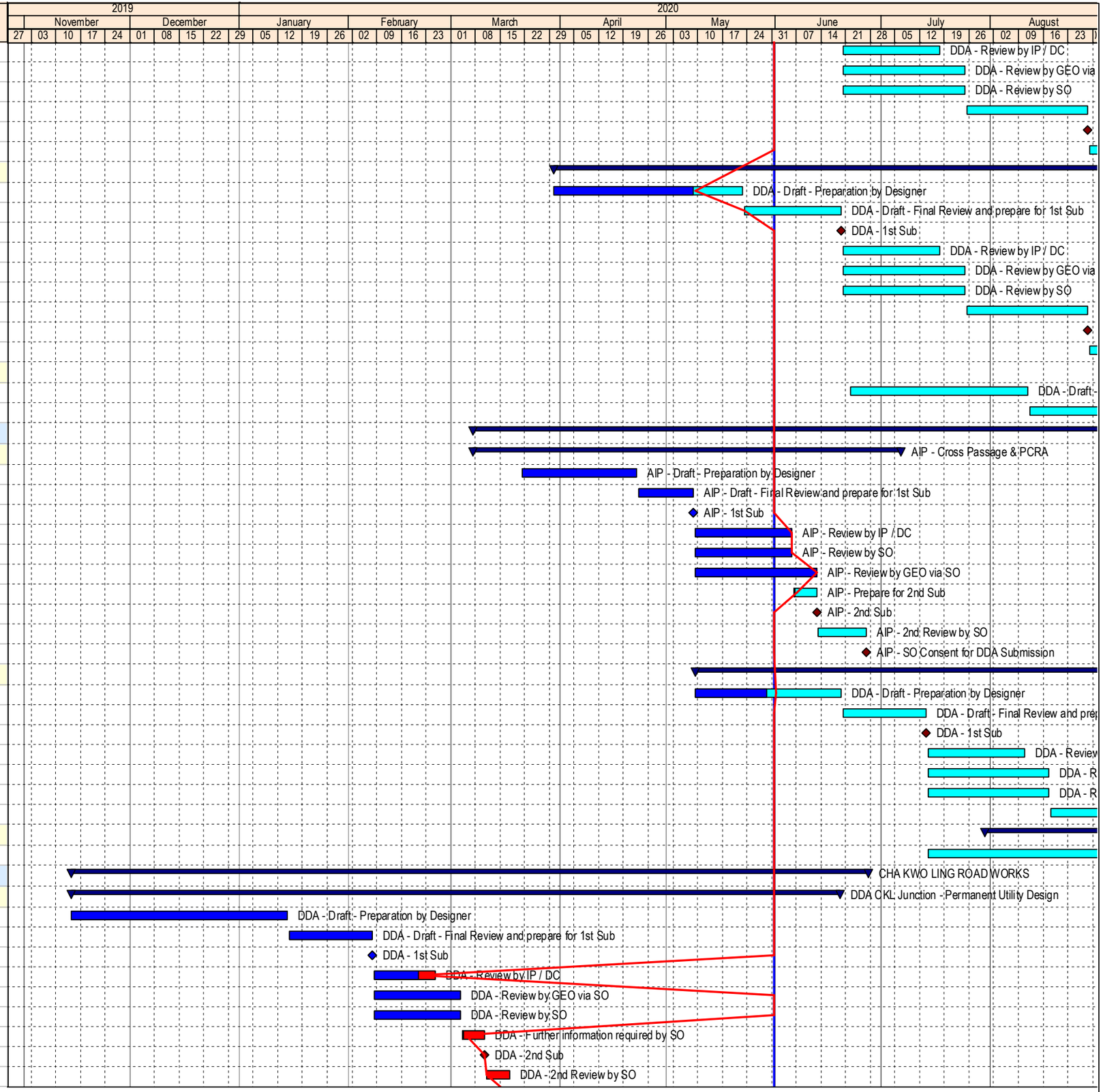
ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

Three Months Rolling Programme

BOUYGUES TRAVAUX PUBLICS

Date	Revision	Checked	Approved
05-Nov-19	00V0	WYu	
18-Dec-19	00V1	WYu	
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
DDA - Review by IP / DC	28	20-Jun-20	17-Jul-20
DDA - Review by GEO via SO	35	20-Jun-20	24-Jul-20
DDA - Review by SO	35	20-Jun-20	24-Jul-20
DDA - Further information required by SO	30	25-Jul-20	28-Aug-20
DDA - 2nd Sub	0		28-Aug-20
DDA - 2nd Review by SO	14	29-Aug-20	11-Sep-20
DDA - Sub-sea Tunnel - TBM Confinement	136	30-Mar-20	11-Sep-20
DDA - Draft - Preparation by Designer	42	30-Mar-20	22-May-20
DDA - Draft - Final Review and prepare for 1st Sub	24	23-May-20	19-Jun-20
DDA - 1st Sub	0		19-Jun-20
DDA - Review by IP / DC	28	20-Jun-20	17-Jul-20
DDA - Review by GEO via SO	35	20-Jun-20	24-Jul-20
DDA - Review by SO	35	20-Jun-20	24-Jul-20
DDA - Further information required by SO	30	25-Jul-20	28-Aug-20
DDA - 2nd Sub	0		28-Aug-20
DDA - 2nd Review by SO	14	29-Aug-20	11-Sep-20
DDA - Sub-sea Tunnel - Internal Structure	66	22-Jun-20	08-Sep-20
DDA - Draft - Preparation by Designer	42	22-Jun-20	11-Aug-20
DDA - Draft - Final Review and prepare for 1st Sub	24	12-Aug-20	08-Sep-20
CROSS PASSAGE	145	21-Mar-20	14-Sep-20
AIP - Cross Passage & PCRA	78	21-Mar-20	26-Jun-20
AIP - Draft - Preparation by Designer	25	21-Mar-20	22-Apr-20
AIP - Draft - Final Review and prepare for 1st Sub	12	23-Apr-20	08-May-20
AIP - 1st Sub	0		08-May-20
AIP - Review by IP / DC	28	09-May-20	05-Jun-20
AIP - Review by SO	28	09-May-20	05-Jun-20
AIP - Review by GEO via SO	35	09-May-20	12-Jun-20
AIP - Prepare for 2nd Sub	7	06-Jun-20	12-Jun-20
AIP - 2nd Sub	0		12-Jun-20
AIP - 2nd Review by SO	14	13-Jun-20	26-Jun-20
AIP - SO Consent for DDA Submission	0		26-Jun-20
DDA - Cross Passage - CP Tympanum	108	09-May-20	14-Sep-20
DDA - Draft - Preparation by Designer	36	09-May-20	19-Jun-20
DDA - Draft - Final Review and prepare for 1st Sub	18	20-Jun-20	13-Jul-20
DDA - 1st Sub	0		13-Jul-20
DDA - Review by IP / DC	28	14-Jul-20	10-Aug-20
DDA - Review by GEO via SO	35	14-Jul-20	17-Aug-20
DDA - Review by SO	35	14-Jul-20	17-Aug-20
DDA - Further information required by SO	24	18-Aug-20	14-Sep-20
DDA - Cross Passage - CP TBM Jacking Pipes	42	14-Jul-20	31-Aug-20
DDA - Draft - Preparation by Designer	42	14-Jul-20	31-Aug-20
CHA KWO LING ROAD WORKS	149	14-Nov-19	18-May-20
DDA CKL Junction - Permanent Utility Design	101	14-Nov-19	17-Mar-20
DDA - Draft - Preparation by Designer	50	14-Nov-19	14-Jan-20
DDA - Draft - Final Review and prepare for 1st Sub	18	15-Jan-20	07-Feb-20
DDA - 1st Sub	0		07-Feb-20
DDA - Review by IP / DC	18	08-Feb-20	25-Feb-20
DDA - Review by GEO via SO	25	08-Feb-20	03-Mar-20
DDA - Review by SO	25	08-Feb-20	03-Mar-20
DDA - Further information required by SO	6	04-Mar-20	10-Mar-20
DDA - 2nd Sub	0	10-Mar-20	10-Mar-20
DDA - 2nd Review by SO	7	11-Mar-20	17-Mar-20



