JOB NO.: TCS00864/16

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

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT REPORT (MAY 2022)

PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	Reference No.	Prepared By	Certified By
20 June 2022	TCS00864/16/600/R0560v2	Nicola Hon (Environmental Consultant)	Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	13 June 2022	First submission
2	20 June 2022	Amended against IEC's comment

ANEWR

Civil Engineering and Development Department
East Development Office
8/F, South Tower, West Kowloon Government Offices
11 Hoi Ting Road
Yau Ma Tei
Kowloon

Your reference:
Our reference: HKCEDD10/50/108074
Date: 21 June 2022

Attention: Mr Lam Sai Wing, Sam

BY POST

Dear Sirs

Agreement No.: NTE 08/2016
Independent Environmental Checker for Development of
Anderson Road Quarry Site – Site Formation and Associated Infrastructure Works
Monthly Environmental Monitoring and Audit Report (May 2022)

We refer to the emails of 14 and 20 June 2022 from Action-United Environmental Services and Consulting attaching a Monthly Environmental Monitoring and Audit Report (May 2022) for the captioned project.

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

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Frankie Yuen on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

James Choi
Independent Environmental Checker

CPSJ/LCCR/YCFF/lsmt

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EXECUTIVE SUMMARY

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

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

ES03 To facilitate the project management and implementation, the Service Contract has been divided to three CEDD contracts including Contract NE/2016/01 (Contract 1), Contract NE/2016/05 (Contract 2) and Contract NE/2017/03 (Contract 3). As advised by the Resident Engineer (RE), the commencement date of Contract 1 was 21 December 2016 and the major construction works has been commenced on 12 April 2017. The commencement date of Contract 2 was 31 March 2017 and the major construction activities have been commenced on 2 May 2017. Furthermore, Contract 3 was commenced on 31 May 2018 and the major construction activities works was commenced in November 2018. The EM&A programme under the Project was commenced on 12 April 2017 pursuant to the requirement under the EM&A manual. In addition, variation order for extend service scope to E5, E6, E7 and C10 under Contract ED/2019/02 (Contract 5) was issued by AECOM. The commencement date of Contract 5 was on 30 March 2021. Moreover, variation order for extend service under Contract ED/2020/02 (Contract 4) was issued by AECOM. The commencement date of Contract 4 was on 27 September 2021.

ES04 This is the **62nd** monthly EM&A report presenting the monitoring results and inspection findings for the period from **1 to 31 May 2022** (hereinafter 'the Reporting Period').

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

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

Environmental Aspect	Environmental Monitoring Parameters / Inspection	Reporting Period	
		Number of Active Monitoring Locations	Total Occasions
Air Quality	1-hour TSP	**6**	**90**
	24-hour TSP	**4**	**24**
Construction Noise	$L_{eq(30min)}$ Daytime for Contract NE/2016/01	**7**	**34**
	$L_{eq(30min)}$ Daytime for Contract NE/2017/03	**3**	**12**

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES06 No exceedance of air quality was recorded in the Reporting Period. For construction noise monitoring, no Limit Level exceedance was recorded and no noise complaint (which triggered Action Level) was received in the reporting period. The environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation	Corrective Actions
Air Quality	1-hour TSP	0	0	0	NA	NA
	24-hour TSP	0	0	0	NA	NA

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation	Corrective Actions
Construction Noise	$L_{eq(30min)}$ Daytime	0	0	0	NA	NA

ENVIRONMENTAL COMPLAINT

ES07 In the reporting period, three (3) environmental complaints were received regarding the water quality for Contract 1.

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES08 No environmental summons or successful prosecutions for the Project were recorded in the Reporting Period.

REPORTING CHANGE

ES09 There is no reporting change in the Reporting Period.

SITE INSPECTION

ES10 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 1*** were carried out by the RE, ET and Contractor on **5, 10, 17, 24 and 31 May 2022** in which IEC joined the site inspection with SSEMC on **5 May 2022**. No non-compliance was noted during the site inspection.

ES11 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 2*** were carried out by the RE, ET and Contractor on **4, 11, 18 and 25 May 2022** in which IEC joined the site inspection on **25 May 2022**. No non-compliance was noted during the site inspection.

ES12 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 3*** were carried out by the RE, ET and Contractor on **6, 13, 20 and 27 May 2022** in which IEC joined the site inspection with SSEMC on **13 May 2022.** No non-compliance was noted during the site inspection.

ES13 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 4*** were carried out by the RE, ET and Contractor on **4, 11, 17 and 25 May 2022** in which IEC joined the site inspection with SSEMC on **17 May 2022.** No non-compliance was noted during the site inspection.

ES14 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 5*** were carried out by the RE, ET and Contractor on **5, 12, 19 and 26 May 2022** in which IEC joined the site inspection with SSEMC on **19 May 2022.** No non-compliance was noted during the site inspection.

FUTURE KEY ISSUES

ES15 During wet season, the Contractors are reminded to pay special attention on water quality mitigation measures and should fully implement the measures as recommended in the EM&A Manual, in particular to prevent muddy water or other water pollutants from site surface overflow to public area should be properly maintained.

ES16 Since construction site is highly visible to the resident at nearby estates, the Contractors should pay special attention on potential environmental impact generated by the site activities and adhere implement adequate air quality and noise mitigation measures as far as practicable to reduce the impact to the public.

ES17 Construction noise is one of the key environmental issues during construction work of the Project. Noise mitigation measures such as using quiet plants and noise barriers shall be implemented where practicable according to the EM&A manual.

ES18 In addition, the Contractors should ensure all effluent discharge shall be fulfilled the Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or relevant discharge license requirement.

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INTRODUCTION

1.1 PROJECT BACKGROUND

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

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

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

1.1.4 To facilitate the project management and implementation, the Service Contract has been divided to three CEDD contracts including Contract NE/2016/01 (Contract 1), Contract NE/2016/05 (Contract 2) and Contract NE/2017/03 (Contract 3). As advised by the Resident Engineer (RE), the commencement date of Contract 1 was 21 December 2016 and the major construction works has been commenced on 12 April 2017. The commencement date of Contract 2 was 31 March 2017 and the major construction activities have been commenced on 2 May 2017. Furthermore, Contract 3 was commenced on 31 May 2018 and the major construction activities works was commenced in November 2018. The EM&A programme under the Project was commenced on 12 April 2017 pursuant to the requirement under the EM&A manual. In addition, variation order for extend service scope to E5, E6, E7 and C10 under Contract ED/2019/02 (Contract 5) was issued by AECOM. The commencement date of Contract 5 was on 30 March 2021. Moreover, variation order for extend service under Contract ED/2020/02 (Contract 4) was issued by AECOM. The commencement date of Contract 4 was on 27 September 2021.

1.1.5 According to the Approved EM&A Manual, air quality and noise monitoring are required to be monitored during the construction phase of the Project. As part of the EM&A program, baseline monitoring is required to determine the ambient environmental conditions. Baseline monitoring including air quality and noise conducted between ***January*** and ***April 2019*** at all designated monitoring locations were before construction work commencement. Furthermore, the Baseline Monitoring Report which verified by the Independent Environmental Checker (hereinafter referred as "the IEC") has been submitted to Environmental Protection Department **(**EPD) on ***9 May 2017*** for endorsement.

1.1.6 This is the **62nd** monthly EM&A report presenting the monitoring results and inspection findings for the period from **1 to 31 May 2022 (**hereinafter referred as "Reporting Period").

1.2 1.2 REPORT STRUCTURE

1.2.1 The monthly EM&A Report is structured into the following sections:-

Section 1	*Introduction*
Section 2	*Project Organization and Construction Progress*
Section 3	*Summary of Impact Monitoring Requirements*
Section 4	*Air Quality Monitoring*
Section 5	*Construction Noise Monitoring*

Section 6 *Waste Management*
Section 7 *Site Inspections*
Section 8 *Environmental Complaints and Non-Compliance*
Section 9 *Implementation Status of Mitigation Measures*
Section 10 *Conclusions and Recommendations*

2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

2.1 CONSTRUCTION CONTRACT PACKAGING

2.1.1 To facilitate the project management and implementation, the Project was divided by 5 works contracts as described in following. The details of each contract are summarized below and the delineation of each contract is shown in ***Appendix A***.

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

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

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

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

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

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

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

(iii) Associated landscape works;

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

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

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

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

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

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

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

(iii) Associated landscape works.

Contract 4 (Contract No. ED/2020/02)

2.1.5 The commencement date of Contract 4 is on 27 September 2021 and the major Scope of Work of the Contract 4 is listed below:

- Construction of hard landscaping and other ancillary works (e.g. paver footpath, planter walls, benches, lighting etc.);
- Construction of soft landscaping works;
- Lighting, irrigation, electrical and mechanical engineering works within the landscaping area;
- Construction of landscape deck; and
- Electrical and mechanical works for underground water treatment facilities and pumping system for Regional Open Space and Artificial Flood Attenuation Lake.

Contract 5 (Contract No. ED/2019/02)

2.1.6 The commencement date of Contract 5 is on 30 March 2021 and the major Scope of Work of the Contract 5 is listed below:

- Construction of two-way escalator link between Sau Mau Ping Road and the existing footbridge to Po Tat Estate;
- Construction of two-way escalator link between Sau Mau Ping South Estate and the existing footbridge to Sau Mau Ping Road;
- Construction of footbridge, 3m, clear width, with and about 20m high lift tower between Hiu Kwong Street and the podium of Sau Ming House, Sau Mau Ping Estate;
- Construction of footbridge, 3m clear width, with an about 40m high lift tower between Sau Mau Ping Road and the podium of Po Tat Estate; and
- Ancillary works including associated civil, geotechnical, structural, electrical and mechanical engineering and landscaping works.

2.2 PROJECT ORGANIZATION

2.2.1 The project organization and contact details for Contracts 1, 2, 3, 4 and 5 are shown in ***Appendix B***.

2.3 CONSTRUCTION PROGRESS

2.3.1 The 3-month rolling construction programme for Contracts 1, 2, 3, 4 and 5 are shown in ***Appendix C***. The major construction activities conducted in the Reporting Period are summarized in below.

Contract 1 (NE/2016/01)

East Portal Area:

- RWA1C Bay 2 & 3 base slab completed and Bay 2 stem wall complete and formwork and rebar for bay 4 are in progress.
- Buttress wall (left and right) construction works completed from 164mPD to 172mPD (LHS) and 164mPD to 170mPD (RHS).
- Construction of RWA1B Retaining Wall completed
- Rock dowel at slope A1 164mPD to 169mPD level, drilling holes for rock dowel in progress 48/48nos completed.

- Installation of the cross-ducting pipes complete.
- Laying the WSD 150PE pipe at east portal carriageway and pressure test complete.
- Laying the 2nd road base bitumen complete.
- Bay 4 RWA1c drilling vertical dowel bar completed and L-shaped dowel bar for RWA1c Type 1 buttress wall total 21nos complete.
- Cast concrete of Pillar Box and Kiosk complete and install stone pitch completed
- Formworks for construction 900sc, catchpit and 1000mm downpipe at Slope A1 and 185mPD platform in progress

West Portal Area:

- Buttress wall (left) from 178.5mPD to 186.5mPD complete.
- Buttress wall (right) from 170 to 178mPD in progress at Slope A3 near West Portal.
- Soil nailing works at Slope A3 complete.
- Slope A3, Construction of 200mPD, 186mPd and 178mPD berm in progress.

Underpass Tunnel:

- Tunnel Concrete Lining construction works (Total 25 Bays) included B1 with West portal structure and Bay 25 with East Portal structure, and progress upto Bay 24 (124m), Bay 25 and East Portal structure (excluding headwall) completed west portal structure completed and construction of headwall completed, construction of headwall at East Portal completed.
- Excavation for Box Culvert BC3 completed and structure works completed.
- Erection and installation of the VE Panel sub-frame in progress and 95% complete.
- Construction of mass concrete wall in underpass completed 260m/260m.
- Painting the 1st, 2nd & 3rd layer on lining structure completed.
- Installation of the profile barrier inside underpass (LHS and RHS) completed 260m/260m.
- Rock excavation of Manhole A4 and 900mm stormwater drainage pipe completed at East Portal and construction of manhole A4 with backdrop completed and laying of 900mm pipe completed.
- Excavation works for manhole R618 to R623 completed and installation of manholes R618 to R623 completed.
- Laying of 300mm thick drainage layer, 225mm thick subbase and geotextile complete.
- Laying road base bituminous insider underpass complete

Po Lam Road

- Excavation work and install ducting pipes and draw pits and installation of k1 kerb completed
- Removal the existing concrete pavement completed for installation of ducting crossing pipes.
- Reinstatement of the concrete carriageway at Po Lam road at stage 3 in progress.
- Re-build the modification catch pit at Po Lam road and Slope A1 complete.
- 900sc excavation work completed
- Structure works for traffic sign board footing DS01 and polar mount footing complete.
- Installation of the beam barrier at Po Lam Road Layby complete
- Installation of 2 of 3 no of lighting complete at Po Lam Road
- Stage 2 TTA at Po Lam Road implemented and completed
- Installation of 3nos manholes and gully complete
- Construction double island and concrete carriageway completed at stage 3
- Reinstatement works of temporary footpath are completed
- Installation of detector loop at Po Lam Road in progress

Internal Road L4, RWA18, RWA12, Noise Barrier and Pedestrian Connectivity System A (PC System A):

- Filling grade 200 completed.
- Noise barriers RC and steel structure completed & backfill complete.

- DN300 fresh watermain, NS125 salt watermain and fibre optic cable laying CHC-10 to CHC390 completed. Pressure test and swabbing for CHC-10 to CHC390 complete.
- Laying wearing course of flexible pavement complete.
- Excavation and installation of road lighting ducting and drawpits complete.
- K1 kerb installation at CH130 to CH440 complete.
- Laying subbase layer for footpath at CH180 to CH430 complete.
- Paving works at footpath at CH100 to CH430 complete.
- Construction of mass concrete and u-channel in front of noise barrier complete from Bay 1 to Bay 33.
- Hand railing installation at mass concrete in front of noise barrier completed.
- Replacement of existing downpipes connecting to new as-built catchpit completed
- Kerb installation and road base bituminous laying at Ch495- Ch565 complete.
- Concrete pavement laying work at Ch495- Ch565 in progress.

Retaining Wall RWA18

- Storm drain & manhole M35-4 to S007C, R426 to M35-4 BD and R429 to M35-4BD complete, Gully of S002 to S007B & R426 to R429 complete.
- Construction of DN 450 Sewage Pipe from existing manhole to B223 complete, Manhole B223 to B229a complete
- Laying of wearing course of flexible pavement at CH100 to CH130 complete.
- K1 kerb installation at CH100 to CH130 complete.
- Additional buttress wall complete.
- Installation of steel parapet at RWA18 complete.
- Traffic controller relocation for signalized junction completed.
- Installation of type 2 railing at junction of Road L4 and On Sau Road complete.
- Paving works at junction of Road L4 and On Sau Road complete.
- U-channel construction between SC42a to existing catchpit complete.
- Concrete apron between U-channel and existing slope completed (CH100 to CH395).

Water Reservoir:

- The water tightness test for Salt Water Reservoir complete and passed and Fresh Water Reservoir water tightness test complete and pass, defect rectification works completed.
- Rock excavation work to formation level outside water reservoir completed and soil excavation work (to formation level) completed. Rock excavation for drainage works completed. Manhole construction and Drainage Pipe laying are completed, Backfilling works completed. The excavation works of VC chambers (Watermain) and additional dia.600mm drainage pipe with manhole completed. The construction of recorder houses complete. The construction of valve chamber completed and watermain laying almost completed.
- Rock trench excavation for watermain and utilities along WSD access road completed.
- Pipe laying along WSD access road complete.
- Concreting of pipe plinths and staircase for downpipe from reservoir to PTT was completed. Downpipe installation from ~210mPD to 230mPD complete.
- Downpipe installation from PTT to Reservoir completed.
- Water pressure test for DN250 Downpipe completed.

Water Pumping Station, Retaining Wall RWA13 and RWA14:

- Backfill retaining wall RWA13 and RWA14 Bay 9-14 complete.
- Rock excavation for Watermain works completed. The chambers (VC8, VC9, EFM & DN450 valve) construction works pipe laying complete.
- Metal Works and ABWF Work are completed. E&M Works at Water Pumping Station in progress.
- Mapping works and excavation of A13 Slope completed. Mass concrete fill works (VO/238) complete.
- Pipe laying of watermain behind retaining wall RWA13 was completed.
- Excavation and construction work of drawpit and ducting works complete.

- Excavation work and construction work of Boundary Fence Footing in progress.
- Rock breaking to road formation level completed. Rock breaking to bedding level of watermain from pumping station to RWA13 complete.
- All watermains from pumping station to RWA13 complete.
- Stone Block Facing Works for RWA13 in progress.
- Pipe laying along WSD access road completed.
- Water pressure test and swabbing for CHE0 to CHE516 completed
- Drainage works inside boundary of Pumping Station in progress.

Artificial Flood Attenuation Lake

- East side and west side of concrete lining at Lake bottom complete. Remaining part (near Bay 50-51) completed.
- Laying granular bed at remaining parts (center) of Lake bottom complete.
- Laying HDPE membrane at center of Lake bottom completed.
- Retaining wall base slab complete and stem wall complete.
- Whole Treatment Plant construction complete.
- Drainage work at hill side complete. To continue the remaining part (S114 and drainpipe direct to existing catchpit).
- The footing with guidepost of floating bridge, retaining wall & all landing are complete.
- The additional 150mm thk mass concrete slab under floating bridge is in progress.
- The additional guide post extension in progress.
- The floating bridge installation in progress.

Pedestrian Connectivity System B (PC System B):

- PC System B structure complete, South Tower structure Rock fill completed.
- 1050mm dia. pipe from M/H S311 to S312 installation completed.
- Internal ABWF works in System B in progress

Construction of Internal Road L1:

- Road breaking and drainage works for road L1 west in progress.
- Drainage works for road L1 east cycle track in progress.
- Watermain construction in progress, 90 % complete. All rock breaking for watermain at L1 west completed.
- Road L1 west lower level and middle level drainage construction in progress lower drainage complete middle drainage 90%, upper level 75% and gully pipe installation in progress.
- Road L1 east lower level and middle level drainage construction in progress lower drainage completed 100% middle drainage 95%, upper level and gully pipe complete.
- Construction of Infiltration Planter in Progress, and 98% completed.
- Kerb laying, asphalt paving in progress.
- Formation of footpath and cycle track in progress.
- Planter construction and soil mix filling in progress.

Box Culvert BC2 at Internal Road L3:

- AMH5 to BC2 pipe laying and manhole construction completed, backfilling complete.
- Drainage at junction L1 and L3 completed, total drainage of L3 road in progress 90% complete
- Watermain trenching and pipe installation at L1 and L3 junction complete.
- UU laying complete.
- Installation of Multi-part cover in progress.
- Cat ladder installation complete.