Data Date: 31-May-20

Project ID: T210010-10

Milestone
Planned Bar
Critical Activity
Progress Milestone
Progress Bar
Summary

ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

Three Months Rolling Programme

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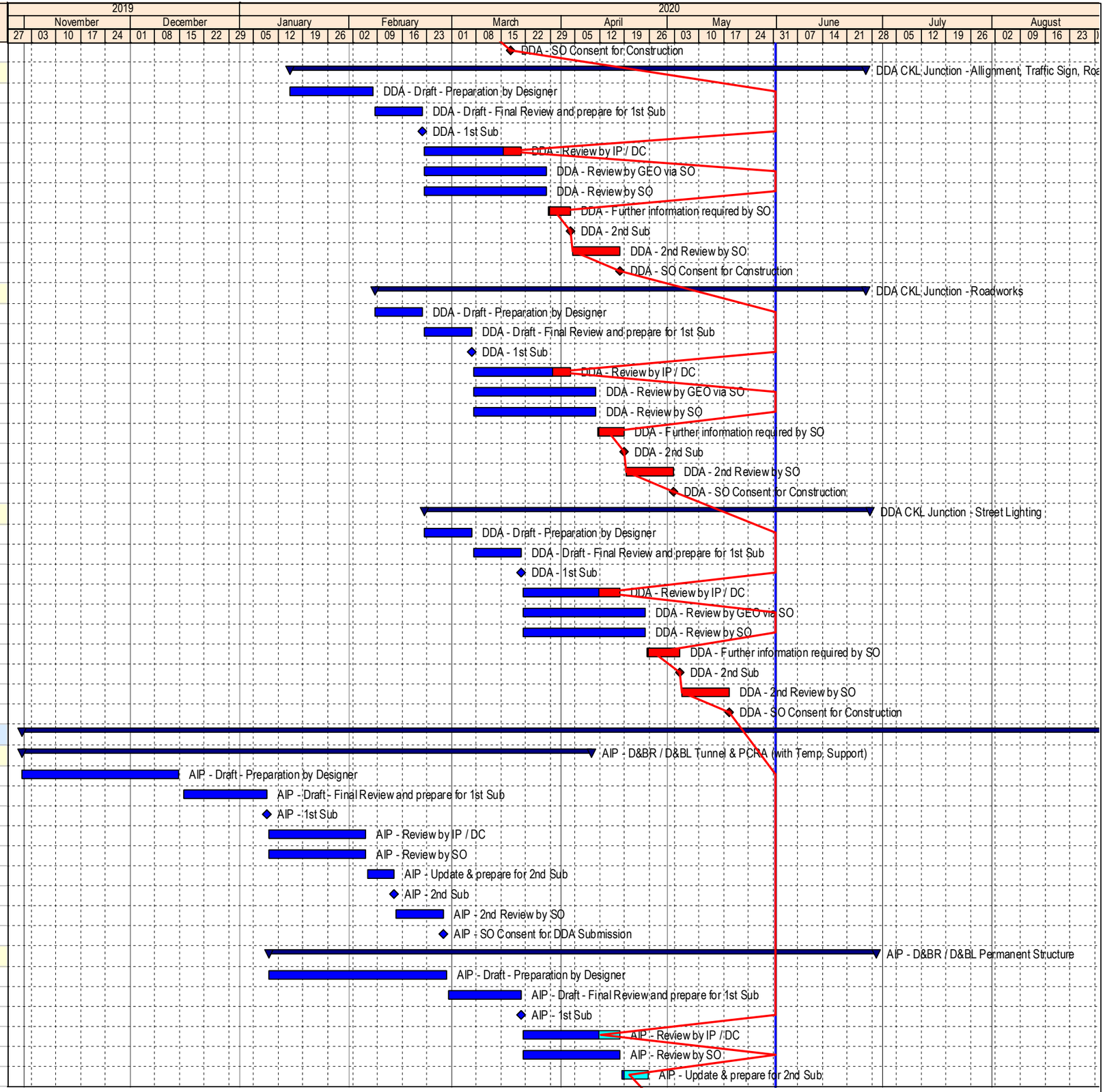
18-Dec-19	00V1	WYu	
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
DDA - SO Consent for Construction	0	17-Mar-20	17-Mar-20
DDA CKL Junction - Allignment, Traffic Sign, Road Marking and	75	15-Jan-20	17-Apr-20
DDA - Draft - Preparation by Designer	18	15-Jan-20	07-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	12	08-Feb-20	21-Feb-20
DDA - 1st Sub	0		21-Feb-20
DDA - Review by IP / DC	28	22-Feb-20	20-Mar-20
DDA - Review by GEO via SO	35	22-Feb-20	27-Mar-20
DDA - Review by SO	35	22-Feb-20	27-Mar-20
DDA - Further information required by SO	6	28-Mar-20	03-Apr-20
DDA - 2nd Sub	0	03-Apr-20	03-Apr-20
DDA - 2nd Review by SO	14	04-Apr-20	17-Apr-20
DDA - SO Consent for Construction	0	17-Apr-20	17-Apr-20
DDA CKL Junction - Roadworks	68	08-Feb-20	02-May-20
DDA - Draft - Preparation by Designer	12	08-Feb-20	21-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	12	22-Feb-20	06-Mar-20
DDA - 1st Sub	0		06-Mar-20
DDA - Review by IP / DC	28	07-Mar-20	03-Apr-20
DDA - Review by GEO via SO	35	07-Mar-20	10-Apr-20
DDA - Review by SO	35	07-Mar-20	10-Apr-20
DDA - Further information required by SO	6	11-Apr-20	18-Apr-20
DDA - 2nd Sub	0	18-Apr-20	18-Apr-20
DDA - 2nd Review by SO	14	19-Apr-20	02-May-20
DDA - SO Consent for Construction	0	02-May-20	02-May-20
DDA CKL Junction - Street Lighting	69	22-Feb-20	18-May-20
DDA - Draft - Preparation by Designer	12	22-Feb-20	06-Mar-20
DDA - Draft - Final Review and prepare for 1st Sub	12	07-Mar-20	20-Mar-20
DDA - 1st Sub	0		20-Mar-20
DDA - Review by IP / DC	28	21-Mar-20	17-Apr-20
DDA - Review by GEO via SO	35	21-Mar-20	24-Apr-20
DDA - Review by SO	35	21-Mar-20	24-Apr-20
DDA - Further information required by SO	6	25-Apr-20	04-May-20
DDA - 2nd Sub	0	04-May-20	04-May-20
DDA - 2nd Review by SO	14	05-May-20	18-May-20
DDA - SO Consent for Construction	0	18-May-20	18-May-20
DRILL & BREAK [D&BR] / DRILL & BLAST TUNNEL [D&BL]	252	31-Oct-19	03-Sep-20
AIP - D&BR / D&BL Tunnel & PCRA (with Temp. Support)	97	31-Oct-19	27-Feb-20
AIP - Draft - Preparation by Designer	39	31-Oct-19	14-Dec-19
AIP - Draft - Final Review and prepare for 1st Sub	18	16-Dec-19	08-Jan-20
AIP - 1st Sub	0		08-Jan-20
AIP - Review by IP / DC	28	09-Jan-20	05-Feb-20
AIP - Review by SO	28	09-Jan-20	05-Feb-20
AIP - Update & prepare for 2nd Sub	7	06-Feb-20	13-Feb-20
AIP - 2nd Sub	0		13-Feb-20
AIP - 2nd Review by SO	14	14-Feb-20	27-Feb-20
AIP - SO Consent for DDA Submission	0		27-Feb-20
AIP - D&BR / D&BL Permanent Structure	97	09-Jan-20	09-May-20
AIP - Draft - Preparation by Designer	41	09-Jan-20	28-Feb-20
AIP - Draft - Final Review and prepare for 1st Sub	18	29-Feb-20	20-Mar-20
AIP - 1st Sub	0		20-Mar-20
AIP - Review by IP / DC	28	21-Mar-20	17-Apr-20
AIP - Review by SO	28	21-Mar-20	17-Apr-20
AIP - Update & prepare for 2nd Sub	7	18-Apr-20	25-Apr-20