MEP Works:

i. Submission of designs and materials related to MEP works to continue.
ii. E&M installation works at PTT to continue.
iii. E&M installation works at Underground Stormwater Retention Tank to continue.

iv. E&M installation works at Pedestrian Connectivity System B to continue.
v. Lighting installation works at Pedestrian Connectivity System B completed.
vi. Sump Pump installation works at Pedestrian Connectivity System B completed.
vii. E&M installation works at Underpass to continue.
viii. Cable & Lighting Supporting Frame installation works at Underpass completed.
ix. E&M installation works at Fresh Water Pumping station to continue.
x. Road lighting fitting installation at Underpass complete.
xi. Road lighting fitting installation at Public Transport Terminus complete.
xii. E&M installation works at Pillar Box (East portal) to continue.
xiii. E&M installation works at the cleansing pump room (Fresh Water Pumping Station) to continue.
xiv. E&M installation works at the EMF & valve chamber – VC8 (Fresh Water Pumping Station) to continue.
xv. T&C of Fresh Water Pumping Station to continue.
xvi. E&M installation works at the Service Reservoir to continue.
xvii. E&M installation works at Pillar Box (West portal) to continue.
xviii. E&M installation works at F.S. Kiosk (East portal) to continue.

Existing Anderson Road:

- Temporary slope protection works for pipe trough excavation completed.
- Pipe trough construction completed.
- Watermain laying from CHD0~424 completed.
- Water pressure test and swabbing for CHD0~424 completed.
- Trial pits at watermain connection point were excavated to identify existing water pipes. Water connection to be carried out by WSD in late-Jan.

Hiking Trail

- Site Clearance in progress from CH470 to 1000.
- Construction of footpath and staircase in progress from CH1000 to 1910.
- Site clearance is in progressing at B5 due to adverse weather
- Hydroseeding of Hiking Trial completed.

Contract 2 (NE/2016/05)

- Temporary Traffic Arrangement (TTA)
- Soil Nail Construction
- Mass Concrete construction
- Formwork and Falsework installation and dismantling
- Escalator Installation and lifting Tower Construction
- Rebar fixing

Contract 3 (NE/2017/03)

Works in Road Improvement Works 1 (RIW1)

- Construct RC works & backfilling at Type 2 are in-progress.
- Construct socketed H pile at RWC2 Type 3 for piling construction is in-progress.
- Preparation works of drainage diversion at Type 4 is in-progress; after that will carry out watermain diversion.
- Backfilling works at Type 6 to 8 is in-progress.
- Mini-pile works at FE1-PC1b is in-progress
- Excavate works and CLP cable diversion works at CT5 are in-progress.
- Drainage works at KS27 (West Side) also is in-progress; Install sheet pile & ELS works at KS27 (East Side) near Lee Hang House at Shun Lee Estate.

Works in Road Improvement Works 2 (RIW2)

- Construct RC works at RWC3b; Rock excavation & ELS works at RWC3b are

in-progress.
- Install pipe pile wall and protection of existing utilities at CT4 roadside are in-progress.
- Construct mini-pile works at SE2 (hill side toward Sai Keung direction) is in-progress; Excavate for expose utilities and utilities protection / diversion are in-progress.

Works in Road Improvement Works 3 (RIW3)
- Excavate trial pits at Sau Mui Ping Road / Lin Tak Road for watermain alignment confirmation in-progress.
- ELS works and watermain connection works at Sau Mun Ping Road / Hiu Kwong Street Sitting-out Area for watermain connection is in-progress.
- Concreting and backfilling works at RWD1 Bay 1 – 10.
- ELS works at RWD1 Bay 11 – 14 is in-progress.
- Rock excavate at Slope D1 lower portion is in-progress.
- Road works and backfilling works at Slope D2 are in-progress.
- Rock excavation using drill & split method, drainage works and road works at Slope D3 / Lin Tak Road are in-progress.

Pedestrian Connectivity Facility E8 (PC-E8)
- Touch-up outstanding works are in progress.

Pedestrian Connectivity Facility E11 (PC-E11)
- ABWF works and E&M works at LT2 & ST2 are in-progress.
- ABWF works and E&M works at LT1 & ST1 are in-progress.
- ABWF work and E&M works inside the footbridge steel frame are in-progress.

Pedestrian Connectivity Facilities Systems A (PC-SYA)
- ABWF works and E&M works at LT1, LT2 & ST1 are in-progress.
- Erect steel works inside RC structure is in-progress.

Pedestrian Connectivity Facilities Systems B (PC-SYB)
- RC works at SyB-LT1 & ST1 is in-progress.
- Construct pile cap at PC4 & PC6 are in-progress.
- Install sheet-pile and excavation works at PC1 are in-progress.

Tseung Kwan O Bus-Bus Interchange New Public Toilet (BBI-Toilet)
- The completed toilet was handed over to Food and Environmental Hygiene Department on 30 September 2020; Additional works under an instruction is in-progress.

Contract 4 (ED/2020/02)
- Erection of Chain link Fence at site office
- Excavation work for Drainage Works at Portion 2a, 8, 9 & 12
- Excavation work for TDMP at Portion 12.
- GI work at Portion 3, 4 & 12 (CE)
- Backfilling and U-channel construction at RWA10
- Slope works at Portion 10

Contract 5 (ED/2019/02)

Portion 1
- Piling Platform (Stage 2) at E5 – PC1
- Piling Platform Forming at E5-PC3

Portion 2
- Welding Test
- Piling Works
- Grouting Works

Portion 3

- Temporary Timber Platform at E7
- Hand-Digging for CLP diversion work at E7 – F2
- Washed Granolithic Finish at E7
- Chain-link fence & Railing Installation at E7

Portion 4

- Excavation at E10 – F1
- Construction at E10-F3
- Excavation at E10-F1
- WetSep Installation at E10 – F1

2.3.3 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project of contracts 1, 2, 3, 4 and 5 are presented in ***Tables 2-1, 2-2, 2-3, 2-4 and 2-5***.

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 411762	NA	NA	Valid
	Form NB – Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 412730	NA	NA	Valid
2	Chemical Waste Producer Registration	Registration no. WPN 5213-292-C4115-01	15 Feb 17	End of project	Valid
3	Water Pollution Control Ordinance – Discharge License	WT00028050-2017	29 May 17	31 May 22	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no. 7026925	20 Jan 17	End of project	Valid
5	Construction Noise Permit	GW-RE0166-22	2 Mar 22	16 Aug 22	Valid
		GW-RE1335-21	26 Jan 22	25 Jul 22	Valid

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 312173	NA	NA	Valid
2	Chemical Waste Producer Registration	Registration no. WPN 5213-294-K2890-08	7 Jul 17	End of Project	Valid
3	Water Pollution Control	WT00028685-2017	02 Aug 17	31 Aug 22	Valid

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
	Ordinance – Discharge License	WT00028686-2017	02 Aug 17	31 Aug 22	Valid
		WT00028687-2017	02 Aug 17	31 Aug 22	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no.7027548	12 Apr 17	End of project	Valid

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air Pollution Control (Construction Dust) Regulation	EPD ref. no. 434186	31-May-18	NA	Valid
2	Chemical Waste Producer Registration	**For Area R1W3 (E11)** Registration no. WPN : 5213-294-C4239-04	6-Aug-18	End of Project	Valid
		For Area System A Registration no. WPN: 5213-293-C4239-05	6-Aug-18	End of Project	Valid
		For Area System B Registration no. WPN 5213-294-C4239-03	6-Aug-18	End of Project	Valid
		For Area E8 Registration no. WPN 5213-292-C4239-06	6-Aug-18	End of Project	Valid
3	Water Pollution Control Ordinance – Discharge License	**For Area R1W3 (E11)** WT00032742-2018	18-Jan-19	31-Jan-24	Valid
		For Area System A WT00033223-2019	31-Jan-19	31-Jan-24	Valid
		For Area System B WT00033229-2019	24-Jun-19	30-Jun-24	Valid
		For Area E8 WT00033224-2019	21-Mar-19	31-Mar-24	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no.7031075	20-Jun-18	End of project	Valid

Table 2-4 Status of Environmental Licenses and Permits of the Contract 4

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification	EPD ref. no. 470496	19 August 2021	NA	Valid

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
	pursuant to Air Pollution Control (Construction Dust) Regulation				
2	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no. 7041336	6 September 2021	NA	Valid
3	Chemical Waste Producer Registration	Registration no. WPN 5213-296-C1206-12	14 September 21	End of project	Valid
4	Water Pollution Control Ordinance – Discharge License	Case no. 477293	In Progress		

Table 2-5 Status of Environmental Licenses and Permits of the Contract 5

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air Pollution Control (Construction Dust) Regulation	EPD ref. no. 466255	NA	NA	Valid
2	Chemical Waste Producer Registration	Registration no. WPN 5298-293-W3611-01	12 May 21	End of project	Valid
3	Water Pollution Control Ordinance – Discharge License	WT00039694-2021	16 Nov 21	30 Nov 26	Valid
		WT00040919-2022	5 May 22	31 May 27	Valid
		WT00040670-2022	28 Mar 22	31 Mar 27	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no. 7040359	3 May 21	NA	Valid

3. SUMMARY OF IMPACT MONITORING REQUIREMENTS

3.1 GENERAL

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

3.1.2 A summary of construction phase EM&A requirements are presented in the sub-sections below.

3.2 MONITORING PARAMETERS

THE EM&A PROGRAM OF CONSTRUCTION PHASE MONITORING SHALL COVER THE FOLLOWING ENVIRONMENTAL ISSUES:

- Air quality; and
- Construction noise

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

Table 3-1 Summary of EM&A Requirements

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

3.3 MONITORING LOCATIONS

3.3.1 According to the EM&A Manual Section 4.6, seven (7) most representative and affected air sensitive receivers (ASR) were selected as air monitoring stations (AQM). During site visit at the subject site before the baseline monitoring, it was noted that some planned ASRs identified in the EM&A Manual are still under construction/ has not yet constructed and there were no suitable location to set up the high volume sampler to carry out the baseline 24-hour TSP monitoring. Therefore, a proposed change for the baseline monitoring programme was submitted and agreed by EPD before the baseline monitoring. The impact air quality monitoring locations are listed in ***Table 3-2*** and illustrated in ***Appendix D.***

Table 3-2 Impact Monitoring Stations – Air Quality

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

ID	ASR ID in EIA	Location in the EM&A Manual	Identified Location during Site Visit	Status
			project site	
AMS-6	DARE-17	Block 9, Site E	Main roof of Hau Tat House of On Tat Estate facing the project site	Active
AMS-7	AMYT-04	Ma Yau Tong Village	Balcony at 2nd floor of Village House Anderson Road No. 1 facing the project site	Active

Note 1: The ASR is under construction.

(#) AMS-2 was activated on 26 November 2018 since Fung Tai House became an air sensitive receiver. 1-hour TSP monitoring was commenced on 26 November 2018 while installation of HVS for 24-hour TSP was pending approval from Housing Authority.

(*) 24-hour TSP monitoring at AMS1 was abandoned since May 2019 due to lack of power supply and the landlord was unreachable. The alternation location of AMS1a was activated on 15 June 2019 for 1-hour and 24-hour TSP monitoring. The proposal was agreed by EPD on 9 Aug 2019.

(:) AMS-3 was effective on 3 December 2019.

Construction Noise

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

Table 3-3 Impact Monitoring Stations – Construction Noise

ID	NSR ID in EIA	Location	Status
NMS-1	Site C2 – School 05 Note 1	Ground of planned school at DAR facing the project site	Not yet commenced
NMS-2 (@)	Site E – School	Rooftop of S.K.H. St. John's Tsang Shiu Tim Primary School, where 1m from the exterior of the building facing the project site	Active
NMS-3(:)	Site C2 – R102	Ground of Ancillary Facilities Building facing the project site	Active
NMS-4*	Oi Tat House	1m from the exterior of ground floor façade of Oi Tat House of On Tat Estate facing the project site	Suspended
NMS-4a #	Oi Tat House	Rooftop of Oi Tat House where 1m from the exterior of Oi Tat House facing the project site	Active
NMS-5#	Hau Tat House	22/F, refuge floor of Hau Tat House where 1m from the exterior of Hau Tat House facing the project site.	Active
NMS-6~	Yung Tai House of On Tai Estate	Rooftop of Yung Tai House where 1m from the exterior of the building facing the project site)	Active
NMS-7~	Chi Tai House of On Tai Estate	Rooftop of Chi Tai House where 1m from the exterior of the building facing the project site	Active

ID	NSR ID in EIA	Location	Status
NMS-8^	No. 3-4 Ma Yau Tong Village	1m from the exterior of the building façade and facing the construction site	Active

Note 1: Construction of the NSR is not yet commenced.

(*) Additional noise monitoring location was recommended by RE and agreed by IEC. It was temporary suspended and the monitoring location is relocated to NMS4a with effective on 15 Nov 2017.

(@) NMS-2 was effective on 15 November 2019.

(:) NMS-3 was effective on 3 December 2019

(#) Review of noise monitoring locations was proposed by ET and NMS-5 was effective on 15 November 2017.

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

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

Addition Construction Noise Monitoring Location

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

Table 3-4 Additional Impact Monitoring Stations – Construction Noise

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

3.4 MONITORING FREQUENCY AND PERIOD

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

Air Quality Monitoring

3.4.2 Frequency of impact air quality monitoring is as follows:

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

Noise Monitoring

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

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

3.5 MONITORING EQUIPMENT

Air Quality Monitoring

3.5.1 The 24-hour and 1-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the *Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50)*, Appendix *B*. If the ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, it shall submit sufficient information to the IEC to prove that the instrument is capable of achieving a comparable results to the HVS. The instrument should be calibrated regularly, and the 1-hour sampling shall be determined on yearly basis by the HVS to check the validity and accuracy of the results measured by direct reading method. The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.

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

Table 3-5 Air Quality Monitoring Equipment

Equipment		Model
24-hour TSP	High Volume Air Sampler	TISCH High Volume Air Sampler, HVS Model TE-5170
	Calibration Kit	TISCH Model TE-5025A
1- hour TSP	Portable Dust Meter	Sibata LD-3B Laser Dust Monitor

Noise Monitoring

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

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

Table 3-6 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	NL-31, NL-52
Calibrator	NC-75
Portable Wind Speed Indicator	Anemometer AZ Instrument 8908

3.6 MONITORING METHODOLOGY

1-hour TSP

3.6.1 The 1-hour TSP monitor was a brand named "Sibata LD-3 Laser Dust monitor Particle Mass Profiler & Counter" which is a portable, battery-operated laser photometer. The 1-hour TSP meter provides a real time 1-hour TSP measurement based on 90^{o} light scattering. The 1-hour TSP monitor consists of the following:

(a.) A pump to draw sample aerosol through the optic chamber where TSP is measured;

(b.) A sheath air system to isolate the aerosol in the chamber to keep the optics clean for maximum reliability; and

(c.) A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

3.6.2 The 1-hour TSP meter to be used will be within the valid period, calibrated by the manufacturer prior to purchasing. Zero response of the instrument will be checked before and after each monitoring event.

24-hour TSP

3.6.3 The equipment used for 24-hour TSP measurement is Thermo Andersen Model GS2310 TSP high volume air sampling system, which complied with *EPA Code of Federal Regulation, Appendix B to Part 50*. The High Volume Air Sampler (HVS) consists of the following:

(a.) An anodized aluminum shelter;
(b.) A 8"x10" stainless steel filter holder;
(c.) A blower motor assembly;
(d.) A continuous flow/pressure recorder;
(e.) A motor speed-voltage control/elapsed time indicator;
(f.) A 7-day mechanical timer, and
(g.) A power supply of 220v/50 Hz

3.6.4 For HVS for 24-hour TSP monitoring, the HVS is mounted in a metallic cage with a top for protection and also it is sat on the existing ground or the roof of building. The flow rate of the HVS between 0.6m^3/min and 1.7m^3/min will be properly set in accordance with the manufacturer's instruction to within the range recommended in *EPA Code of Federal Regulation, Appendix B to Part 50*. Glass Fiber Filter 8" x 10" of TE-653 will be used for 24-Hour TSP monitoring and would be supplied by laboratory. The general procedures of sampling are described as below:-

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

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

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

Noise Monitoring

3.6.7 As referred to in the Technical Memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804:1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

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

3.6.9 The sound level meter will be mounted d on a tripod at a height of 1.2 m and placed at the assessment point and oriented such that the microphone is pointed to the site with the microphone facing perpendicular to the line of sight. The windshield will be fitted for all measurements. Where a measurement is to be carried out at a building, the assessment point would normally be at a position 1 m from the exterior of the building façade. Where a measurement is to be made for noise being received at a place other than a building, the assessment point would be at a position 1.2 m above the ground in a free-field situation, i.e. at least 3.5 m away from reflective surfaces such as adjacent buildings or walls.

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

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

3.6.12 The sound level meter and calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis. The calibration certificates of all monitoring equipment used for the impact monitoring program in the Reporting Period is attached in ***Appendix E***.

Meteorological Information

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

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

3.7.1 The baseline results form the basis for determining the environmental acceptance criteria for the impact monitoring. According to the approved Environmental Monitoring and Audit Manual, the air quality, construction noise were set up, namely Action and Limit levels are listed in ***Tables 3-7 and 3-8***.

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

Monitoring Station	Action Level (μg /m³)		Limit Level (μg/m³)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
AMS-1	313	154	500	260

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

(*) 24-hour TSP monitoring at AMS1 was abandoned since May 2019 due to lack of power supply and the landlord was unreachable. The alternation location of AMS1a was activated on 15 June 2019 for 1-hour and 24-hour TSP monitoring. The proposal was agreed by EPD on 9 Aug 2019.

Table 3-8 Action and Limit Levels for Construction Noise

Monitoring Location	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
NMS-1	When one or more documented complaints are received	***70*** dB(A)[Note 1]/ ***65*** dB(A)[Note 1]
NMS-2(@)		
NMS-3(:)		***75*** dB(A)
NMS-4*		***75*** dB(A)
NMS-4a#		***75*** dB(A)
NMS-5#		***75*** dB(A)
NMS-6~		***75*** dB(A)
NMS-7~		***75*** dB(A)
NMS-8^		***75*** dB(A)
CN1+		***70*** dB(A)[Note 1]/ ***65*** dB(A)[Note 1]
CN2+		***70*** dB(A)[Note 1]/ ***65*** dB(A)[Note 1]
CN3+		***75*** dB(A)

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

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

Remark: (*) Additional noise monitoring location was recommended by RE and agreed by IEC. It was temporary suspended and the monitoring location is relocated to NMS4a with effective on 15 Nov 2017.

(@) NMS-2 was effective on 15 November 2019.

(:) NMS-3 was effective on 3 December 2019

(#) Review of noise monitoring locations was proposed by ET and NMS-5 was effective on 15 Nov 2017.

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

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

(+) Additional noise monitoring locations as instructed by AECOM which effective in Dec 18.

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

3.8 DATA MANAGEMENT AND DATA QA/QC CONTROL

3.8.1 All monitoring data will be handled by the ET's in-house data recording and management system. The monitoring data recorded in the equipment will be downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data will input into a computerized database properly maintained by the ET. The laboratory results will be input directly into the computerized database and checked by personnel other than those who input

the data.

3.8.2 For monitoring parameters that require laboratory analysis, the local laboratory shall follow the QA/QC requirements as set out under the HOKLAS scheme for the relevant laboratory tests.