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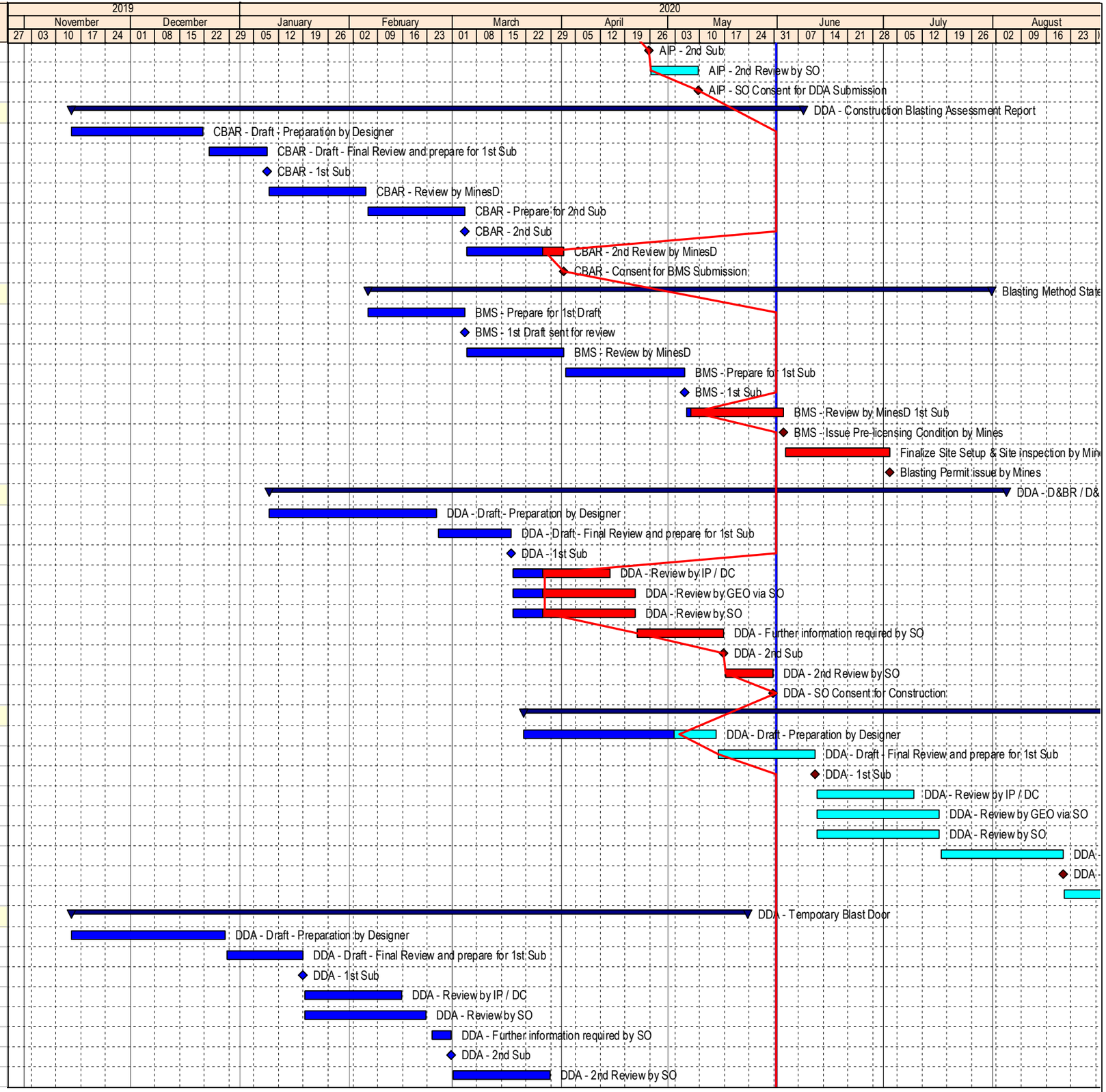
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
AIP - 2nd Sub	0	25-Apr-20	25-Apr-20
AIP - 2nd Review by SO	14	26-Apr-20	09-May-20
AIP - SO Consent for DDA Submission	0	09-May-20	09-May-20
DDA - Construction Blasting Assessment Report	114	14-Nov-19	01-Apr-20
CBAR - Draft - Preparation by Designer	33	14-Nov-19	21-Dec-19
CBAR - Draft - Final Review and prepare for 1st Sub	12	23-Dec-19	08-Jan-20
CBAR - 1st Sub	0		08-Jan-20
CBAR - Review by MinesD	28	09-Jan-20	05-Feb-20
CBAR - Prepare for 2nd Sub	24	06-Feb-20	04-Mar-20
CBAR - 2nd Sub	0		04-Mar-20
CBAR - 2nd Review by MinesD	28	05-Mar-20	01-Apr-20
CBAR - Consent for BMS Submission	0	01-Apr-20	01-Apr-20
Blasting Method Statement & Permit by BTP	120	06-Feb-20	02-Jul-20
BMS - Prepare for 1st Draft	24	06-Feb-20	04-Mar-20
BMS - 1st Draft sent for review	0		04-Mar-20
BMS - Review by MinesD	28	05-Mar-20	01-Apr-20
BMS - Prepare for 1st Sub	24	02-Apr-20	05-May-20
BMS - 1st Sub	0		05-May-20
BMS - Review by MinesD 1st Sub	28	06-May-20	02-Jun-20
BMS - Issue Pre-licensing Condition by Mines	0		02-Jun-20
Finalize Site Setup & Site inspection by Mines	24	03-Jun-20	02-Jul-20
Blasting Permit issue by Mines	0		02-Jul-20
DDA - D&BR / D&BL Tunnel - Temp Support for Excavation + DCF	115	09-Jan-20	30-May-20
DDA - Draft - Preparation by Designer	38	09-Jan-20	25-Feb-20
DDA - Draft - Final Review and prepare for 1st Sub	18	26-Feb-20	17-Mar-20
DDA - 1st Sub	0		17-Mar-20
DDA - Review by IP / DC	28	18-Mar-20	14-Apr-20
DDA - Review by GEO via SO	35	18-Mar-20	21-Apr-20
DDA - Review by SO	35	18-Mar-20	21-Apr-20
DDA - Further information required by SO	20	22-Apr-20	16-May-20
DDA - 2nd Sub	0	16-May-20	16-May-20
DDA - 2nd Review by SO	14	17-May-20	30-May-20
DDA - SO Consent for Construction	0		30-May-20
DDA - D&BR / D&BL Tunnel - Lining & Internal Structure	136	21-Mar-20	03-Sep-20
DDA - Draft - Preparation by Designer	42	21-Mar-20	14-May-20
DDA - Draft - Final Review and prepare for 1st Sub	24	15-May-20	11-Jun-20
DDA - 1st Sub	0		11-Jun-20
DDA - Review by IP / DC	28	12-Jun-20	09-Jul-20
DDA - Review by GEO via SO	35	12-Jun-20	16-Jul-20
DDA - Review by SO	35	12-Jun-20	16-Jul-20
DDA - Further information required by SO	30	17-Jul-20	20-Aug-20
DDA - 2nd Sub	0		20-Aug-20
DDA - 2nd Review by SO	14	21-Aug-20	03-Sep-20
DDA - Temporary Blast Door	111	14-Nov-19	28-Mar-20
DDA - Draft - Preparation by Designer	36	14-Nov-19	27-Dec-19
DDA - Draft - Final Review and prepare for 1st Sub	18	28-Dec-19	18-Jan-20
DDA - 1st Sub	0		18-Jan-20
DDA - Review by IP / DC	28	19-Jan-20	15-Feb-20
DDA - Review by SO	35	19-Jan-20	22-Feb-20
DDA - Further information required by SO	6	24-Feb-20	29-Feb-20
DDA - 2nd Sub	0		29-Feb-20
DDA - 2nd Review by SO	28	01-Mar-20	28-Mar-20