4. AIR QUALITY MONITORING

4.1 GENERAL

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

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

4.3 RESULTS OF AIR QUALITY MONITORING

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

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

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
3-May-22	26	4-May-22	13:17	65	61	62
7-May-22	10	12-May-22	13:38	61	64	63
13-May-22	13	16-May-22	9:06	50	54	52
19-May-22	25	21-May-22	9:03	56	59	61
25-May-22	13	27-May-22	9:08	62	60	61
31-May-22	27					
Average (Range)	**19 (10– 27)**	Average (Range)		**59 (50 – 65)**		

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

1-hour TSP (μg/m³)				
Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
4-May-22	15:14	68	65	64
12-May-22	13:58	62	65	63
16-May-22	9:31	55	59	57
21-May-22	9:27	64	69	67
27-May-22	9:37	58	59	64
Average (Range)		**63 (55 – 69)**		

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

1-hour TSP (μg/m³)				
Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
4-May-22	14:21	67	63	61
12-May-22	14:10	64	60	62
16-May-22	9:42	54	59	57
21-May-22	9:48	57	54	59
27-May-22	9:52	60	58	59
Average (Range)		**60 (54 – 67)**		

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

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
3-May-22	22	4-May-22	9:37	81	75	76
7-May-22	16	12-May-22	9:24	66	69	68
13-May-22	10	16-May-22	14:24	60	63	65
19-May-22	37	21-May-22	14:01	70	71	68
25-May-22	13	27-May-22	14:06	65	66	69
31-May-22	13					
Average (Range)	**18 (10 – 37)**	Average (Range)		**69 (60 – 81)**		

Table 4-5 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-6)

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
3-May-22	33	4-May-22	10:15	83	79	78
7-May-22	22	12-May-22	9:12	65	68	69
13-May-22	9	16-May-22	14:11	61	64	67
19-May-22	37	21-May-22	13:48	80	74	75
25-May-22	16	27-May-22	13:51	76	79	78
31-May-22	18					
Average (Range)	**23 (9 – 37)**	Average (Range)		**73 (61 – 83)**		

Table 4-6 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-7)

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
3-May-22	86	4-May-22	9:10	62	66	65
7-May-22	52	12-May-22	10:01	65	60	61
13-May-22	48	16-May-22	13:48	55	59	61
19-May-22	19	21-May-22	13:32	61	63	60
25-May-22	21	27-May-22	13:28	67	70	66
31-May-22	22					
Average (Range)	**42 (19 – 86)**	Average (Range)		**63 (55 – 70)**		

4.3.2 As shown in ***Tables 4-1 to 4-6***, all the 1-hour TSP and 24-hour TSP monitoring results in the Reporting Period were below the Action and Limit Levels. No Notification of Exceedance (NOE) was issued in this Reporting Period.

4.3.3 The meteorological data during the impact monitoring days are summarized in ***Appendix J***.

5. CONSTRUCTION NOISE MONITORING

5.1 GENERAL

5.2.1 In the Reporting Period, noise monitoring was performed at designated monitoring locations NMS2 and NMS3 and the additional monitoring locations NMS4a, NMS5, NMS6, NMS7 and NMS8. No monitoring was conducted at the designated monitoring locations NMS1 since they are the planned NSR and still under the construction.

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

5.2.3 The noise monitoring schedule is presented in ***Appendix G*** and the monitoring results are summarized in the following sub-sections.

5.3 NOISE MONITORING RESULTS IN REPORTING MONTH

5.3.1 In the Reporting Period, a total of **34** events noise measurements were carried out at the designated locations under Contract 1. The noise monitoring results at the designated locations are summarized in ***Tables 5-1.*** The detailed noise monitoring data are presented in ***Appendix H*** and the relevant graphical plots are shown in ***Appendix I***.

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

Construction Noise Level ($L_{eq30min}$), dB(A)						
Date	**NMS2**	**NMS3**	**NMS4a**	**NMS5**	**NMS6**	**NMS7**
4-May-22	63	63	67	67	67	65
12-May-22	62	62	66	66	66	66
16-May-22	62	62	65	65	65	63
21-May-22	62	62	66	69	66	66
27-May-22	63	63	67	68	68	68
Limit Level	***70*** dB(A) / ***65*** dB(A)[Note 1]	**75 dB(A)**				

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

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

Construction Noise Level ($L_{eq30min}$), dB(A)	
Date	**NMS8**
4-May-22	59
13-May-22	59
21-May-22	61
27-May-22	65
Limit Level	**75 dB(A)**

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

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

Construction Noise Level ($L_{eq30min}$), dB(A)			
Date	**CN1**	**CN2**	**CN3**
4-May-22	60	62	61
13-May-22	61	63	61
21-May-22	61	61	62
27-May-22	63	62	65

Construction Noise Level ($L_{eq30min}$), dB(A)			
Date	**CN1**	**CN2**	**CN3**
Limit Level	***70*** dB(A) / ***65*** dB(A)[Note 1]	***70*** dB(A)[Note 1] / ***65*** dB(A)[Note 1]	**75 dB(A)**

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

5.3.3 As shown in ***Tables 5-1 and 5-2,*** no Limit Level exceedance was recorded in this Reporting Period. No noise complaint (which triggered Action level exceedance) was received under the Project.

6. WASTE MANAGEMENT

6.1 GENERAL WASTE MANAGEMENT

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

6.3 RECORDS OF WASTE QUANTITIES

6.3.1 All types of waste arising from the construction work are classified into the following:

- Construction & Demolition (C&D) Material;
- Chemical Waste;
- General Refuse; and
- Excavated Soil.

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

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

Type of Waste	Contract 1		Contract 2		Contract 3		Contract 4		Contract 5	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Total generated Inert C&D Materials ('000m^3) (#)	3.665	-	0.04	-	2.08	-	0	-	0.279	-
Hard Rock and Large Broken Concrete ('000m^3)	0	-	0	-	0	-	0	-	0.279	-
Reused in this Contract (Inert) ('000m^3)	0	-	0	-	0.094	-	0	-	0	-
Reused in other Projects (Inert) ('000m^3)	3.081	*	0	-	0	-	0	-	0	-
Disposal as Public Fill (Inert) ('000m^3)	0.584	TKO 137	0.04	**TKO 137**	1.986	TKO 137	0	-	0.279	-

Remark (#): The total generated inert C&D materials will not take account for the hard rock and large broken concrete.
(*) Approved alternative disposal ground.

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

Type of Waste	Contract 1		Contract 2		Contract 3		Contract 4		Contract 5	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Recycled Metal ('000kg)	0	-	0	-	0	-	0	-	0	-
Recycled Paper / Cardboard Packing ('000kg)	0.813	-	0	-	0	-	0	-	0	-
Recycled Plastic ('000kg)	0	-	0	-	1.456	Licensed collector	0	-	0	-
Chemical Wastes ('000kg)	0	-	0	-	0	-	0	-	0	-
General Refuses ('000m^3)	0.123	SENT	0.03	SENT	0.016	SENT	0.002	SENT	0.008	SENT

7. SITE INSPECTION

7.1 REQUIREMENTS

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

7.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH

Contract 1

7.2.1 In the Reporting Period, joint site inspections for Contract 1 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **5, 10, 17, 24 and 31 May 2022** in which IEC joined the site inspection with SSEMC on **5 May 2022**. No non-compliance was noted. The findings / deficiencies of ***Contract 1*** that observed during the weekly site inspection are listed in ***Table 7-1***.

Table 7-1 Site Observations of Contract 1

Date	Findings / Deficiencies	Follow-Up Status
5 May 2022	• No adverse environmental issue was observed during site inspection	• NA
10 May 2022	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to maintain water mitigation measures in wet seasons	• NA • Reminder only
17 May 2022	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to clean U-channel regularly.	• NA • Reminder only
24 May 2022	• No adverse environmental issue was observed during site inspection • The Contractor was reminded to implement proper water mitigation measures during wet seasons	• NA • Reminder only
31 May 2022	• No adverse environmental issue was observed during site inspection	• NA

Contract 2

7.2.2 In the Reporting Period, joint site inspections for Contract 2 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **4, 11, 18 and 25 May 2022** in which IEC joined the site inspection with SSEMC on **25 May 2022**. No non-compliance was noted. The findings / deficiencies of ***Contract 2*** that observed during the weekly site inspection are listed in ***Table 7-2***.

Table 7-2 Site Observations of Contract 2

Date	Findings / Deficiencies	Follow-Up Status
4 May 2022	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to improve housekeeping at Portion 2.	• NA • Reminder only
11 May 2022	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to clean U-channel regularly within site area in wet seasons.	• NA • Reminder only
18 May 2022	• Construction materials was observed near	• Construction materials

Date	Findings / Deficiencies	Follow-Up Status
	retained tree at Portion 2. The Contractor was advised to remove it. • Soil accumulation was observed in u-channel at Portion 2. The Contractor was advised to clean u-channel to prevent overflow. • The Contractor was advised to remove general waste at Portion 2.	were removed and tree protection zone was rectified • Accumulated soil was removed from U-channel • General waste was removed at Portion 2.
25 May 2022	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to cover construction materials properly under scaffolding at E3.	• Channel at Portion 2 has been cleaned. • Reminder only.

Contract 3

7.2.3 In the Reporting Period, joint site inspections for Contract 3 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **6, 13, 20 and 27 May 2022** in which IEC joined the site inspection with SSEMC on **13 May 2022**. No non-compliance was noted. The findings / deficiencies of ***Contract 3*** that observed during the weekly site inspection are listed in ***Table 7-3***

Table 7-3 Site Observations of Contract 3

Date	Findings / Deficiencies	Follow-Up Status
6 May 2022	• No adverse environmental issue was observed during site inspection.	• NA
13 May 2022	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to dispose construction waste on site regularly	• NA • Reminder only
20 May 2022	• No adverse environmental issue was observed during site inspection.	• NA
27 May 2022	• The Contractor was advised to dispose the construction waste regularly at E8. • The Contractor was reminded to clean the accumulated water on site.	• Construction waste was covered. • Reminder only

Contract 4

7.2.4 In the Reporting Period, joint site inspections for Contract 4 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **4, 11, 17 and 25 May 2022** in which IEC joined the site inspection with SSEMC on **17 May 2022**. No non-compliance was noted. The findings / deficiencies of ***Contract 4*** that observed during the weekly site inspection are listed in ***Table 7-4***

Table 7-4 Site Observations of Contract 4

Date	Findings / Deficiencies	Follow-Up Status
4 May 2022	• The Contractor was advised to provide drip tray for chemical containers at Portion 3 and Portion 12	• Drip tray has been provided in Portion 3 and Chemical containers have been removed from Portion 12.

Date	Findings / Deficiencies	Follow-Up Status
11 May 2022	• Retention pool is completely filled in Portion 12. The Contractor was advised to provide water pump and implement muddy water mitigation measures	• Wetseps and water pump are provided
17 May 2022	• No adverse environmental issue was observed during site inspection • Excavator without NRMM label was observed. The Contractor was reminded to check whether it is required to provide NRMM label	• NA • Reminder only
25 May 2022	• The Contractor was advised to place water pump inside retention pool at Portion 12.	• Water pump was placed inside retention pool.

Contract 5

7.2.5 In the Reporting Period, joint site inspections for Contract 5 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **5, 12, 19 and 26 May 2022** in which IEC joined the site inspection with SSEMC on **19 May 2022**. No non-compliance was noted. The findings / deficiencies of ***Contract 5*** that observed during the weekly site inspection are listed in ***Table 7-5***

Table 7-5 Site Observations of Contract 5

Date	Findings / Deficiencies	Follow-Up Status
5 May 2022	• The Contractor was advised to clear stagnant water inside drip tray at E6. • The Contractor was reminded to provide proper tree protection zone for retained tree at E10.	• Stagnant water has been removed from drip tray • Reminder only
12 May 2022	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to treat rainwater before discharge. • The Contractor was reminded to pump accumulated water away from U-channel and drip trays regularly in wet seasons.	• NA • Reminder only • Reminder only.
19 May 2022	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to ensure the waste water treatment system function properly.	• NA • Reminder only
26 May 2022	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to improve house-keeping at E6.	• NA • Reminder only.

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.1.1 In the Reporting Period, three (3) environmental complaints were received regarding to water quality for Contract 1. Besides, no summons and prosecution under the EM&A Programme was lodged for the project. Investigation for the complaint was undertaken and presented in following sections.

Complaint received by ET on 11 May 2022

8.1.2 DSD carried out site inspection at catchpit SSH4001400 near Tin Hau Temple and the stepped channel off Po Lam Road after the rain the afternoon on 11 May 2022 and noted that siltation and discharge of muddy water was observed at the public drainage system.

8.1.3 According to the subsequent emails from DSD on 12 May 2022 and 13 May 2022, discharge of muddy water at the drainage discharge points were still observed in the morning on 12 May 2022 and 13 May 2022

8.1.4 With reference to weather information from the Hong Kong Observatory (HKO), there was heavy rainstorm on 11, 12 and 13 May 2022 with daily total rainfall of 61.4mm, 123.5mm and 107.1mm in Hong Kong respectively. Due to continuous unstable weather and successive heavy rainfall, large amount of storm runoff from roads and landscape would be flushed into the public drainage, which deteriorated the water quality in the drainage system.

8.1.5 Upon receipt the complaint, on-site checking was immediately conducted by representative of Resident Site Staff (RSS) and the Contractor on 11, 12 and 13 May 2022. It is noted that the majority areas of the Anderson Road Quarry Site have been handed over to other contractor for further development. Each interfacing contractors should have been granted a licence for discharge under the Water Pollution Control Ordinance.

8.1.6 Regular joint site inspection among the RSS, Contractor and ET was carried out on weekly basis to audit the environmental performance. During site inspection on 10 May 2022, wastewater treatment facilities were implemented and no water pollutant problem or silty water discharge were observed

8.1.7 As a matter of fact, heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. Based on the above findings and successive heavy rainstorm on 11 to 13 May 2022, it is considered the muddy water found in the concerned catchpit SSH4001400 near Tin Hau Temple and Po Lam Road on 11 to 13 May 2022 were likely caused by impact of rainstorm and partially contributed by the interfacing contractors at Sites R2-9 & R2-10. The relevant contractors were reminded afterwards to properly treat their waste water before discharge.

Complaint received by ET on 17 May 2022

8.1.8 EPD received complaint from DSD on 14 and 16 May 2022 concerning about muddy water observed entering Tsui Ping River.

8.1.9 With reference to weather information from the Hong Kong Observatory, there was successive rainfall during 13 to 16 May 2022. Due to continuous unstable weather and successive rainfall, large amount of storm runoff from roads and landscape would be flushed into the public drainage, which deteriorated the water quality in the drainage system.

8.1.10 Upon receipt the complaint, on-site checking was immediately conducted by representative of Resident Site Staff (RSS) and the Contractor on 14 and 16 May 2022. It is noted that the majority areas of the Anderson Road Quarry Site have been handed over to other contractors for further development. Each interfacing contractor should have been granted a licence for discharge under the Water Pollution Control Ordinance.

8.1.11 Regular joint site inspection among the RSS, Contractor and ET was carried out on weekly basis to audit the environmental performance. During site inspection on 17 May 2022, it was observed as wastewater mitigation measures, such as wastewater treatment facilities were

implemented and operational on site and exposed slopes were covered with tarpaulin sheet to mininise silty runoff. No sign of deposition of silts were oberved near the outfall of West Portal and Q2.

8.1.12 As a matter of fact, heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. Besides, there were several construction sites at upstream of Tsui Ping River. It is considered that complaint mainly related to the interfacing contractor(s) and unlikely to have been caused by the project.

Complaint received by ET on 27 May 2022

8.1.13 EPD received complaint from DSD on 27 May 2022 concerning about muddy water observed entering Tsui Ping River, with similar situation observed at Tin Hau Temple and Po Lam Road.

8.1.14 With reference to weather information from the Hong Kong Observatory, there was heavy rainfall on 27 May 2022 with total rainfall of 24.7mm. Due to heavy rainstorm, large amount of storm runoff from roads and landscape would be flushed into the public drainage, which deteriorated the water quality in the drainage system. Upon receipt the complaint, on-site checking was immediately conducted by representative of Resident Site Staff (RSS) and the Contractor on 27 May 2022. It is noted that the majority areas of the Anderson Road Quarry Site have been handed over to other contractors for further development. Each interfacing contractor should have been granted a licence for discharge under the Water Pollution Control Ordinance. The findings during the on-site checking are presented as below:-

(a) Discharge of silty water at Q3 from Site R2-9 (interfacing contractor) was observed in the morning of 27 May 2022, which eventually flowed to the stepped channel off Po Lam Road.

(b) Inflatable plugs have been installed at all three outlets of USRT since April 2022 and successfully stored the muddy water collected from Sites R2-2 and RS-1 for treatment. The discharge at Q2 were controlled and treated and unlikely to have caused the muddy condition seen near Tin Hau Temple.

(c) Other areas, such as Anderson Road and Road L4 were all found normal during inspection on 27 May 2022.

8.1.15 Regular joint site inspection among the RSS, Contractor and ET was carried out on weekly basis to audit the environmental performance. During site inspection on 24 and 31 May 2022, it was observed as wastewater mitigation measures, such as wastewater treatment facilities were implemented and operational on site and exposed slopes were covered with tarpaulin sheet to mininise silty runoff. No sign of deposition of silts were oberved in the U-channel at +185mPD platform. In gereal, haul roads within the site were hard paved and no water quality impact was observed.

8.1.16 As a matter of fact, heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. Besides, there were several construction sites at upstream of Tsui Ping River. It is considered that complaint mainly related to the interfacing contractor(s) and unlikely to have been caused by the project.

8.1.17 The complaint log and Investigation Reports issued in the Reporting Period are shown in ***Appendix M.***

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

Table 8-1 Statistical Summary of Environmental Complaints

Reporting Period	Contract no.	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
1 Apr 2017 – 30 April 2022	1	0	**54**	**Dust, Noise and light nuisance**

Reporting Period	Contract no.	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
21 Mar 2017 – 30 April 2022	2	0	**10**	**Noise**
31 May 2018 – 30 April 2022	3	0	**8**	**Waste Management, Noise, Water Quality**
27 Sep 2021 – 30 April 2022	4	0	**0**	NA
30 Mar 2021 – 30 April 2022	5	0	**0**	NA
1 – 31 May 2022	1	3	**57**	Water Quality
	2	0	**10**	NA
	3	0	**8**	NA
	4	0	**0**	NA
	5	0	**0**	NA

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Contract no.	Environmental Summons Statistics		
		Frequency	Cumulative	Summons Nature
1 Apr 2017 – 30 April 2022	1	0	0	NA
21 Mar 2017 – 30 April 2022	2	0	0	NA
31 May 2018 – 30 April 2022	3	0	0	NA
27 Sep 2021 – 30 April 2022	4	0	0	NA
30 Mar 2021 – 30 April 2022	5	0	0	NA
1 – 31 May 2022	1	0	0	NA
	2	0	0	NA
	3	0	0	NA
	4	0	0	NA
	5	0	0	NA

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Contract no.	Environmental Prosecution Statistics		
		Frequency	Cumulative	Prosecution Nature
1 Apr 2017 – 30 April 2022	1	0	0	NA
21 Mar 2017 – 30 April 2022	2	0	0	NA
31 May 2018 – 30 April 2022	3	0	0	NA
27 Sep 2021 – 30 April 2022	4	0	0	NA
30 Mar 2021 – 30 April 2022	5	0	0	NA
1 – 31 May 2022	1	0	0	NA
	2	0	0	NA
	3	0	0	NA
	4	0	0	NA
	5	0	0	NA

9. IMPLEMENTATION STATUS OF MITIGATION MEASURES

9.1 GENERAL REQUIREMENTS

9.1.1 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the approved EM&A Manual covered the issues of dust, noise, water and waste and they are summarized presented in ***Appendix L.***

9.1.2 All contracts under the Project shall be implementing the required environmental mitigation measures according to the approved EM&A Manual as subject to the site condition. Environmental mitigation measures generally implemented in this Reporting Period are summarized in ***Table 9-1***.