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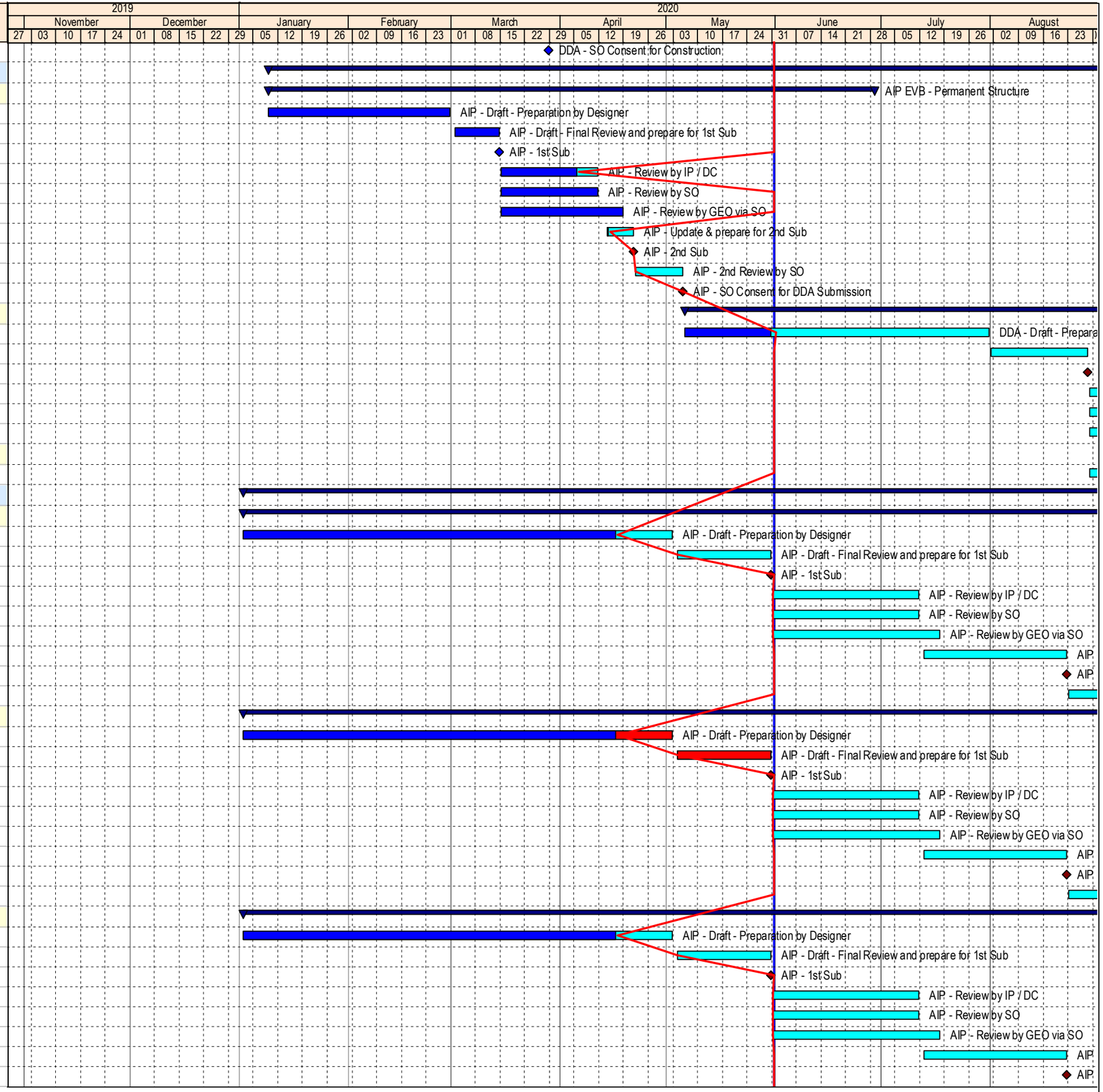
Activity Name	Dur	01V0 Start	01V0 Finish
DDA - SO Consent for Construction	0		28-Mar-20
EAST VENTILATION BUILDING [EVB]	232	09-Jan-20	19-Oct-20
AIP EVB - Permanent Structure	93	09-Jan-20	05-May-20
AIP - Draft - Preparation by Designer	42	09-Jan-20	29-Feb-20
AIP - Draft - Final Review and prepare for 1st Sub	12	02-Mar-20	14-Mar-20
AIP - 1st Sub	0		14-Mar-20
AIP - Review by IP / DC	28	15-Mar-20	11-Apr-20
AIP - Review by SO	28	15-Mar-20	11-Apr-20
AIP - Review by GEO via SO	35	15-Mar-20	18-Apr-20
AIP - Update & prepare for 2nd Sub	7	14-Apr-20	21-Apr-20
AIP - 2nd Sub	0	21-Apr-20	21-Apr-20
AIP - 2nd Review by SO	14	22-Apr-20	05-May-20
AIP - SO Consent for DDA Submission	0	05-May-20	05-May-20
DDA - EVB - Accommodation (SoA)	125	06-May-20	02-Oct-20
DDA - Draft - Preparation by Designer	73	06-May-20	31-Jul-20
DDA - Draft - Final Review and prepare for 1st Sub	24	01-Aug-20	28-Aug-20
DDA - 1st Sub	0		28-Aug-20
DDA - Review by IP / DC	28	29-Aug-20	25-Sep-20
DDA - Review by GEO via SO	35	29-Aug-20	02-Oct-20
DDA - Review by SO	35	29-Aug-20	02-Oct-20
DDA - EVB - Permanent Structure (including Foundation)	42	29-Aug-20	19-Oct-20
DDA - Draft - Preparation by Designer	42	29-Aug-20	19-Oct-20
TUNNEL E&M INSTALLATION & COMMISSIONING	230	02-Jan-20	09-Oct-20
AIP - Overall E&M Design	224	02-Jan-20	30-Sep-20
AIP - Draft - Preparation by Designer	97	02-Jan-20	02-May-20
AIP - Draft - Final Review and prepare for 1st Sub	24	04-May-20	30-May-20
AIP - 1st Sub	0		30-May-20
AIP - Review by IP / DC	42	31-May-20	11-Jul-20
AIP - Review by SO	42	31-May-20	11-Jul-20
AIP - Review by GEO via SO	48	31-May-20	17-Jul-20
AIP - Update & prepare for 2nd Sub	36	13-Jul-20	22-Aug-20
AIP - 2nd Sub	0		22-Aug-20
AIP - 2nd Review by SO	39	23-Aug-20	30-Sep-20
AIP - E&M Tunnel Ventilation Design	224	02-Jan-20	30-Sep-20
AIP - Draft - Preparation by Designer	97	02-Jan-20	02-May-20
AIP - Draft - Final Review and prepare for 1st Sub	24	04-May-20	30-May-20
AIP - 1st Sub	0		30-May-20
AIP - Review by IP / DC	42	31-May-20	11-Jul-20
AIP - Review by SO	42	31-May-20	11-Jul-20
AIP - Review by GEO via SO	48	31-May-20	17-Jul-20
AIP - Update & prepare for 2nd Sub	36	13-Jul-20	22-Aug-20
AIP - 2nd Sub	0		22-Aug-20
AIP - 2nd Review by SO	39	23-Aug-20	30-Sep-20
AIP - E&M Air Purification System (WVB)	224	02-Jan-20	30-Sep-20
AIP - Draft - Preparation by Designer	97	02-Jan-20	02-May-20
AIP - Draft - Final Review and prepare for 1st Sub	24	04-May-20	30-May-20
AIP - 1st Sub	0		30-May-20
AIP - Review by IP / DC	42	31-May-20	11-Jul-20
AIP - Review by SO	42	31-May-20	11-Jul-20
AIP - Review by GEO via SO	48	31-May-20	17-Jul-20
AIP - Update & prepare for 2nd Sub	36	13-Jul-20	22-Aug-20
AIP - 2nd Sub	0		22-Aug-20



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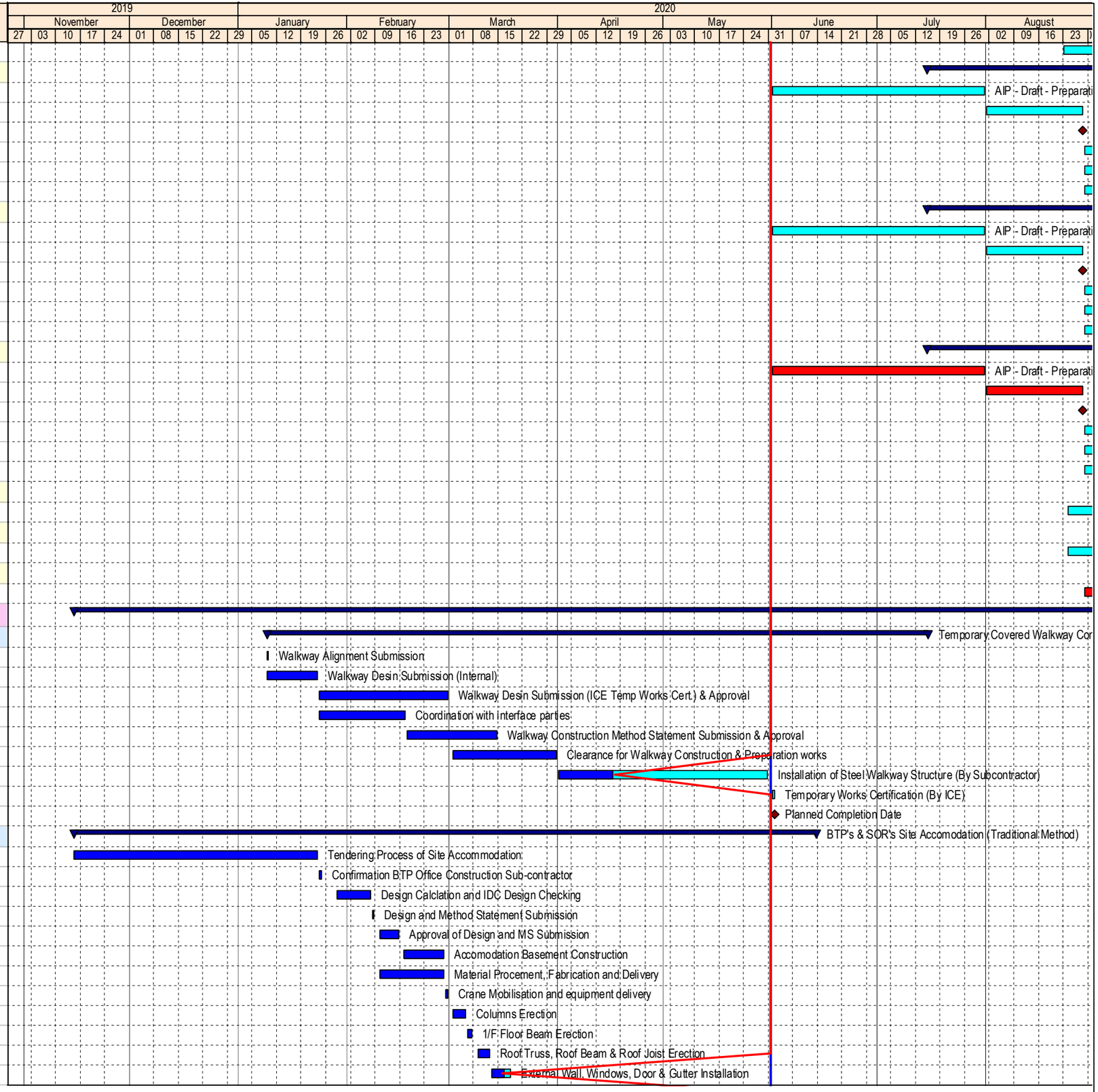
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
AIP - 2nd Review by SO	39	23-Aug-20	30-Sep-20
AIP - E&M Fire Services Installation	103	01-Jun-20	02-Oct-20
AIP - Draft - Preparation by Designer	51	01-Jun-20	31-Jul-20
AIP - Draft - Final Review and prepare for 1st Sub	24	01-Aug-20	28-Aug-20
AIP - 1st Sub	0		28-Aug-20
AIP - Review by IP / DC	28	29-Aug-20	25-Sep-20
AIP - Review by SO	28	29-Aug-20	25-Sep-20
AIP - Review by GEO via SO	35	29-Aug-20	02-Oct-20
AIP - E&M MVAC	103	01-Jun-20	02-Oct-20
AIP - Draft - Preparation by Designer	51	01-Jun-20	31-Jul-20
AIP - Draft - Final Review and prepare for 1st Sub	24	01-Aug-20	28-Aug-20
AIP - 1st Sub	0		28-Aug-20
AIP - Review by IP / DC	28	29-Aug-20	25-Sep-20
AIP - Review by SO	28	29-Aug-20	25-Sep-20
AIP - Review by GEO via SO	35	29-Aug-20	02-Oct-20
AIP - E&M Plumbing & Drainage System	103	01-Jun-20	02-Oct-20
AIP - Draft - Preparation by Designer	51	01-Jun-20	31-Jul-20
AIP - Draft - Final Review and prepare for 1st Sub	24	01-Aug-20	28-Aug-20
AIP - 1st Sub	0		28-Aug-20
AIP - Review by IP / DC	28	29-Aug-20	25-Sep-20
AIP - Review by SO	28	29-Aug-20	25-Sep-20
AIP - Review by GEO via SO	35	29-Aug-20	02-Oct-20
AIP - E&M Electrical Installation	19	24-Aug-20	14-Sep-20
AIP - Draft - Preparation by Designer	19	24-Aug-20	14-Sep-20
AIP CLP Submission - Power Supply to EVB & WVB	19	24-Aug-20	14-Sep-20
AIP - Draft - Preparation by Designer	19	24-Aug-20	14-Sep-20
AIP - E&M Tunnel Lighting Design	34	29-Aug-20	09-Oct-20