Table 9-1 Environmental Mitigation Measures

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

9.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

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

Temporary Traffic Arrangement (TTA) at On Sau Road:
- Implementation of TTA at the junction between On Sau Road and Road L4 for road improvement works to continue.

Pedestrian Connectivity System B:
- Bamboo Scaffold Erection for external ABWF works

Box Culvert BC1 at Internal Road L1:
- Defect rectification work to continue
- Slurry removal to continue
- Cat ladder installation complete
- Material of Multi-part cover will arrive in early December 2021.

Construction of Internal Road L1:
- Excavation and laying of watermain to continue.
- Road work, footpath and cycle track at L1 east to continue.

- Gullies and upper drainage construction for road L1 west to continue.

Artificial Flood Attenuation Lake:
- To continue the drainage works (the remaining part: S114 manhole and drainpipe direct to existing catchpit).
- To commence the installation works of Floating Bridge.
- To continue the additional guide post extension for Floating Bridge.

Slope Stabilization at Portion B5:
- Continue to erect inspection scaffolds from 2nd to 5th berm.
- Continue to carry out stabilization works at Feature No. 11NE-D/C949 and 11NE-D/C948.

Cavern (Portion B5):
- Rock fall fence installation complete.
- Rock breaking of existing slope at Ch200-248 on level +196 - 202mPD complete.
- Rock dowel construction to continue.
- Drilling of Portal to continue.
- Planter wall construction to continue.
- UC construction at CH248 +198.5mPD berm in progress.
- Construction of Inspection scaffold on temporary triangle bracket was completed and rock mapping will be completed in late February 2022.
- UC construction at +230mPD berm to continue.
- Buttress construction and spray concrete at Ch0-150 on +230 to +250 completed.

MEP Works:
- Submission of designs and materials related to MEP works in progress.
- E&M installation works at PTT in progress to continue.
- E&M installation works at Pump Hall of Fresh Water Pumping Station in progress.
- E&M installation works at Pedestrian Connectivity System B in progress.
- E&M installation works at Underground Stormwater Retention Tank in progress.
- E&M installation works at Underpass in progress
- E&M installation works at Pillar Box (Underground Stormwater Retention Tank) in progress.
- E&M installation works at Pillar Box (East portal) in progress.
- E&M installation works at the cleansing pump room (Fresh Water Pumping Station) in progress.
- E&M installation works at the EMF & valve chamber – VC8 (Fresh Water Pumping Station) in progress.
- Energization of Fresh Water Pumping Station on mid of January 2022.
- T&C of Fresh Water Pumping Station in progress.
- E&M installation works at the Service Reservoir to be commence.
- E&M installation works at Pillar Box (West portal) to be commence.
- E&M installation works at F.S. Kiosk (East portal) to be commence.
- E&M installation works at Pedestrian Connectivity System A to commence.

Road Improvement Works at Po Lam Road:
- Construction of permanent footpath and surface drainage system complete
- Excavation works to facilitate installation of the E&M/ACT/Earth pit and construction of permanent footpath and surface drainage system complete
- Construct concrete carriageway and footpath completed
- Install beam barrier complete
- Construct Island in progress
- Implement stage 3 TTA

Internal Road L4, Pedestrian Connectivity System A, Noise Barrier, RWA12 and RWA18:

- Backfilling G200 rock at RWA12 to continue
- Drainage, sewerage construction in progress
- UU installation in progress
- Watermain laying in progress.
- Ducting installation works for street lighting in progress.
- Forming road formation and laying subbase in progress.

PTT

- Lighting system and PMMA panel installation to continue, concrete pavement construction, kerb laying and noise barrier works would continue.

Hiking Trail (Portion B5):

- Waiting for AECOM issue new design and new material specification

Existing Anderson Road

- Pipe trough construction to continue.

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

- Temporary Traffic Arrangement (TTA)
- Mass Concrete construction
- Formwork and Falsework installation and dismantling
- Lifting Tower Construction and lift installation
- Rebar fixing

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

Works in Road Improvement Works 1 (RIW1)

- Construct RC works & backfilling at Type 2 are in-progress.
- Construct socketed H pile at RWC2 Type 3 for piling construction are in-progress; Rock excavation at RWC2 Type 3 are in-progress.
- Preparation works of drainage diversion at Type 4 is in-progress.
- Backfilling works at Type 6 to 8 is in-progress.
- Mini-pile works at FE1-PC1b is in-progress.
- Excavate trial pit works at CT5 is in-progress.
- Drainage works at KS27 (West Side) also is in-progress; Install sheet pile & ELS works at KS27 (East Side) near Shun Lee Estate.

Works in Road Improvement Works 2 (RIW2)

- Construct RC works at RWC3b; Rock excavation & ELS works at RWC3b are in-progress.
- Install pipe pile wall at CT4 roadside is in-progress.
- Construct mini-pile works at SE2 (hill side toward Sai Keung direction) is in-progress; Excavate for expose utilities and utilities protection / diversion are in-progress.

Works in Road Improvement Works 3 (RIW3)

- Excavate trial pits at Sau Mui Ping Road / Lin Tak Road for watermain alignment confirmation in-progress.
- Concreting and backfilling works at RWD1 Bay 1 – 10.
- ELS works at RWD1 Bay 11 – 14 is in-progress.
- Rock excavate at Slope D1 lower portion is in-progress.
- Road works and backfilling works at Slope D2 are in-progress.
- Rock excavation using drill & split method, drainage works and road works at Slope D3 / Lin Tak Road are in-progress.

Pedestrian Connectivity Facility E8 (PC-E8)

- Touch-up outstanding works are in progress.

Pedestrian Connectivity Facility E11 (PC-E11)
- ABWF works and E&M works at LT2 & ST2 are in-progress.
- ABWF works and E&M works at LT1 & ST1 are in-progress.
- ABWF work and E&M works inside the footbridge steel frame are in-progress.

Pedestrian Connectivity Facilities Systems A (PC-SYA)
- ABWF works and E&M works at LT1, LT2 & ST1 are in-progress.
- Erect steel works inside RC structure is in-progress.

Pedestrian Connectivity Facilities Systems B (PC-SYB)
- RC works at SyB-LT1 & ST1 is in-progress.
- Construct pile cap at PC4 & PC6 are in-progress.
- Install sheet-pile and excavation works at PC1 are in-progress.

Tseung Kwan O Bus-Bus Interchange New Public Toilet (BBI-Toilet)
- The completed toilet was handed over to Food and Environmental Hygiene Department on 30 September 2020; Additional works under an instruction is in-progress.

9.2.4 Construction activities for Contract 4 in the coming month are listed below:

- Completion of CRE Office & Chainlink Fence
- Construction of access road leading to CRE's office (Depends on CWSTVJV)
- GI works at G-2, Portion 3
- Modification of RWA10 Footing
- Site Drainage work at Portion 2a, 8 and 12
- Hard Landscaping at Portion 2b
- Construction of Staircase, U-channel repairing work, Railing Installation at Portion 1 0
- Erection of Project Signboard at +175mPD

9.2.5 Construction activities for Contract 5 in the coming month are listed below:

Portion 1
- Form Piling Platform at E5, PC2 and PC3
- Piling Work at E5 PC1

Portion 2
- Piling Works

Portion 3
- Diversion of existing staircase
- Trial Run
- Trail pit at carriageway and install utility settlement marker (USM)

Portion 4
- Excavation of E10-F3
- Excavation of E10-F1

9.3 KEY ISSUES FOR THE COMING MONTH

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

- Sediment catch-pits and silt removal facilities should be regularly maintained;
- Management of chemical wastes;
- Discharge of site effluent to the nearby wetland, stockpiling or disposal of materials, and any dredging or construction area at this area are prohibited;
- Follow-up of improvement on general waste management issues; and
- Implementation of construction noise preventative control measures

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

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

10.1.1 This is **62nd** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **31 May 2022**.

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

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

10.1.4 In the Reporting Period, three (3) environmental complaints were received regarding the water quality for Contract 1.

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

10.1.6 During the Reporting Period, weekly joint site inspection by the RE, ET with the relevant Main-contractor was carried out for Contracts 1, 2, 3, 4 and 5 in accordance with the EM&A Manual stipulation whereas IEC performed monthly site inspection for both contracts. No non-compliance observed during the site inspection.

10.2 RECOMMENDATIONS

10.2.1 During wet season, the Contractors are reminded to pay special attention on water quality mitigation measures and should fully implement the measures as recommended in the EM&A Manual, in particular to prevent muddy water or other water pollutants from site surface overflow to public area should be properly maintained.

10.2.2 Since construction site is highly visible to the resident at nearby estates, the Contractors should pay special attention on potential environmental impact generated by the site activities and adhere implement adequate air quality and noise mitigation measures as far as practicable to reduce the impact to the public.

10.2.3 Construction noise is one of the key environmental issues during construction work of the Project. Noise mitigation measures such as using quiet plants and noise barriers shall be implemented where practicable according to the EM&A manual.

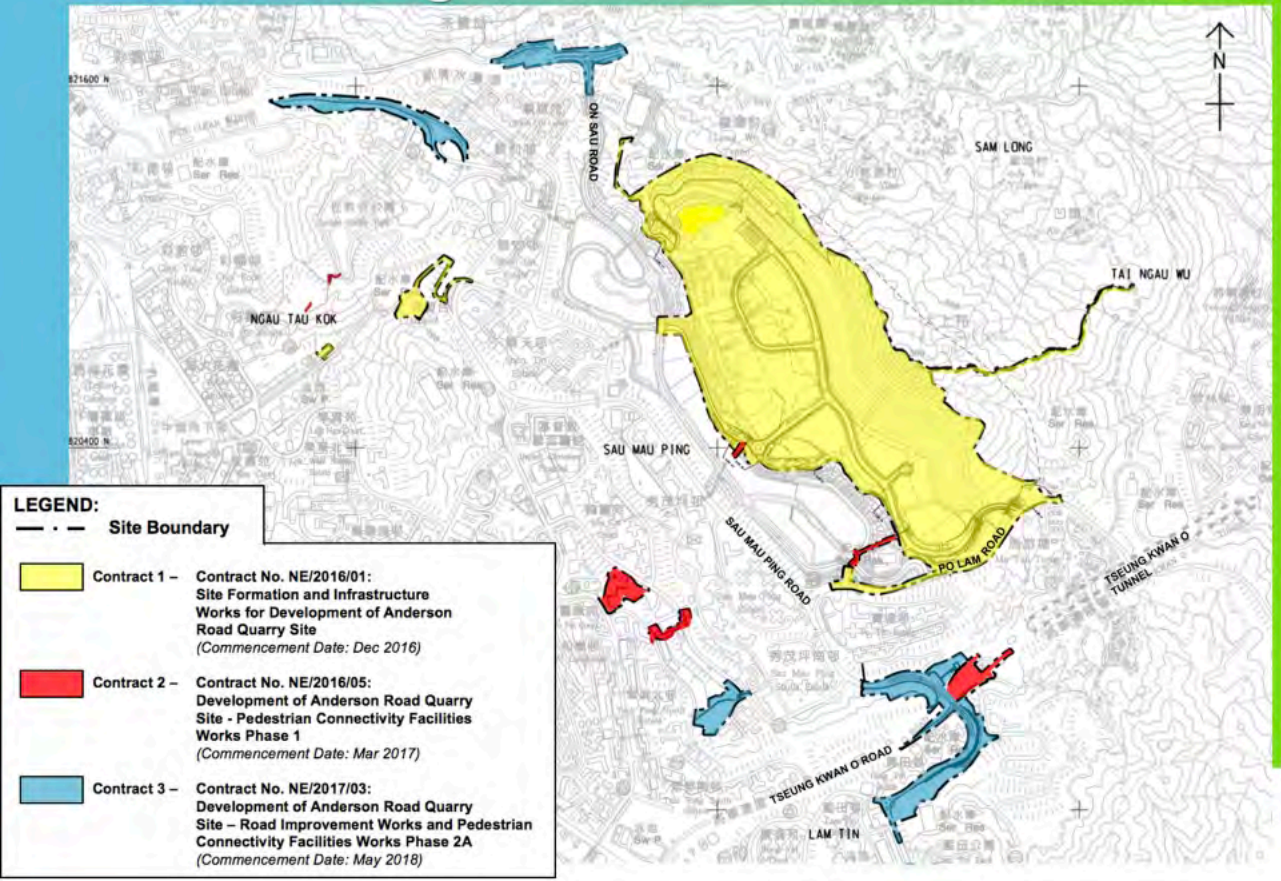
10.2.4 In addition, the Contractors should ensure all effluent discharge shall be fulfilled the Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or relevant discharge license requirement.

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

Appendix A

Layout plan of the Project

Contract Packages



LEGEND:

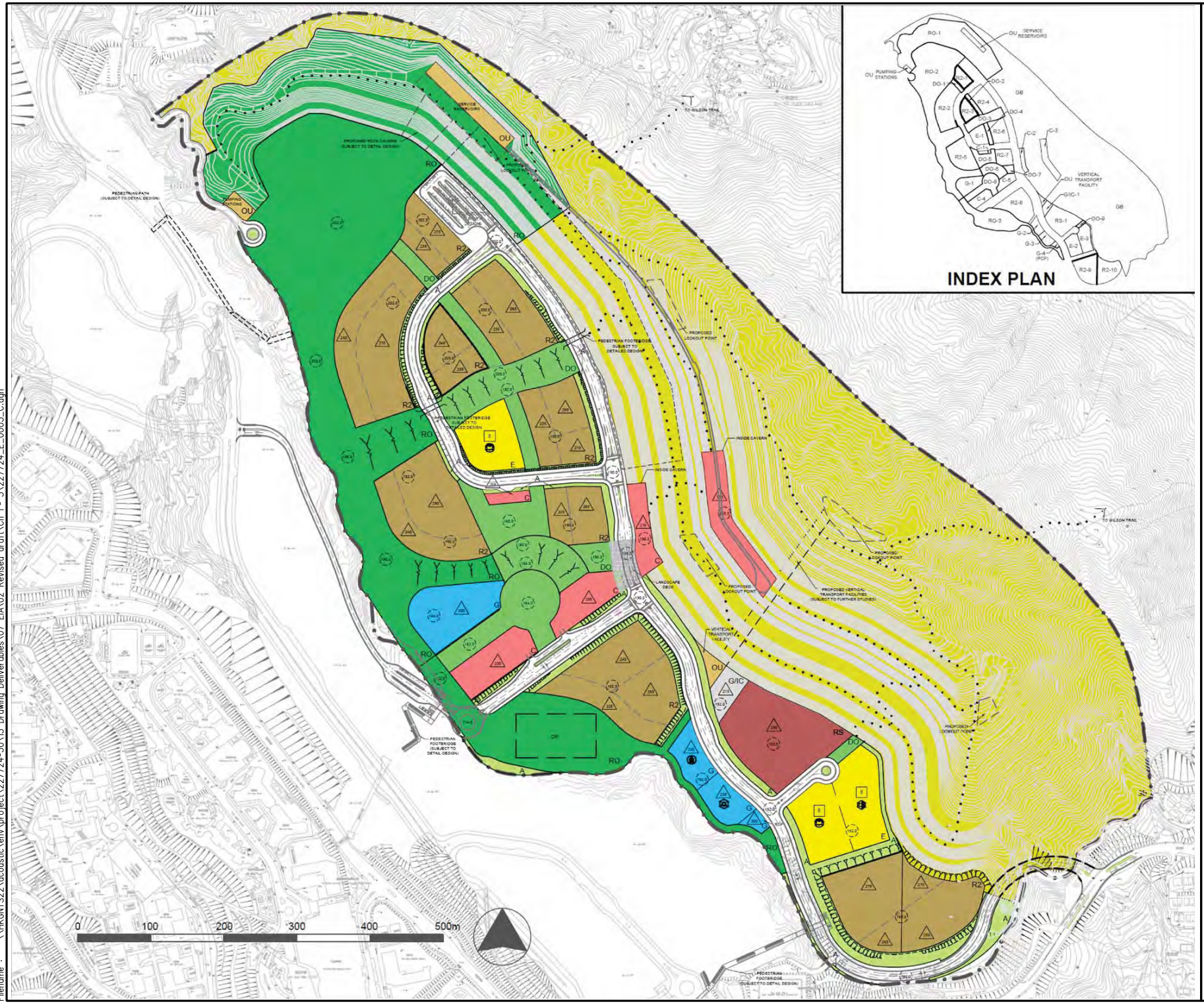
— · — **Site Boundary**

Contract 1 – **Contract No. NE/2016/01:**
Site Formation and Infrastructure Works for Development of Anderson Road Quarry Site
(Commencement Date: Dec 2016)

Contract 2 – **Contract No. NE/2016/05:**
Development of Anderson Road Quarry Site - Pedestrian Connectivity Facilities Works Phase 1
(Commencement Date: Mar 2017)

Contract 3 – **Contract No. NE/2017/03:**
Development of Anderson Road Quarry Site – Road Improvement Works and Pedestrian Connectivity Facilities Works Phase 2A
(Commencement Date: May 2018)

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



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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Recommended Outline Development Plan