AIP - Draft - Preparation by Designer	34	29-Aug-20	09-Oct-20
SOUTH APRON EXTERNAL WORKS	366	15-Nov-19	04-Feb-21
Temporary Covered Walkway Construction (TEW)	116	09-Jan-20	01-Jun-20
Walkway Alignment Submission	1	09-Jan-20	09-Jan-20
Walkway Desin Submission (Internal)	13	09-Jan-20	23-Jan-20
Walkway Desin Submission (ICE Temp Works Cert.) & Approval	29	24-Jan-20	29-Feb-20
Coordination with interface parties	18	24-Jan-20	17-Feb-20
Walkway Construction Method Statement Submission & Approval	23	18-Feb-20	14-Mar-20
Clearance for Walkway Construction & Preparation works	26	02-Mar-20	31-Mar-20
Installation of Steel Walkway Structure (By Subcontractor)	47	01-Apr-20	30-May-20
Temporary Works Certification (By ICE)	1	01-Jun-20	01-Jun-20
Planned Completion Date	0		01-Jun-20
BTP's & SOR's Site Accomodation (Traditional Method)	135	15-Nov-19	02-May-20
Tendering Process of Site Accommodation	57	15-Nov-19	23-Jan-20
Confirmation BTP Office Construction Sub-contractor	1	24-Jan-20	24-Jan-20
Design Calclation and IDC Design Checking	9	29-Jan-20	07-Feb-20
Design and Method Statement Submission	1	08-Feb-20	08-Feb-20
Approval of Design and MS Submission	6	10-Feb-20	15-Feb-20
Accomodation Basement Construction	11	17-Feb-20	28-Feb-20
Material Procement, Fabrication and Delivery	17	10-Feb-20	28-Feb-20
Crane Mobilisation and equipment delivery	1	29-Feb-20	29-Feb-20
Columns Erection	4	02-Mar-20	05-Mar-20
1/F Floor Beam Erection	2	06-Mar-20	07-Mar-20
Roof Truss, Roof Beam & Roof Joist Erection	4	09-Mar-20	12-Mar-20
External Wall, Windows, Door & Gutter Installation	5	13-Mar-20	18-Mar-20



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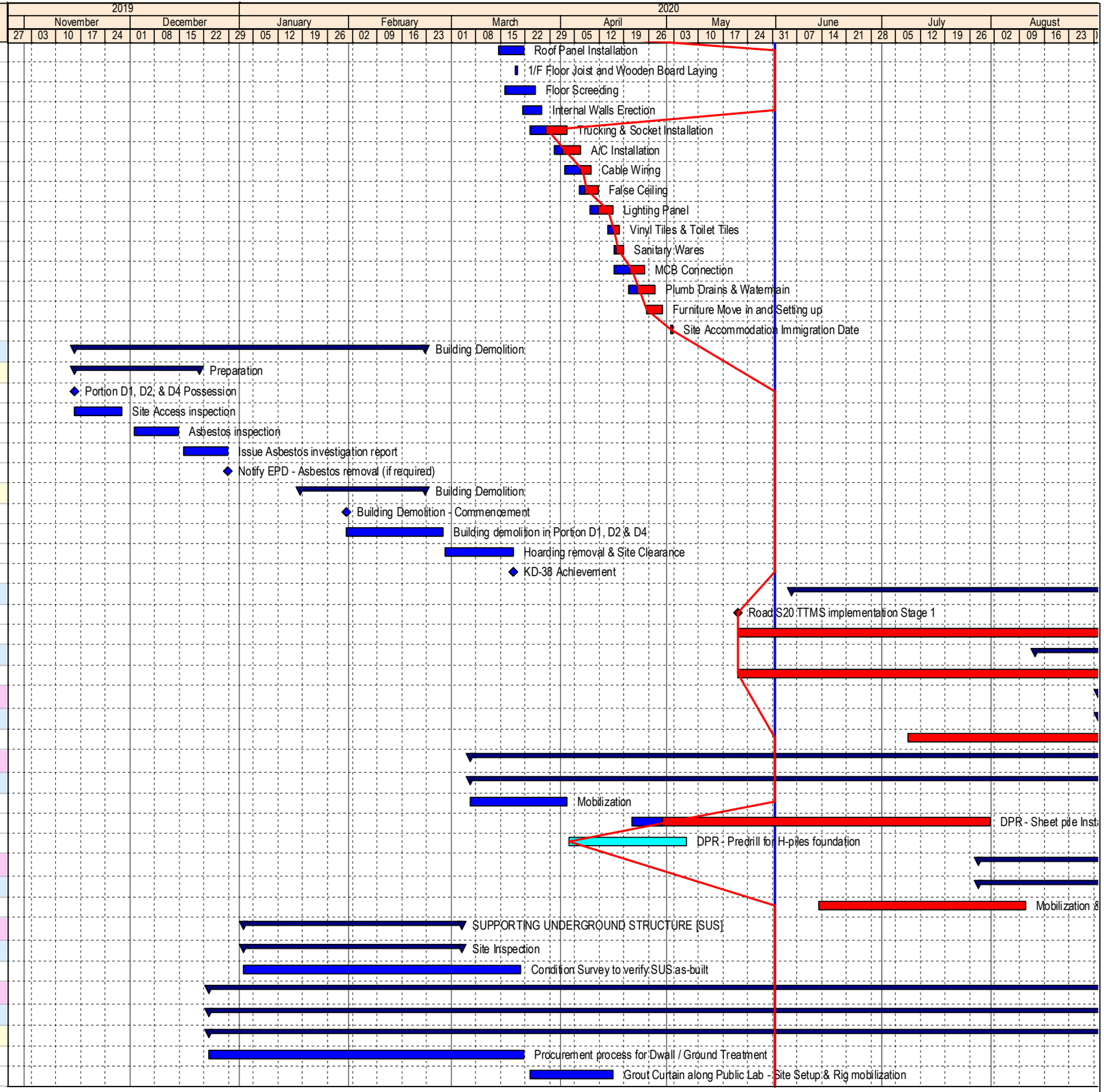
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
Roof Panel Installation	7	14-Mar-20	21-Mar-20
1/F Floor Joist and Wooden Board Laying	1	19-Mar-20	19-Mar-20
Floor Screeding	8	16-Mar-20	24-Mar-20
Internal Walls Erection	5	21-Mar-20	26-Mar-20
Trucking & Socket Installation	10	23-Mar-20	02-Apr-20
A/C Installation	6	30-Mar-20	06-Apr-20
Cable Wiring	6	02-Apr-20	09-Apr-20
False Ceiling	5	06-Apr-20	11-Apr-20
Lighting Panel	4	09-Apr-20	15-Apr-20
Vinyl Tiles & Toilet Tiles	4	14-Apr-20	17-Apr-20
Sanitary Wares	3	16-Apr-20	18-Apr-20
MCB Connection	8	16-Apr-20	24-Apr-20
Plumb Drains & Watermain	7	20-Apr-20	27-Apr-20
Furniture Move in and Setting up	4	25-Apr-20	29-Apr-20
Site Accommodation Immigration Date	1	02-May-20	02-May-20
Building Demolition	101	15-Nov-19	18-Mar-20
Preparation	36	15-Nov-19	28-Dec-19
Portion D1, D2, & D4 Possession	0	15-Nov-19	
Site Access inspection	12	15-Nov-19	28-Nov-19
Asbestos inspection	12	02-Dec-19	14-Dec-19
Issue Asbestos investigation report	10	16-Dec-19	28-Dec-19
Notify EPD - Asbestos removal (if required)	0		28-Dec-19
Building Demolition	41	31-Jan-20	18-Mar-20
Building Demolition - Commencement	0	31-Jan-20	
Building demolition in Portion D1, D2 & D4	24	31-Jan-20	27-Feb-20
Hoarding removal & Site Clearance	17	28-Feb-20	18-Mar-20
KD-38 Achievement	0		18-Mar-20
Road S20	96	21-May-20	11-Sep-20
Road S20 TTMS implementation Stage 1	0	21-May-20	21-May-20
Road S20 - Drainage / Sewerage / Watermain (Stage 1)	96	21-May-20	11-Sep-20
AMAWBC	216	21-May-20	04-Feb-21
Portion A1 - CUE / Drainage / Sewerage / Watermain	216	21-May-20	04-Feb-21
AT-GRADE ROAD [AGR]	144	08-Jul-20	24-Dec-20
Permanent Structure	144	08-Jul-20	24-Dec-20
AGR - Base Slab Structure	144	08-Jul-20	24-Dec-20
DEPRESSED ROAD [DPR]	120	06-Mar-20	31-Jul-20
ELS system & Foundation	120	06-Mar-20	31-Jul-20
Mobilization	24	06-Mar-20	02-Apr-20
DPR - Sheet pile Installation	84	21-Apr-20	31-Jul-20
DPR - Predrill for H-piles foundation	24	03-Apr-20	06-May-20
WEST VENTILATION BUILDING [WVB]	48	13-Jun-20	10-Aug-20
ELS system & Foundation	48	13-Jun-20	10-Aug-20
Mobilization & Predrilling for H-piles Foundation	48	13-Jun-20	10-Aug-20
SUPPORTING UNDERGROUND STRUCTURE [SUS]	48	02-Jan-20	29-Feb-20
Site Inspection	48	02-Jan-20	29-Feb-20
Condition Survey to verify SUS as-built	48	02-Jan-20	29-Feb-20
C&C TUNNEL / LAUNCHING SHAFT [C&C / LS]	345	15-Nov-19	11-Jan-21
Dwall & Ground Treatment	345	15-Nov-19	11-Jan-21
Site Establishment	195	15-Nov-19	14-Jul-20
Procurement process for Dwall / Ground Treatment	72	23-Dec-19	21-Mar-20
Grout Curtain along Public Lab - Site Setup & Rig mobilization	18	23-Mar-20	15-Apr-20