Drawing no.	Rev.
227724/E/0003	C

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

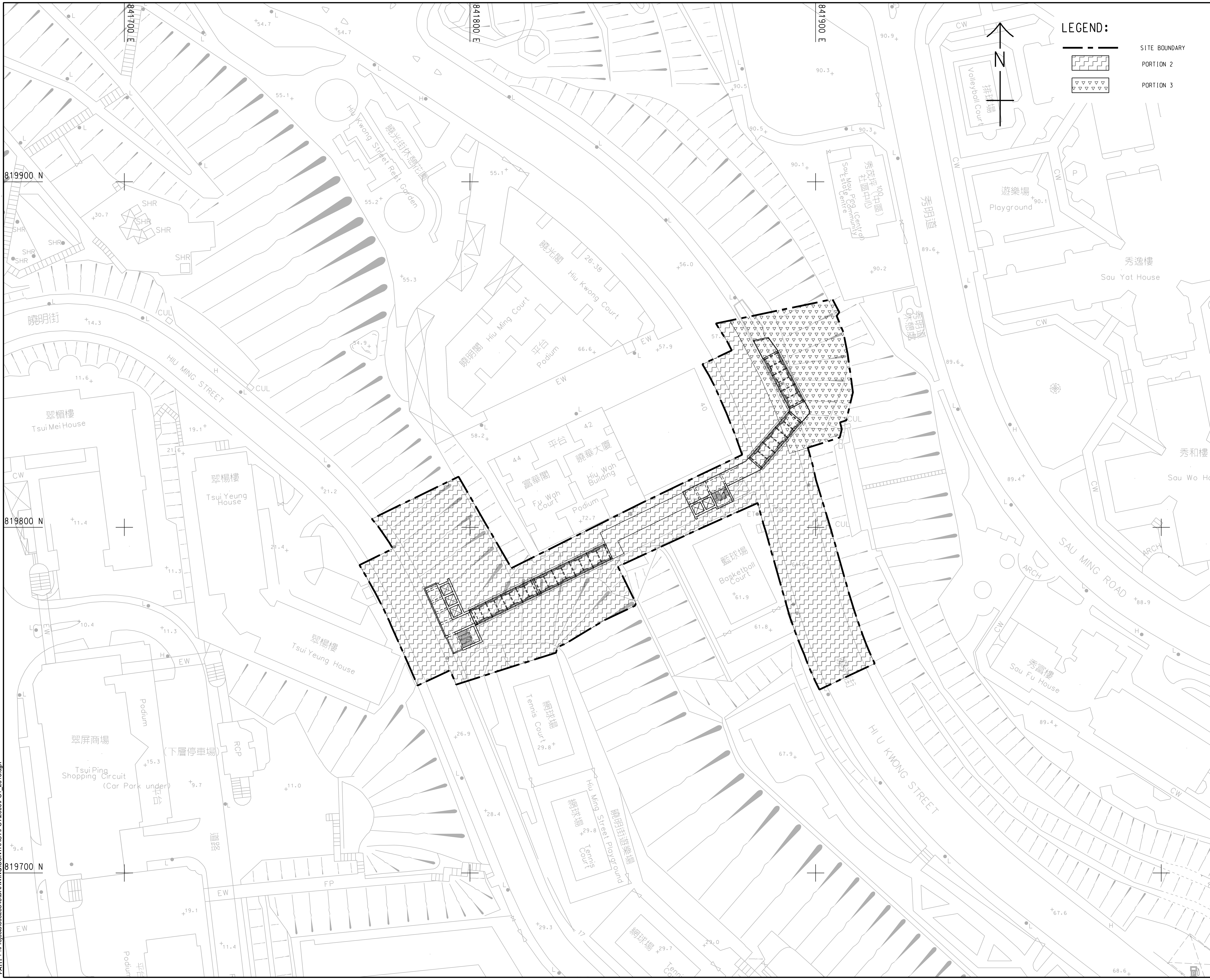
Scale: AS SHOWN

Status: PRELIMINARY

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

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

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



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AECOM

PROJECT

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

CLIENT

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

CONSULTANT

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I/R	DATE	DESCRIPTION	CHK.
-	OCT. 16	TENDER DRAWING	AC

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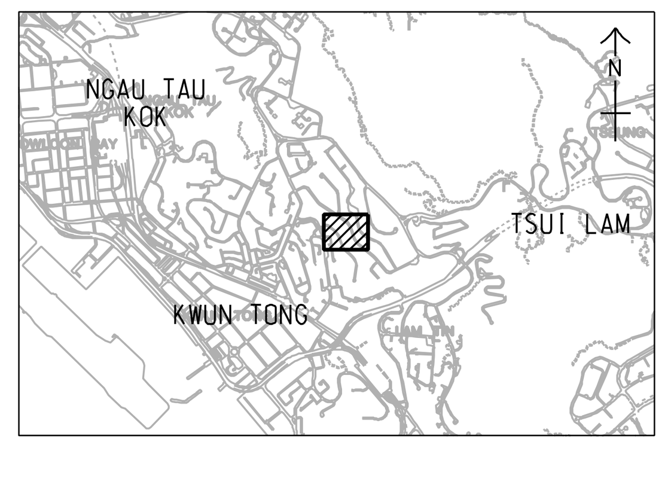
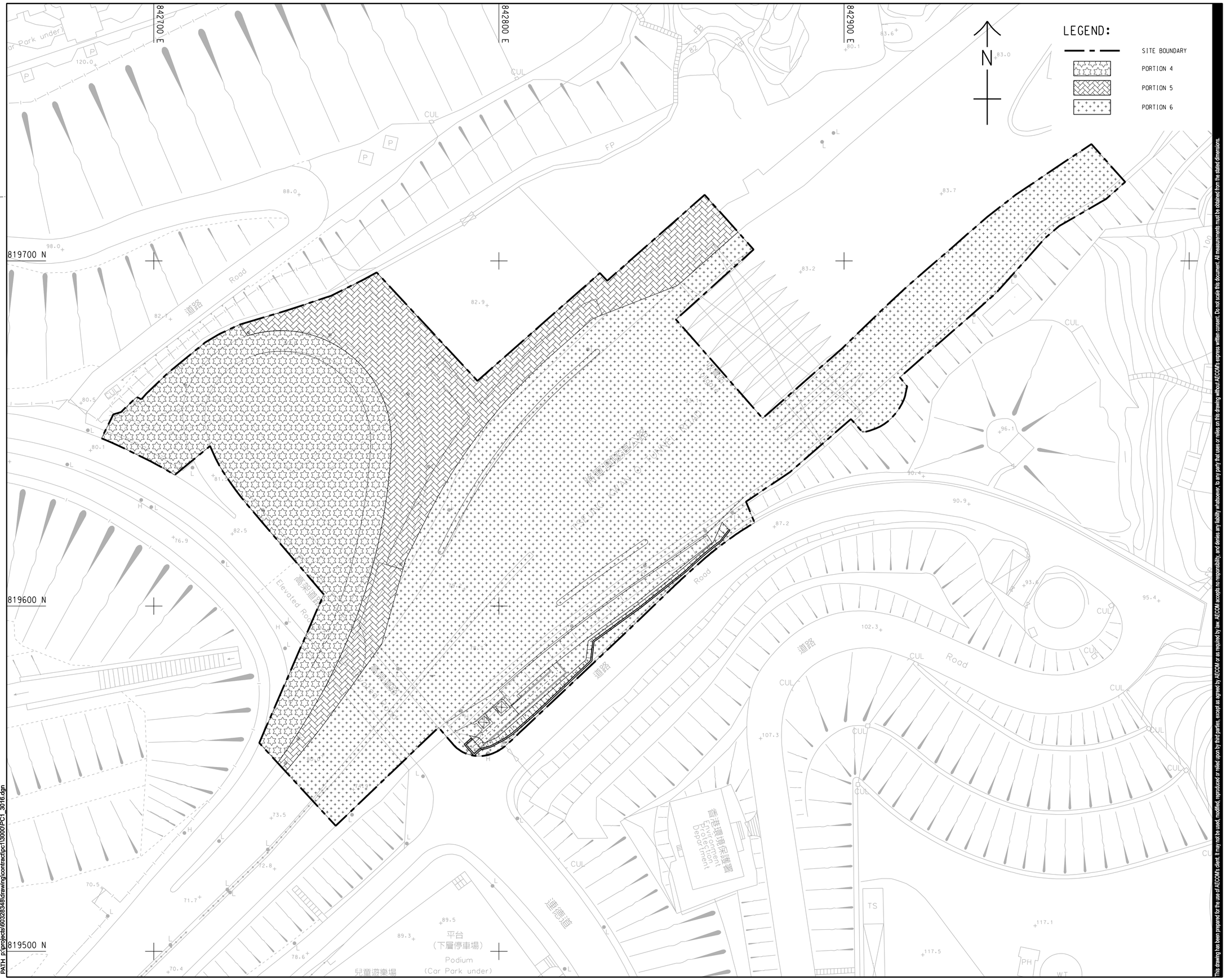


PROJECT NO.
60328348

CONTRACT NO.
NE/2016/05

SHEET TITLE
E2-C1-E3 - PORTION OF SITE

SHEET NUMBER
60328348/PC1/2016



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PROJECT
項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY
FACILITIES WORKS PHASE 1

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

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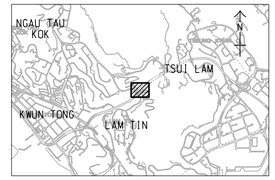

PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

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

SHEET NUMBER 圖紙編號
60328348/PC1/3016

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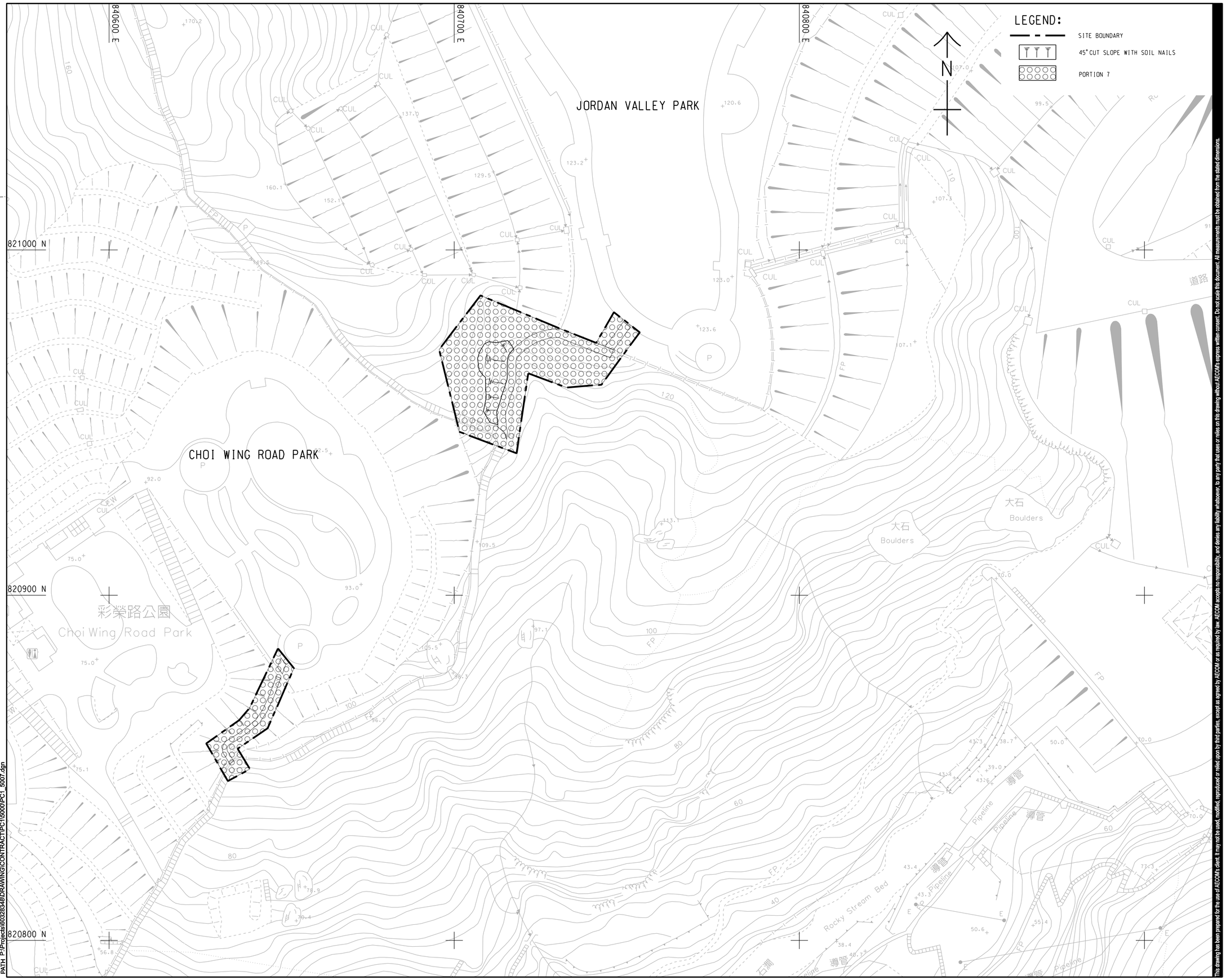

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PROJECT 項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

CLIENT 業主

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-	OCT. 16	TENDER DRAWING	AC

STATUS 階段

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DIMENSION UNIT 尺寸單位
METRES

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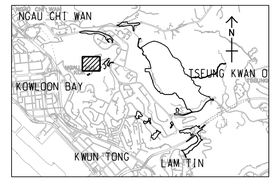

PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

SHEET TITLE 圖紙名稱
GREEN ROUTE - PORTION OF SITE

SHEET NUMBER 圖紙編號
60328348/PC1/5007

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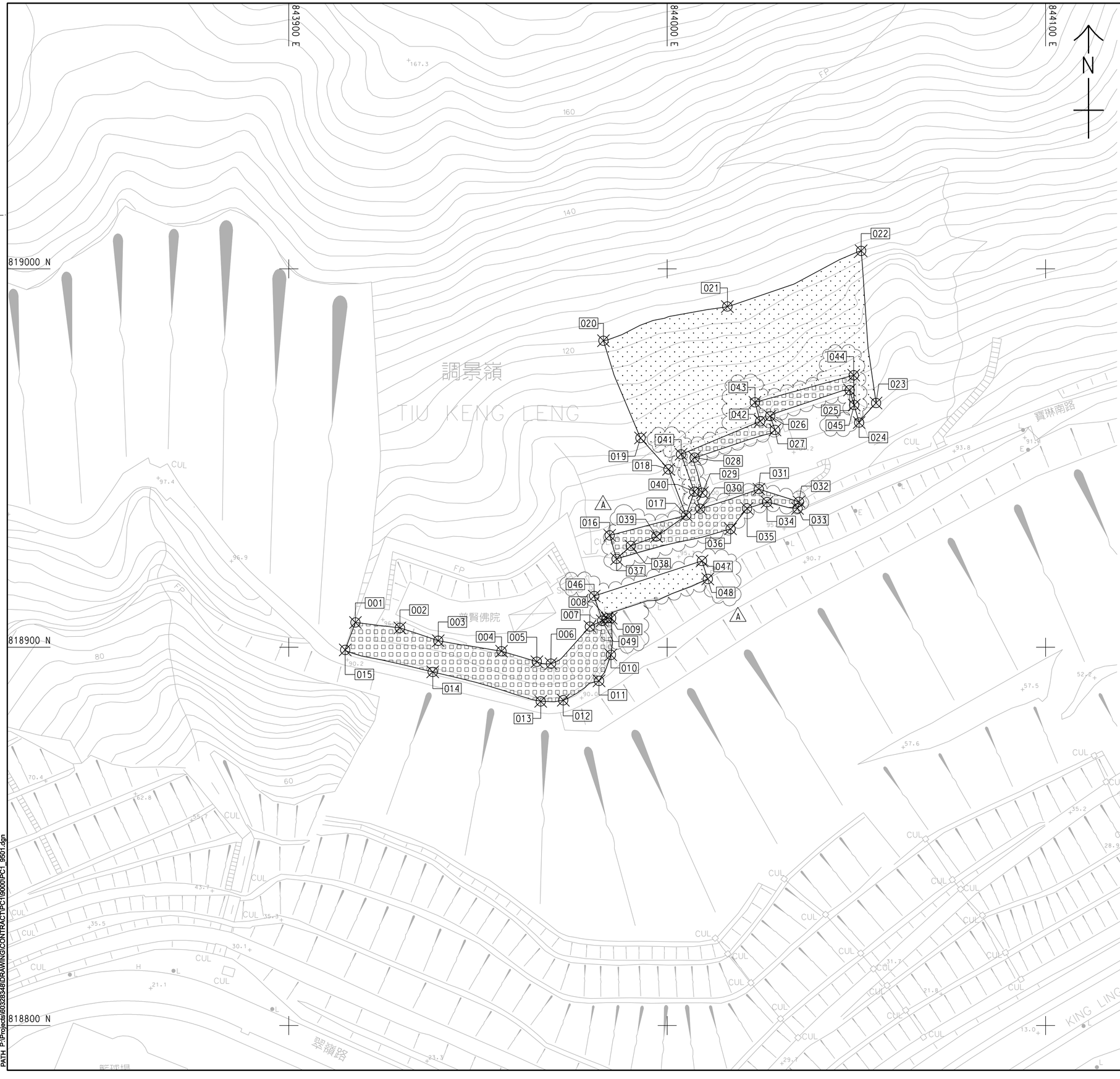

SETTING OUT POINTS

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009	843985.175	818907.685
010	843985.110	818897.974
011	843981.962	818891.121
012	843972.510	818885.990
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PROJECT 項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

CLIENT 業主

土木工程拓展署
Civil Engineering and Development Department

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ISSUE/REVISION 修訂

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

STATUS 階段

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DIMENSION UNIT 尺寸單位
METRES

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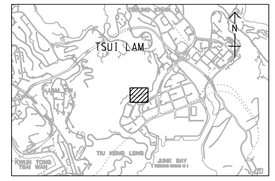


PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

SHEET TITLE 圖紙名稱

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

SHEET NUMBER 圖紙編號

60328348/PC1/9501A

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

圖示 A VIEW A

圖示 B VIEW B

圖則名稱 Drawing Title

行人連繫設施(巴士轉乘站、E11及E12) - 平面圖及構思圖

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

項目編號 Item No.
765CL

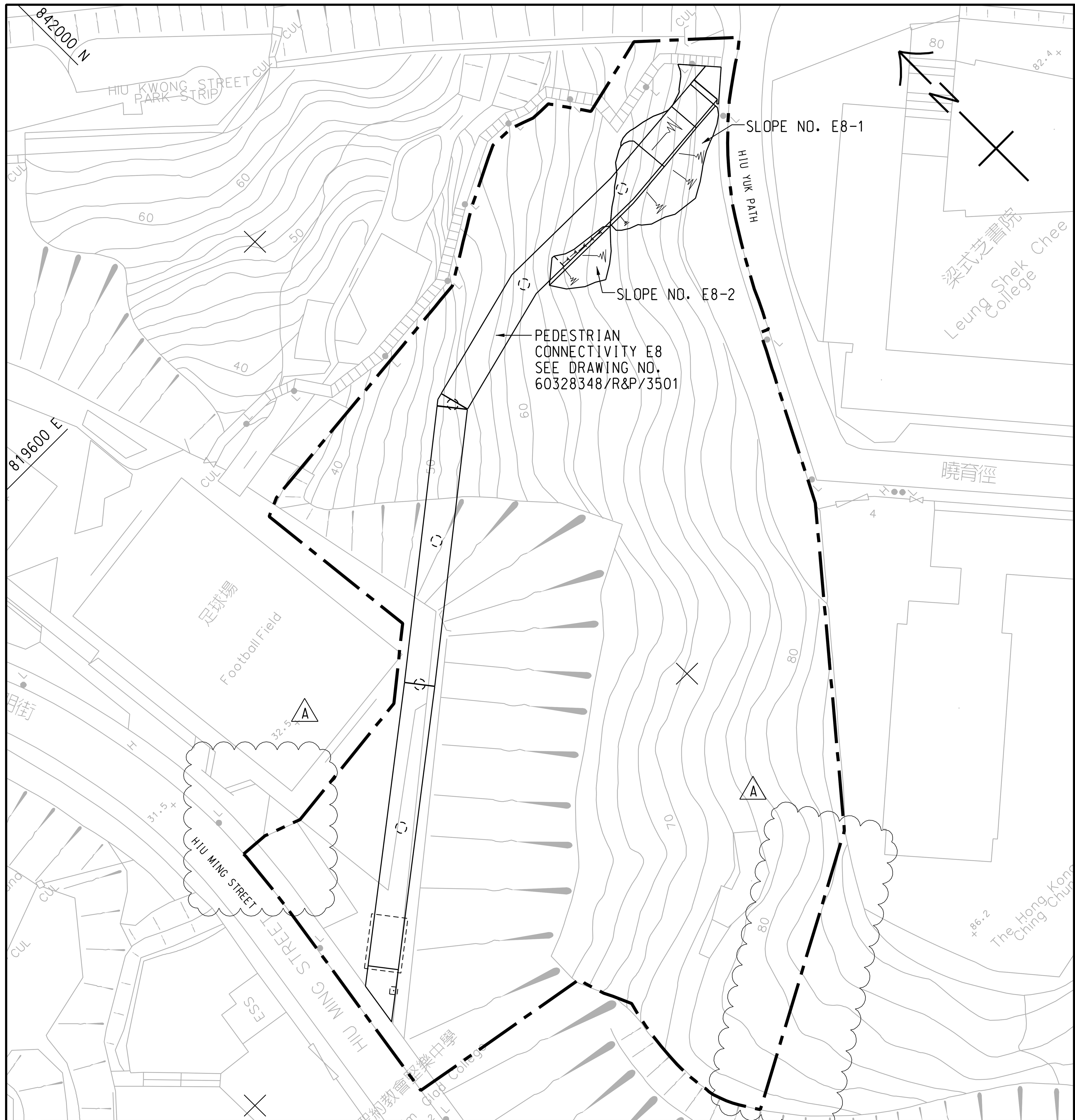
比例 Scale

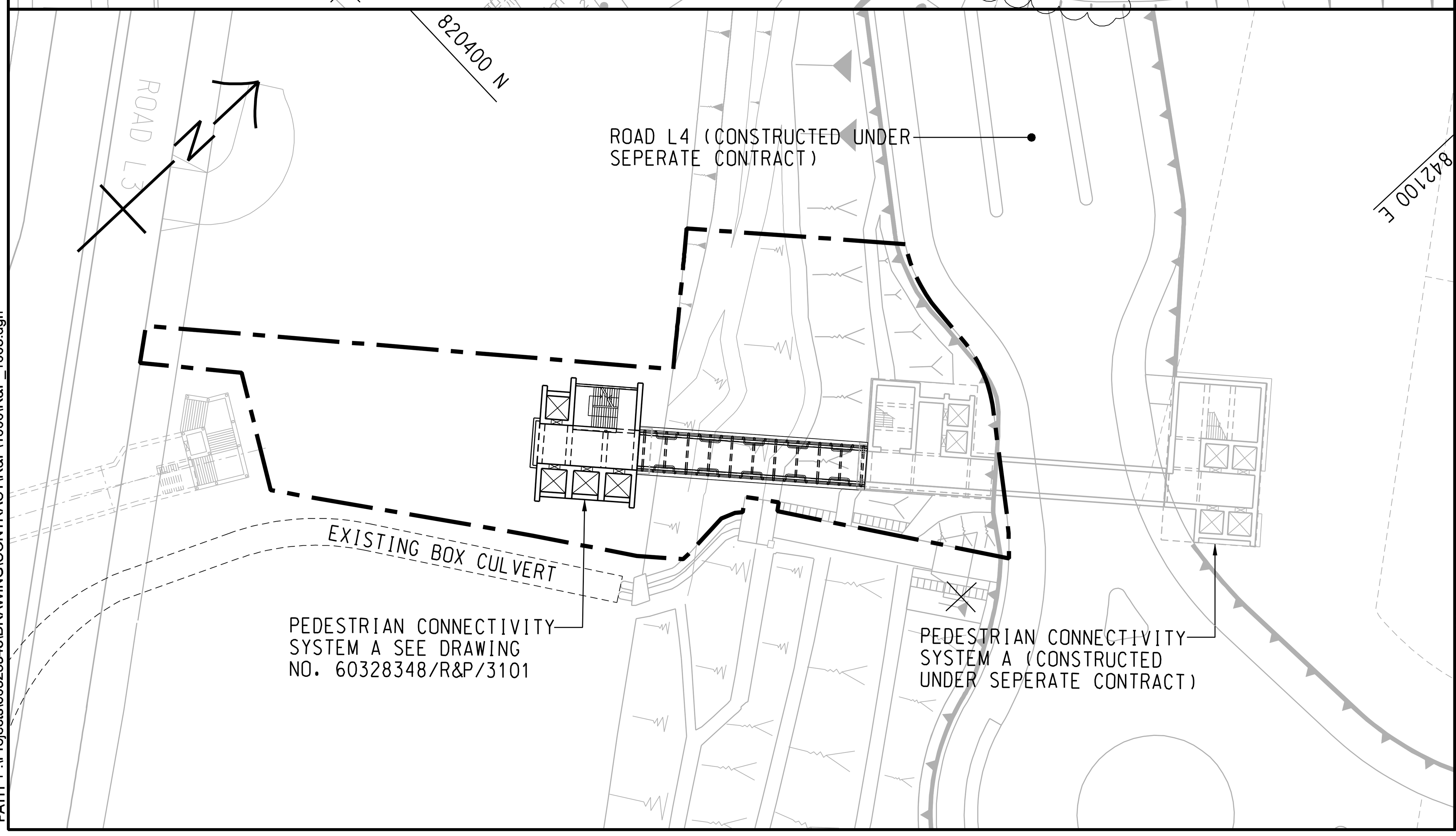
圖則編號 Drawing No.
附件五 Appendix 5

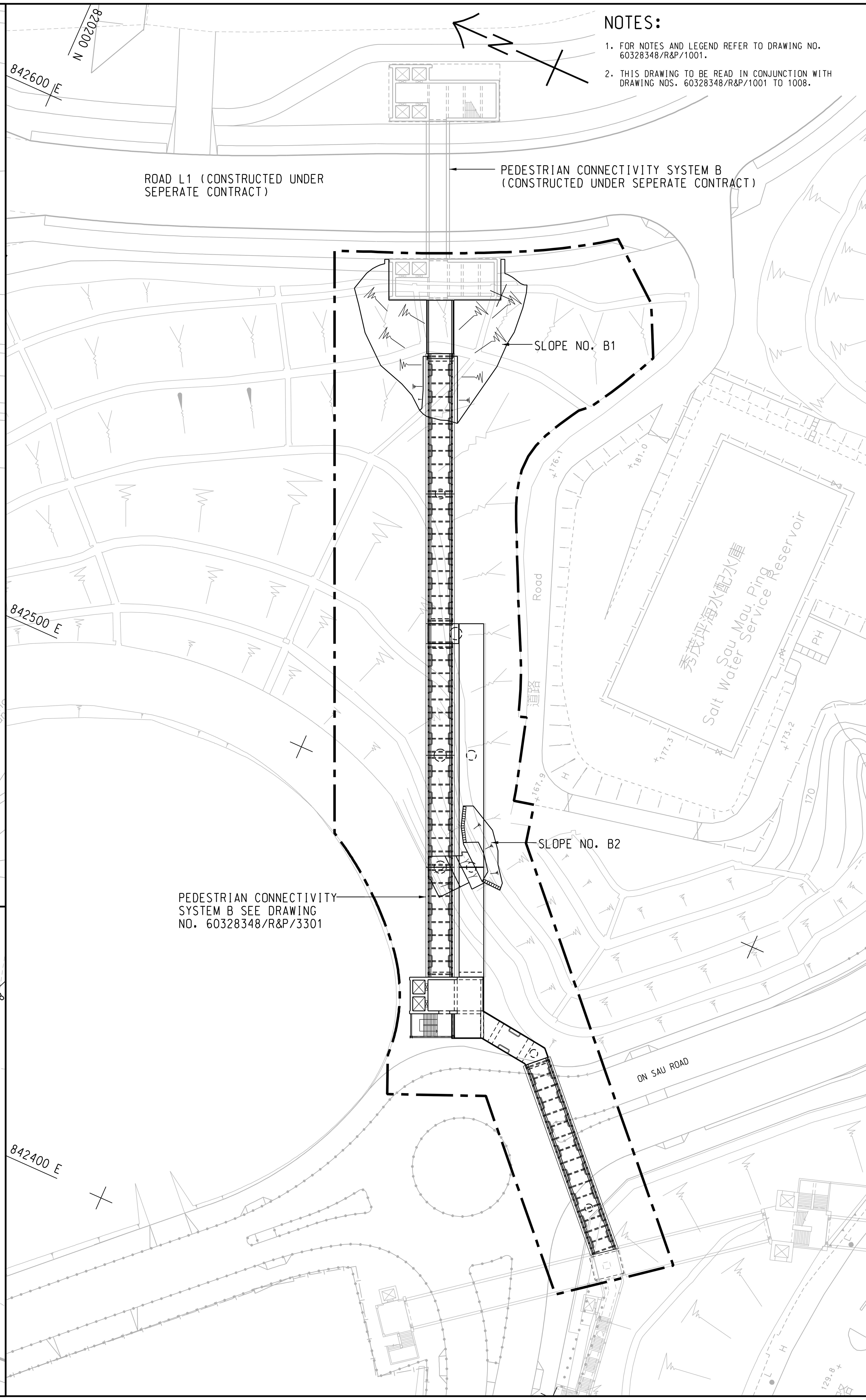
辦事處 Office
新界東拓展處
NEW TERRITORIES EAST DEVELOPMENT OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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







NOTES:

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

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

AECOM

PROJECT 項目

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

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

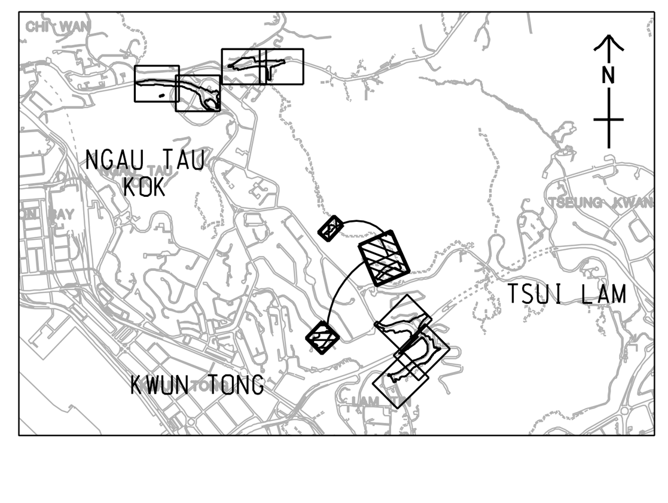
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 覆核
			YC
A	NOV. 17	TENDER ADDENDUM NO. 1	AWYC
-	OCT. 17	TENDER DRAWING	AWYC

STATUS 階段

SCALE 比例: A1 1 : 500

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖 A1 1 : 60000



PROJECT NO. 項目編號: 60328348

CONTRACT NO. 合約編號: NE/2017/03

SHEET TITLE 圖紙名稱

GENERAL LAYOUT

SHEET 8 OF 8

SHEET NUMBER 圖紙編號

60328348/R&P/1008A

Layout plan of Contract 4 (ED/2020/02)

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

840800 E | 842000 E | 843200 E

821600 N | 820400 N | 819200 N

LEGEND:

SITE BOUNDARY

SHEET 1 OF 5

SHEET 2 OF 5

SHEET 3 OF 5

SHEET 4 OF 5

SHEET 5 OF 5

CLEAR WATER BAY ROAD

ROAD L1

ROAD L2

ROAD L3

ROAD L4

ROAD L5

TSEUNG KWAN O TUNNEL

KWUN TONG ROAD

TSEUNG KWAN O ROAD

TAI NGAU WU

TAI NGAU WU

JORDAN VALLEY

JORDAN VALLEY

NGAU TAU KOK

NGAU TAU KOK

KWUN TONG

KWUN TONG

LAM TIN

LAM TIN

TSUI LAM

SAU MAU PING

TAN SHAN

SAM LONG

CROCODILE HILL

Kwun Tong Typhoon Shelter

觀塘避風塘

Plot File by:- YangRO 3/19/2021
PATH F:\PROJECTS\60328348\Drawing\CONTRACT\LS\1000\LS_1000.dgn

AECOM

PROJECT
項目

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

CONTRACT TITLE
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INFRASTRUCTURE, GREENING AND LANDSCAPE WORKS

CLIENT
客戶

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

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核
-	MAR. 21	TENDER DRAWING	AWYC

STATUS
階段

SCALE 比例: A1 1 : 6000
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60328348
CONTRACT NO. 合約編號: ED/2020/02

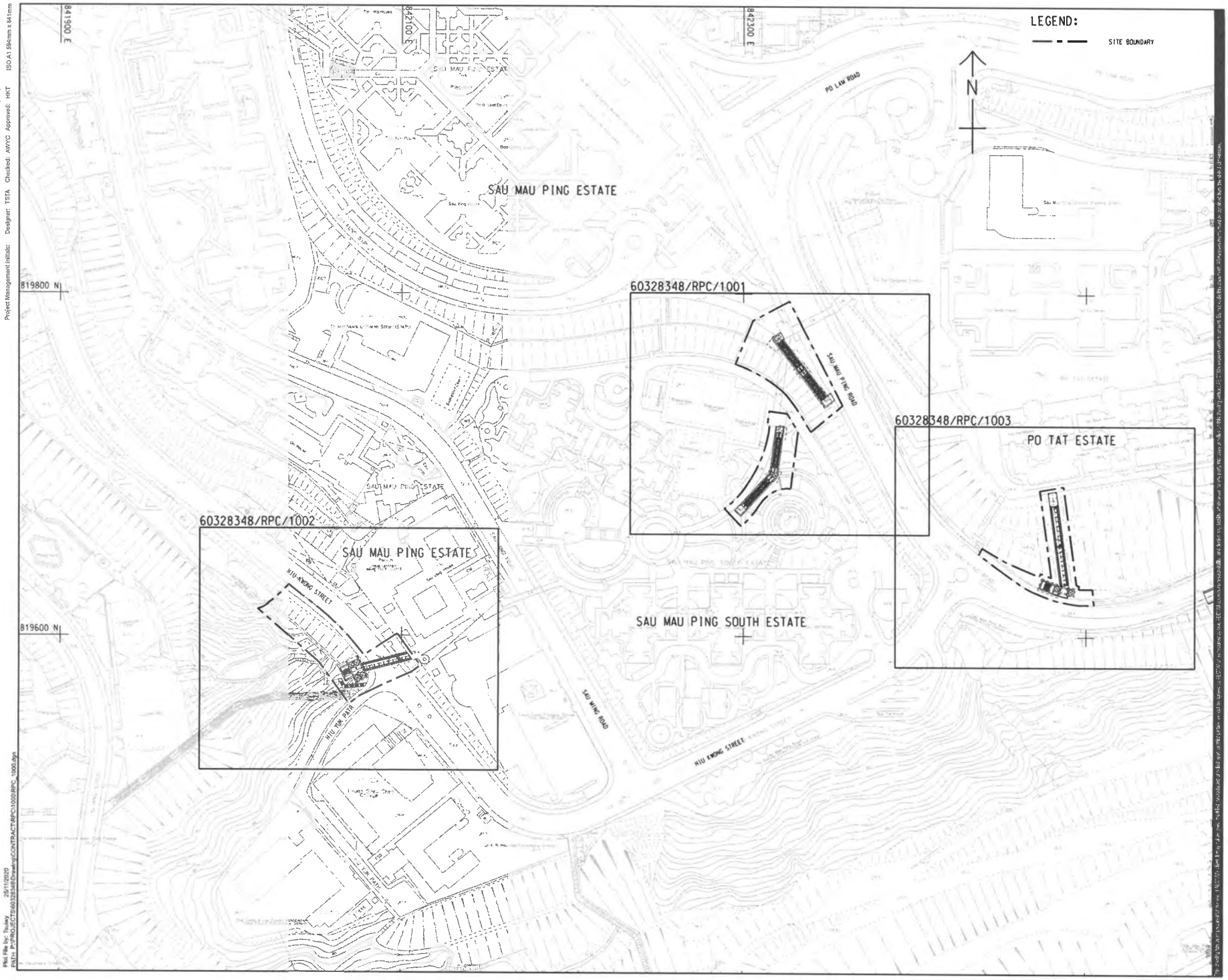
SHEET TITLE
圖紙名稱

KEY PLAN

SHEET NUMBER
圖紙編號

60328348/LS/1000

Layout plan of Contract 5 (ED/2019/02)



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

Plot File by: Tauwy 25/11/2020
File: P:\PROJECTS\60328348\Drawing\CONTRACT\RPC\1000\RPC_1000.dgn

AECOM

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

CONTRACT TITLE
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - REMAINING PEDESTRIAN CONNECTIVITY FACILITIES WORKS

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

CONSULTANT
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ISSUE/REVISION

VR	DATE	DESCRIPTION	CHK.
-	NOV. 20	TENDER DRAWING	AWYC

STATUS

SCALE
At 1 : 1000

DIMENSION UNIT
METRES

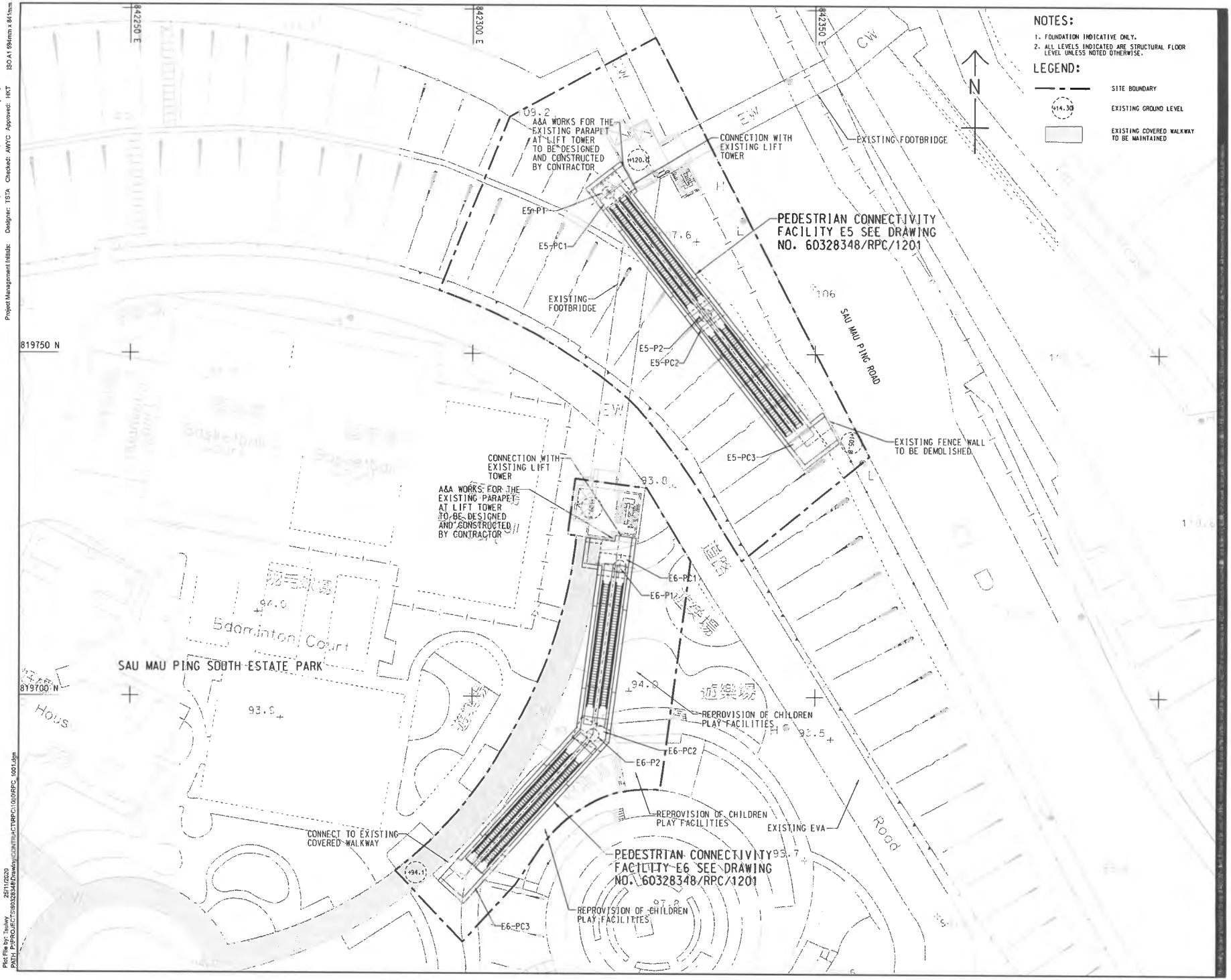
KEY PLAN

PROJECT NO.
60328348

CONTRACT NO.
ED/2019/02

SHEET TITLE
KEY PLAN

SHEET NUMBER
60328348/RPC/1000



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Plot File by: Suivy
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25/11/2020

AECOM

PROJECT

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

CONTRACT TITLE
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - REMAINING PEDESTRIAN CONNECTIVITY FACILITIES WORKS

CLIENT

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

CONSULTANT

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ISSUE/REVISION

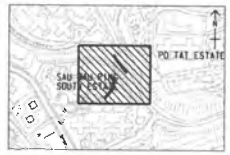
-	NOV. 20	TENDER DRAWING	AWYC
ER	DATE	DESCRIPTION	CHK.