Data Date: 31-May-20

Project ID: T210010-10

Milestone
Planned Bar
Critical Activity
Progress Milestone
Progress Bar
Summary

ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

Three Months Rolling Programme

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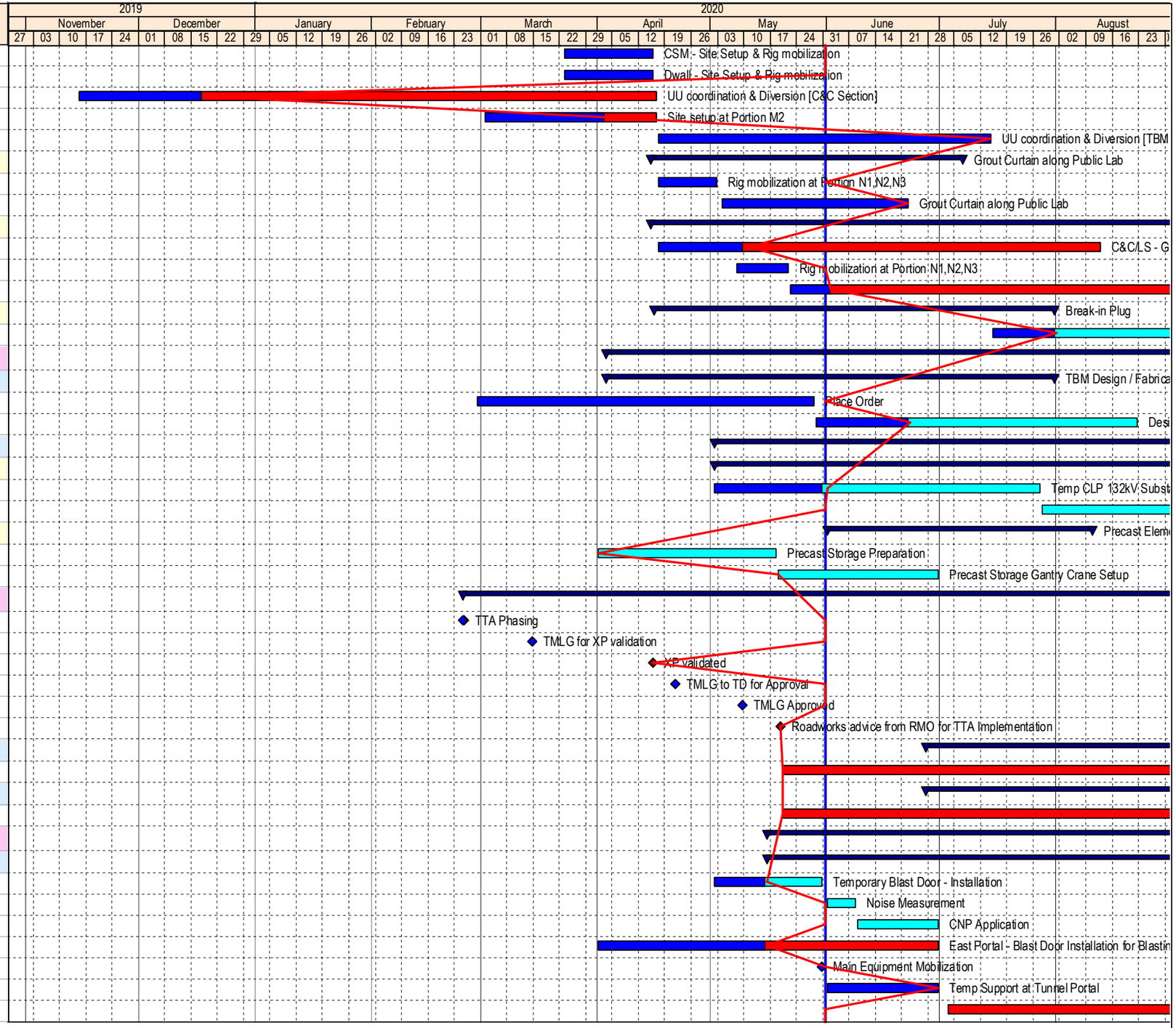
05-Nov-19	00V0	WYu	
18-Dec-19	00V1	WYu	
22-Feb-20	01V0	SPa/LLo	WYu

Activity Name	Dur	01V0 Start	01V0 Finish
CSM - Site Setup & Rig mobilization	18	23-Mar-20	15-Apr-20
Dwall - Site Setup & Rig mobilization	18	23-Mar-20	15-Apr-20
UU coordination & Diversion [C&C Section]	123	15-Nov-19	16-Apr-20
Site setup at Portion M2	37	02-Mar-20	16-Apr-20
UU coordination & Diversion [TBM B/I Plug]	72	17-Apr-20	14-Jul-20
Grout Curtain along Public Lab	55	17-Apr-20	22-Jun-20
Rig mobilization at Portion N1,N2,N3	12	17-Apr-20	02-May-20
Grout Curtain along Public Lab	43	04-May-20	22-Jun-20
Shaft Dwall	222	17-Apr-20	11-Jan-21
C&C/LS - Guide Wall Construction	97	17-Apr-20	12-Aug-20
Rig mobilization at Portion N1,N2,N3	12	08-May-20	21-May-20
C&C/LS - Dwall & Barrettes	194	22-May-20	11-Jan-21
Break-in Plug	66	15-Jul-20	29-Sep-20
B/I Plug - CSM	66	15-Jul-20	29-Sep-20
SUB-SEA TBM TUNNEL - WESTBOUND	193	29-Feb-20	21-Oct-20
TBM Design / Fabrication / FAT / Delivery	144	29-Feb-20	22-Aug-20
Place Order	72	29-Feb-20	28-May-20
Design	72	29-May-20	22-Aug-20
Site Establishment	166	01-Apr-20	21-Oct-20
Temporary CLP 132kV Substation	144	02-May-20	21-Oct-20
Temp CLP 132kV Substation - Earth works & Civil works	72	02-May-20	27-Jul-20
Temp CLP 132kV Substation - ABWF & E&M for CLP Access	72	28-Jul-20	21-Oct-20
Precast Elements Storage Yard	72	01-Apr-20	30-Jun-20
Precast Storage Preparation	36	01-Apr-20	18-May-20
Precast Storage Gantry Crane Setup	36	19-May-20	30-Jun-20
CHA KWO LING ROAD WORKS	205	25-Feb-20	31-Oct-20
TTA Phasing	0		25-Feb-20
TMLG for XP validation	0		14-Mar-20
XP validated	0	15-Apr-20	15-Apr-20
TMLG to TD for Approval	0		21-Apr-20
TMLG Approved	0		09-May-20
Roadworks advice from RMO for TTA Implementation	0	19-May-20	19-May-20
Wai Yip Street / Cha Kwo Ling Road Junction	138	20-May-20	31-Oct-20
WYS/CKLR Junction modification	138	20-May-20	31-Oct-20
Wai Fat Street / Wai Yip Street Junction	138	20-May-20	31-Oct-20
WFS/WYS Junction modification	138	20-May-20	31-Oct-20
DRILL & BLAST TUNNEL [D&BL]	208	01-Apr-20	09-Dec-20
Tunnel Excavation	208	01-Apr-20	09-Dec-20
Temporary Blast Door - Installation	25	02-May-20	30-May-20
Noise Measurement	7	01-Jun-20	08-Jun-20
CNP Application	18	09-Jun-20	30-Jun-20
East Portal - Blast Door Installation for Blasting Permit	72	01-Apr-20	30-Jun-20
Main Equipment Mobilization	0		30-May-20
Temp Support at Tunnel Portal	25	01-Jun-20	30-Jun-20
WB - D&BI Tunnel - CH9268-9140 Type A - Excavation	135	03-Jul-20	09-Dec-20



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