STATUS

SCALE A1 1 : 250

DIMENSION UNIT METRES

KEY PLAN A1 1 : 5000



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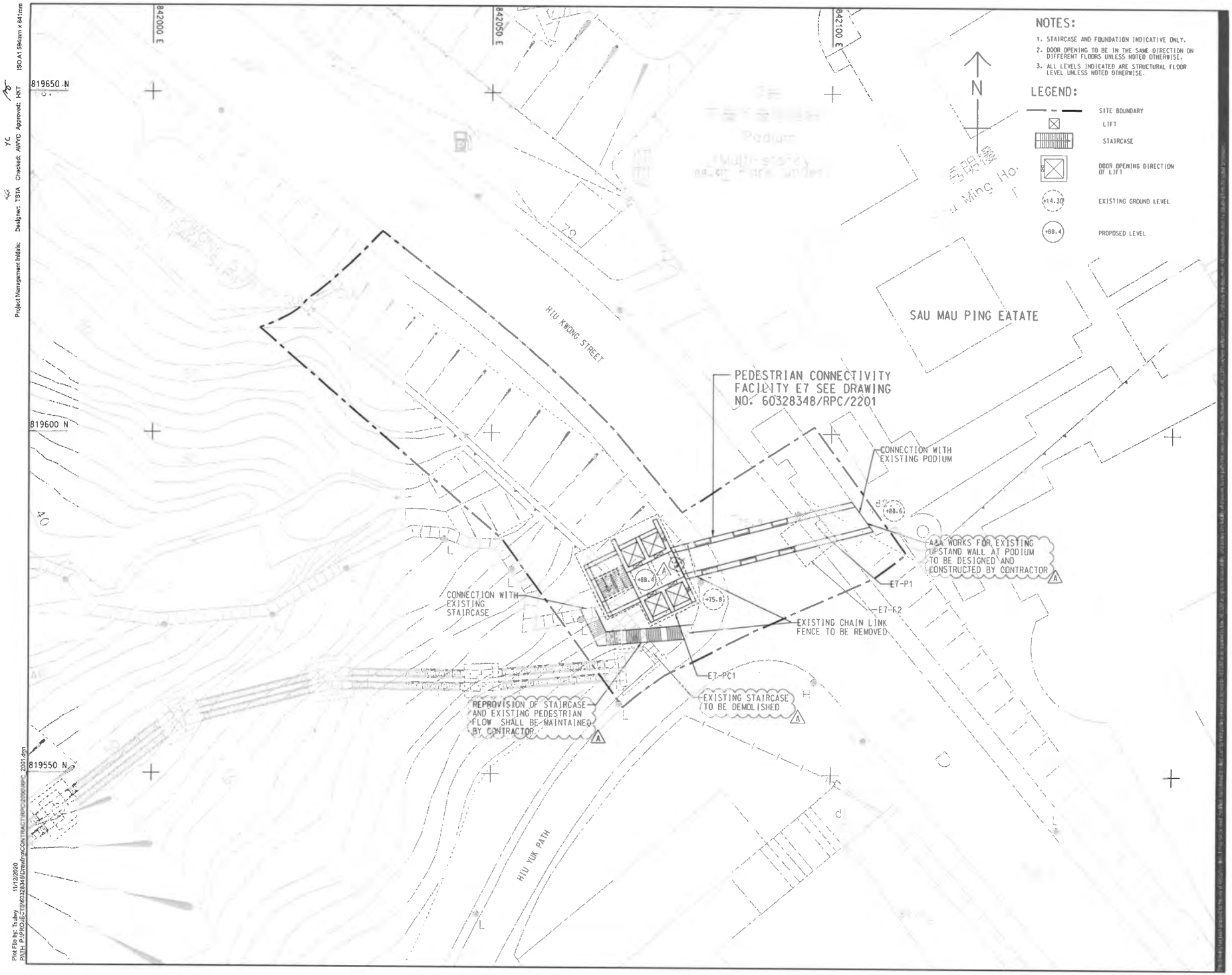
CONTRACT NO. ED/2019/02

SHEET TITLE

GENERAL LAYOUT - E5 & E6

SHEET NUMBER

60328348/RPC/1001



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Plot File by: TsuAny 11/12/2020
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AECOM

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

CONTRACT TITLE
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - REMAINING PEDESTRIAN CONNECTIVITY FACILITIES WORKS

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

CONSULTANT
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ISSUE/REVISION

A	DEC. 20	TENDER ADDENDUM NO.1	AWYC
-	NOV. 20	TENDER DRAWING	AWYC

VR	DATE	DESCRIPTION	CHK

STATUS

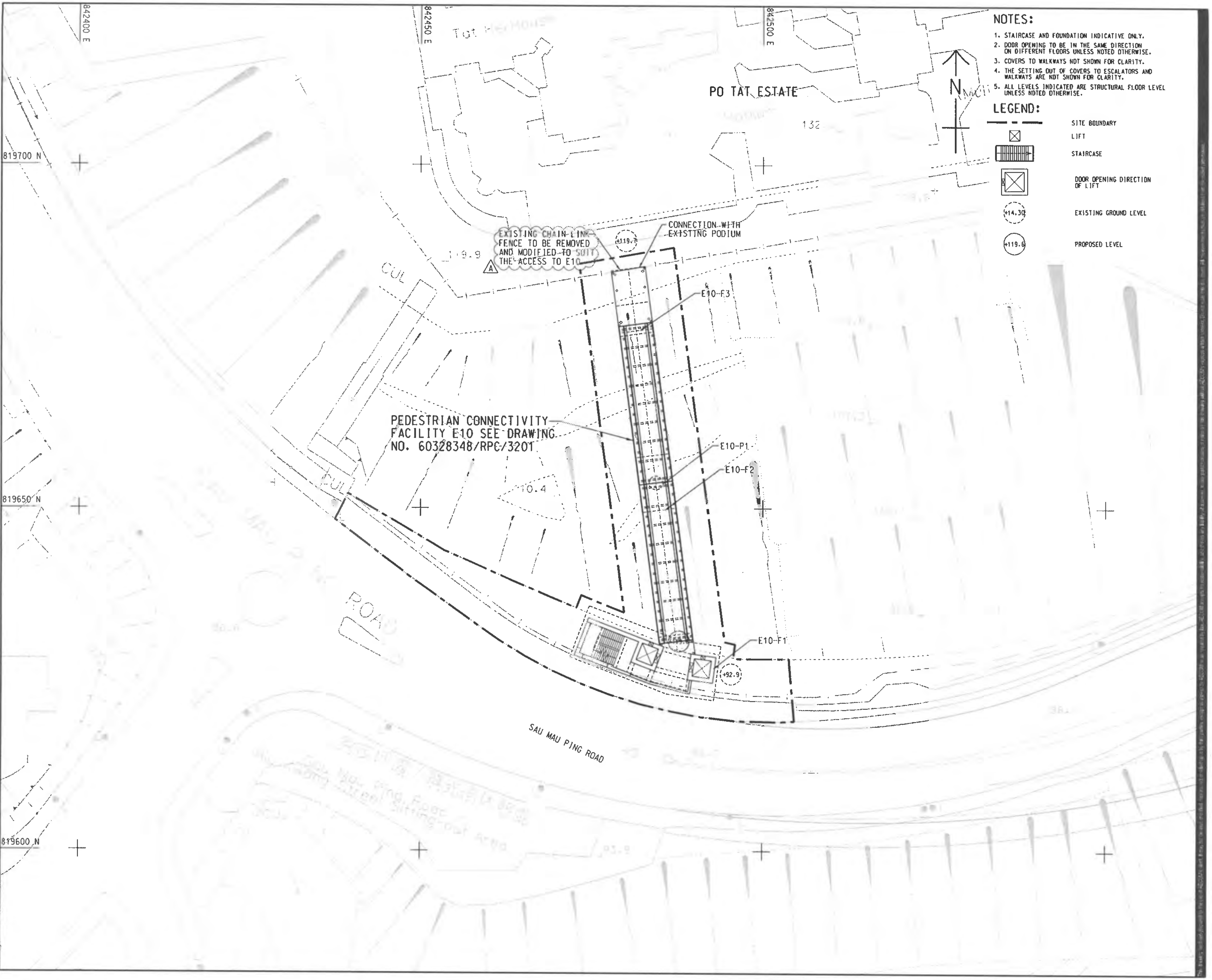
SCALE: A1 1 : 250
DIMENSION UNIT: METRES

KEY PLAN A1 1 : 5000

PROJECT NO.: 60328348
CONTRACT NO.: ED/2019/02

SHEET TITLE
GENERAL LAYOUT - E7

SHEET NUMBER
60328348/RPC/2001A



NOTES:

1. STAIRCASE AND FOUNDATION INDICATIVE ONLY.
2. DOOR OPENING TO BE IN THE SAME DIRECTION ON DIFFERENT FLOORS UNLESS NOTED OTHERWISE.
3. COVERS TO WALKWAYS NOT SHOWN FOR CLARITY.
4. THE SETTING OUT OF COVERS TO ESCALATORS AND WALKWAYS ARE NOT SHOWN FOR CLARITY.
5. ALL LEVELS INDICATED ARE STRUCTURAL FLOOR LEVEL UNLESS NOTED OTHERWISE.

LEGEND:

- SITE BOUNDARY
- LIFT
- STAIRCASE
- DOOR OPENING DIRECTION OF LIFT
- (+14.30) EXISTING GROUND LEVEL
- (+119.6) PROPOSED LEVEL

AECOM

PROJECT

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

CONTRACT TITLE

DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - REMAINING PEDESTRIAN CONNECTIVITY FACILITIES WORKS

CLIENT

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

CONSULTANT

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ISSUE/REVISION

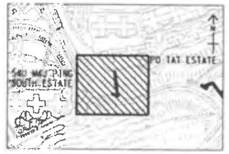
I/R	DATE	DESCRIPTION	CHK.
A	DEC. 20	TENDER ADDENDUM NO.1	YC AWYC
-	NOV. 20	TENDER DRAWING	AWYC

STATUS

SCALE: A1 1:250

DIMENSION UNIT: METRES

KEY PLAN A1 1:5000



PROJECT NO.: 60328348

CONTRACT NO.: ED/2019/02

SHEET TITLE: GENERAL LAYOUT - E10

SHEET NUMBER: 60328348/RPC/3001A

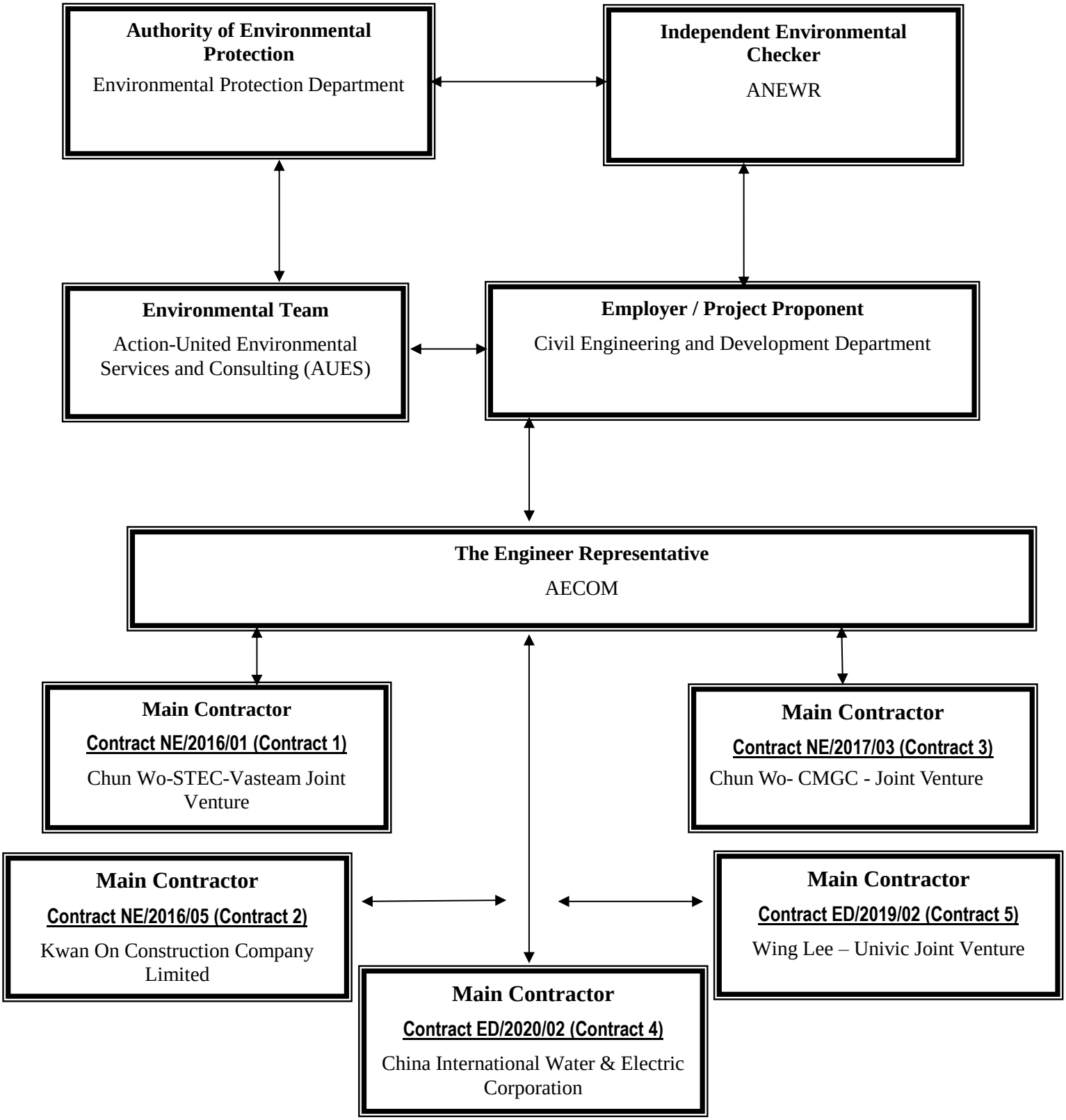
Project Management Initials: Designer: TSTA Checked: AWYC Approved: HKT ISO A1 594mm x 841mm

Plot File by: YangRO 2020/12/11

Appendix B

Project Organization Structure

Project Organization Structure



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

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	S W Lam, Sam	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Li, Ling Tommy	9389 8792	2473 3221
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CSVJV	Project Manager	William Leung	2638 7181	2744 6937
CSVJV	Site Agent	TY Leung	2638 7181	2744 6937
CSVJV	Project Environmental Manager	Jimmy Cheng	2638 7181	2744 6937
CSVJV	Environmental Officer	Ken Chu	2638 7181	2744 6937
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

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

ANEWR (IEC) –ANewR Consulting Limited

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

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

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	S W Lam, Sam	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Bill Hon	5599 1466	2473 3221
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
KOCCL	Project Director	Ambrose Kwong	2889 2675	2558 6900
KOCCL	Site Agent	Mr. Albert PK Ng	9150 1523	2558 6900
KOCCL	Safety and Environmental Manager	Joly C K Kwong	6111 5711	2558 6900
KOCCL	Environmental Officer	Kenny Chan	5542 4335	2558 6900
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

KOCCL (Main Contractor) –Kwan On Construction Company Limited

ANEWR (IEC) –ANewR Consulting Limited

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

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

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	S W Lam, Sam	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Brad Chan	5506 0068	2473 3221
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CW – CMGC - JV	Construction Manager	William Leung	9464 1392	3965 9900
CW – CMGC - JV	Site Agent	Yu, Chi Kuen Paul	9456 9819	3965 9900
CW – CMGC - JV	Environmental Officer	King Lam	9570 6187	3965 9900
CW – CMGC - JV	Environmental Supervisor	Anna Tsang	9333 8499	3965 9900
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

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

ANEWR (IEC) –ANewR Consulting Limited

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

Contact Details of Key Personnel for Contract 4 –ED/2020/02

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	S W Lam, Sam	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Li, Ling Tommy	9389 8792	2473 3221
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CIWEC	Project Director	Leung, Siu Ming Wilson	5135 6590	2508 0987
CIWEC	Site Agent	Tam. Wing San Wilson	9031 5600	2508 0987
CIWEC	Environmental Officer	Claudia Chiang	9851 7932	2508 0987
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

CIWEC (Main Contractor) –China International Water & Electric Corporation

ANEWR (IEC) –ANewR Consulting Limited

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

Contact Details of Key Personnel for Contract 5 –ED/2019/02

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	S W Lam, Sam	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	9824 7016	2473 3221
AECOM	Senior Resident Engineer	Bill Hon	5599 1486	2473 3221
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
WL-UJV	Construction Manager	PH Ho	9464 1392	2983 6640
WL-UJV	Site Agent	Lee Chi Wai	9255 7014	2983 6640
WL-UJV	Environmental Officer	Guo Liming	5723 9883	2983 6640
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

WL –UJV (Main Contractor) – Wing Lee – Univic Joint Venture

ANEWR (IEC) –ANewR Consulting Limited

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

Appendix C

Construction Programme

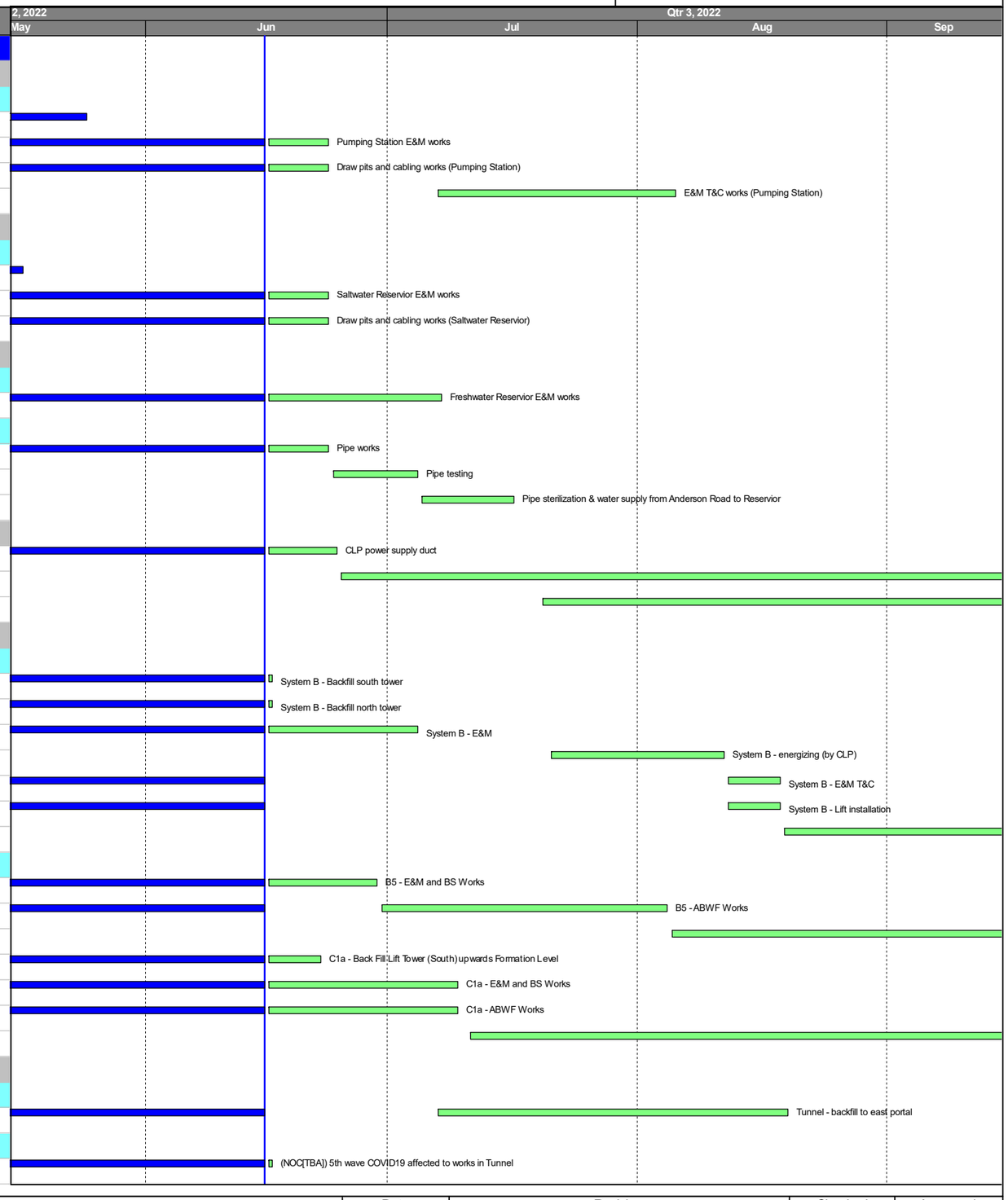
- (a) Contract 1 (NE/2016/01)
- (b) Contract 2 (NE/2016/05)
- (c) Contract 3 (NE/2017/03)
- (d) Contract 4 (ED/2020/02)
- (e) Contract 5 (ED/2019/02)

Contract 1 (NE/2016/01)

俊和－上隧－浩隆聯營
CHUN WO – STEC – VASTEAM JOINT VENTURE

CONTRACT NO.NE/2016/01 SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT OF ANDERSON ROAD QUARRY SITE
3-MONTH ROLLING PROGRAMME

Activity ID	Activity Name	BL Project Duration	BL Project Start	BL Project Finish	At Completion Duration	Start	Finish
Anderson Rd Sub-programme (June 2022 _0) _ccn _220617							
Fresh Water Pumping Station							
Stage 5 -ABWF, Finishing & E&M							
FWP-1310A	(NOC[TBA]) 5th wave COVID19 affected to Pumping Station E&M works	0			69	28-Feb-22 A	24-May-22 A
FWP-1320	Pumping Station E&M works	0			590	29-Jun-20 A	23-Jun-22
FWP-1322	Draw pits and cabling works (Pumping Station)	0			523	16-Sep-20 A	23-Jun-22
FWP-1330	E&M T&C works (Pumping Station)	0			26	07-Jul-22	05-Aug-22
Salt Water Reservoir							
ABWF, Finishing & E&M							
SWR-1410A	(NOC[TBA]) 5th wave COVID19 affected to Saltwater Reservior E&M works	0			62	28-Feb-22 A	16-May-22 A
SWR-1420	Saltwater Reservior E&M works	0			615	29-May-20 A	23-Jun-22
SWR-1422	Draw pits and cabling works (Saltwater Reservior)	0			523	16-Sep-20 A	23-Jun-22
Fresh Water Reservoir							
ABWF, Finishing & E&M							
FWR-2000	Freshwater Reservior E&M works	0			514	12-Oct-20 A	07-Jul-22
Temporary DN450 Water Pipe at Anderson No.3 Reservoir							
FWR-2020	Pipe works	0			93	01-Mar-22 A	23-Jun-22
FWR-2040	Pipe testing	0			8	24-Jun-22	04-Jul-22
FWR-2060	Pipe sterilization & water supply from Anderson Road to Reservior	0			11	05-Jul-22	16-Jul-22
RWS Access Road & External Works							
FWP-1430	CLP power supply duct	0			524	16-Sep-20 A	24-Jun-22
FWP-1440	Road Works & Fencing	0			103	25-Jun-22	27-Oct-22
FWP-1450	Green Roof & Paving Area	0			88	20-Jul-22	02-Nov-22
Pedestrian Connection System A & B							
PC system B							
PCB-1090	System B - Backfill south tower	81	19-Aug-19	23-Nov-19	691	16-Feb-20 A	16-Jun-22
PCB-1100	System B - Backfill north tower	81	19-Aug-19	23-Nov-19	691	16-Feb-20 A	16-Jun-22
PCB-1120	System B - E&M	22	23-Sep-19	19-Oct-19	617	05-Jun-20 A	04-Jul-22
PCB-1122	System B - energizing (by CLP)	0			19	21-Jul-22	11-Aug-22
PCB-1130	System B - E&M T&C	24	21-Oct-19	16-Nov-19	436	02-Mar-21 A	18-Aug-22
PCB-1140	System B - Lift installation	75	21-Oct-19	18-Jan-20	436	02-Mar-21 A	18-Aug-22
PCB-1150	System B - Lift T&C	27	20-Jan-20	22-Feb-20	27	19-Aug-22	20-Sep-22
PC system A							
PCA-1060	B5 - E&M and BS Works	0			296	02-Jul-21 A	29-Jun-22
PCA-1070	B5 - ABWF Works	0			183	20-Dec-21 A	04-Aug-22
PCA-1080	B5 - Testing & Commissioning	0			90	05-Aug-22	21-Nov-22
PCA-1160	C1a - Back Fill Lift Tower (South) upwards Formation Level	0			201	18-Oct-21 A	22-Jun-22
PCA-1170	C1a - E&M and BS Works	0			185	22-Nov-21 A	09-Jul-22
PCA-1180	C1a - ABWF Works	0			152	03-Jan-22 A	09-Jul-22
PCA-1190	C1a - Testing & Commissioning	0			90	11-Jul-22	26-Oct-22
Underpass Tunnel							
East Portal							
TUN-3620	Tunnel - backfill to east portal	0			114	01-Apr-22 A	19-Aug-22
VE Panels, Road Works, E&M							
TUN-3530A	(NOC[TBA]) 5th wave COVID19 affected to works in Tunnel	0			88	28-Feb-22 A	16-Jun-22



Planned Bar (WP) ◇ ◇ Planned Milestone (WP)
Actual Bar ◆ ◆ Milestone
Forecast Bar

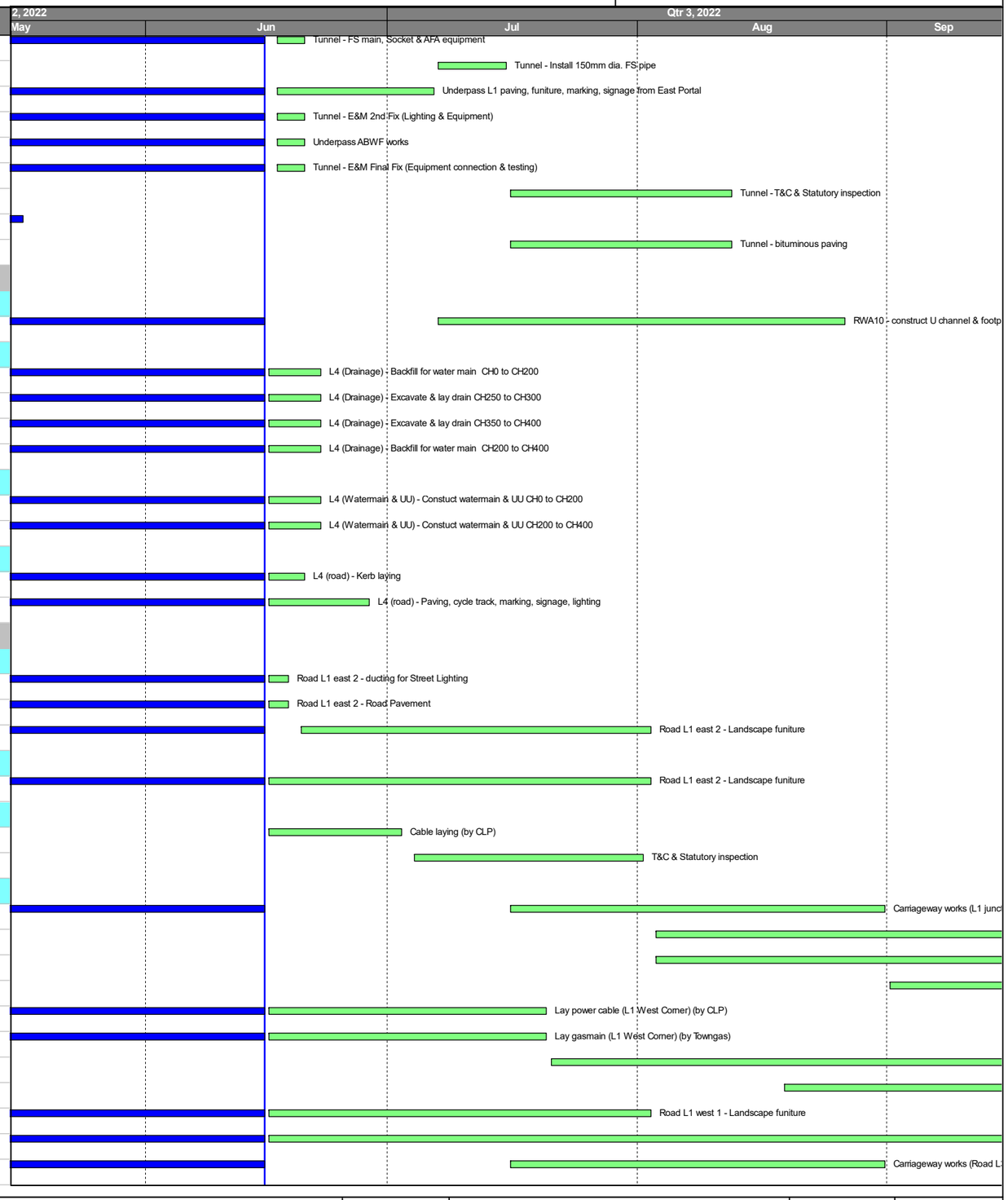
3-month Rolling Programme
Anderson Rd Sub-programme
15-Jun-22

Date	Revision	Checked	Approved
15-Jun-22	C1-MPU202206		

俊和－上隧－浩隆聯營
CHUN WO – STEC – VASTEAM JOINT VENTURE

CONTRACT NO.NE/2016/01 SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT OF ANDERSON ROAD QUARRY SITE
3-MONTH ROLLING PROGRAMME

Activity ID	Activity Name	BL Project Duration	BL Project Start	BL Project Finish	At Completion Duration	Start	Finish
TUN-3540	Tunnel - FS main, Socket & AFA equipment	0			494	19-Oct-20 A	20-Jun-22
TUN-3542	Tunnel - Install 150mm dia. FS pipe	0			8	07-Jul-22	15-Jul-22
TUN-3550	Underpass L1 paving, funiture, marking, signage from East Portal	0			507	19-Oct-20 A	06-Jul-22
TUN-3560	Tunnel - E&M 2nd Fix (Lighting & Equipment)	0			494	19-Oct-20 A	20-Jun-22
TUN-3570	Underpass ABWF works	0			477	09-Nov-20 A	20-Jun-22
TUN-3580	Tunnel - E&M Final Fix (Equipment connection & testing)	0			477	09-Nov-20 A	20-Jun-22
TUN-3590	Tunnel - T&C & Statutory inspection	0			24	16-Jul-22	12-Aug-22
TUN-3610	Tunnel - Construct retaining wall bay14	0			12	03-May-22 A	16-May-22 A
TUN-3630	Tunnel - bituminous paving	0			24	16-Jul-22	12-Aug-22
Road L4 (RWA18, Noise Barrier, RWA12, Utilities & Road Works)							
Demolish Existing Retaining Wall R10							
L4-4430	RWA10 - construct U channel & footpath	0			120	01-Apr-22 A	26-Aug-22
Road Works - Drainage							
L4-4260	L4 (Drainage) - Backfill for water main CH0 to CH200	0			388	02-Mar-21 A	22-Jun-22
L4-4280	L4 (Drainage) - Excavate & lay drain CH250 to CH300	0			388	02-Mar-21 A	22-Jun-22
L4-4300	L4 (Drainage) - Excavate & lay drain CH350 to CH400	0			388	02-Mar-21 A	22-Jun-22
L4-4310	L4 (Drainage) - Backfill for water main CH200 to CH400	0			165	29-Nov-21 A	22-Jun-22
Watermain & Utilities							
L4-4320	L4 (Watermain & UU) - Constuct watermain & UU CH0 to CH200	0			151	15-Dec-21 A	22-Jun-22
L4-4330	L4 (Watermain & UU) - Constuct watermain & UU CH200 to CH400	0			151	15-Dec-21 A	22-Jun-22
Road Formation							
L4-4410	L4 (road) - Kerb laying	0			98	19-Feb-22 A	20-Jun-22
L4-4420	L4 (road) - Paving, cycle track, marking, signage, lighting	0			85	15-Mar-22 A	28-Jun-22
Road Works L5,L1 east (between Junction L3 & L5)							
Road L1 east part 2 (L5 toward PC system B)							
RL1b-1040	Road L1 east 2 - ducting for Street Lighting	0			738	19-Dec-19 A	18-Jun-22
RL1b-1050	Road L1 east 2 - Road Pavement	0			645	17-Apr-20 A	18-Jun-22
RL1b-1060	Road L1 east 2 - Landscape funiture	0			635	13-Jun-20 A	02-Aug-22
Road L1 east part 3 (Junction L3 toward L5)							
RL1c-1060	Road L1 east 2 - Landscape funiture	0			635	13-Jun-20 A	02-Aug-22
Works for USRT							
USRT10030	Cable laying (by CLP)	0			14	16-Jun-22	02-Jul-22
USRT10050	T&C & Statutory inspection	0			25	04-Jul-22	01-Aug-22
Road Works							
RL1-2010	Carriageway works (L1 junction L3)	0			102	03-May-22 A	31-Aug-22
RL1-2030	Footpath & cycle track (L1 junction L3)	0			50	03-Aug-22	30-Sep-22
RL1-2070	Carriageway works (Road L2 & L3)	0			50	03-Aug-22	30-Sep-22
RL1-2090	Footpath & cycle track (Road L2 & L3)	0			52	01-Sep-22	03-Nov-22
RL1-2130	Lay power cable (L1 West Corner) (by CLP)	0			77	15-Apr-22 A	20-Jul-22
RL1-2150	Lay gasmain (L1 West Corner) (by Towngas)	0			77	15-Apr-22 A	20-Jul-22
RL1-2170	Carriageway works (L1 West Corner)	0			50	21-Jul-22	17-Sep-22
RL1-2190	Footpath & cycle track (L1 West Corner)	0			50	19-Aug-22	19-Oct-22
RL1c-1140	Road L1 west 1 - Landscape funiture	0			333	21-Jun-21 A	02-Aug-22
RL1c-1150	Road L1 west 1 - E&M works	0			144	11-Apr-22 A	05-Oct-22
RL3-2010	Carriageway works (Road L3)	0			102	03-May-22 A	31-Aug-22



Planned Bar (WP) ◇ Planned Milestone (WP)
Actual Bar ◆ Milestone
Forecast Bar

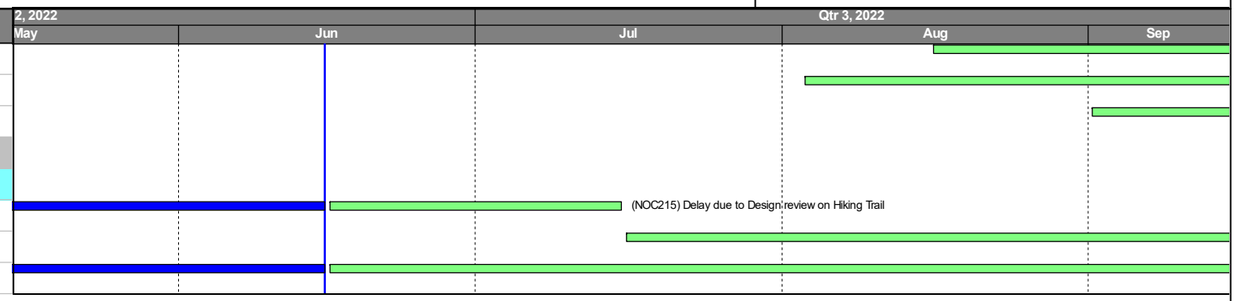
3-month Rolling Programme
Anderson Rd Sub-programme
15-Jun-22

Date	Revision	Checked	Approved
15-Jun-22	C1-MPU202206		

俊和－上隧－浩隆聯營
CHUN WO – STEC – VASTEAM JOINT VENTURE

CONTRACT NO.NE/2016/01 SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT OF ANDERSON ROAD QUARRY SITE
3-MONTH ROLLING PROGRAMME

Activity ID	Activity Name	BL Project Duration	BL Project Start	BL Project Finish	At Completion Duration	Start	Finish
RL3-2030	Footpath & cycle track (Road L3)	0			66	16-Aug-22	03-Nov-22
RL4-2010	Carriageway works (Road L4)	0			50	03-Aug-22	30-Sep-22
RL4-2030	Footpath & cycle track (Road L4)	0			52	01-Sep-22	03-Nov-22
Hiking Trail Connecting to Wison Trail (Portion B5)							
Construction works at Hiking Trail							
HIK10130	(NOC215) Delay due to Design review on Hiking Trail	0			306	06-Jul-21 A	15-Jul-22
HIK10150	Resume work - Construction of Dwarf Walls for Hiking Trail (SP001 to SP001A)	0			78	16-Jul-22	18-Oct-22
HIK10250	Slope works at Portion B5	0			420	14-Jun-21 A	09-Nov-22



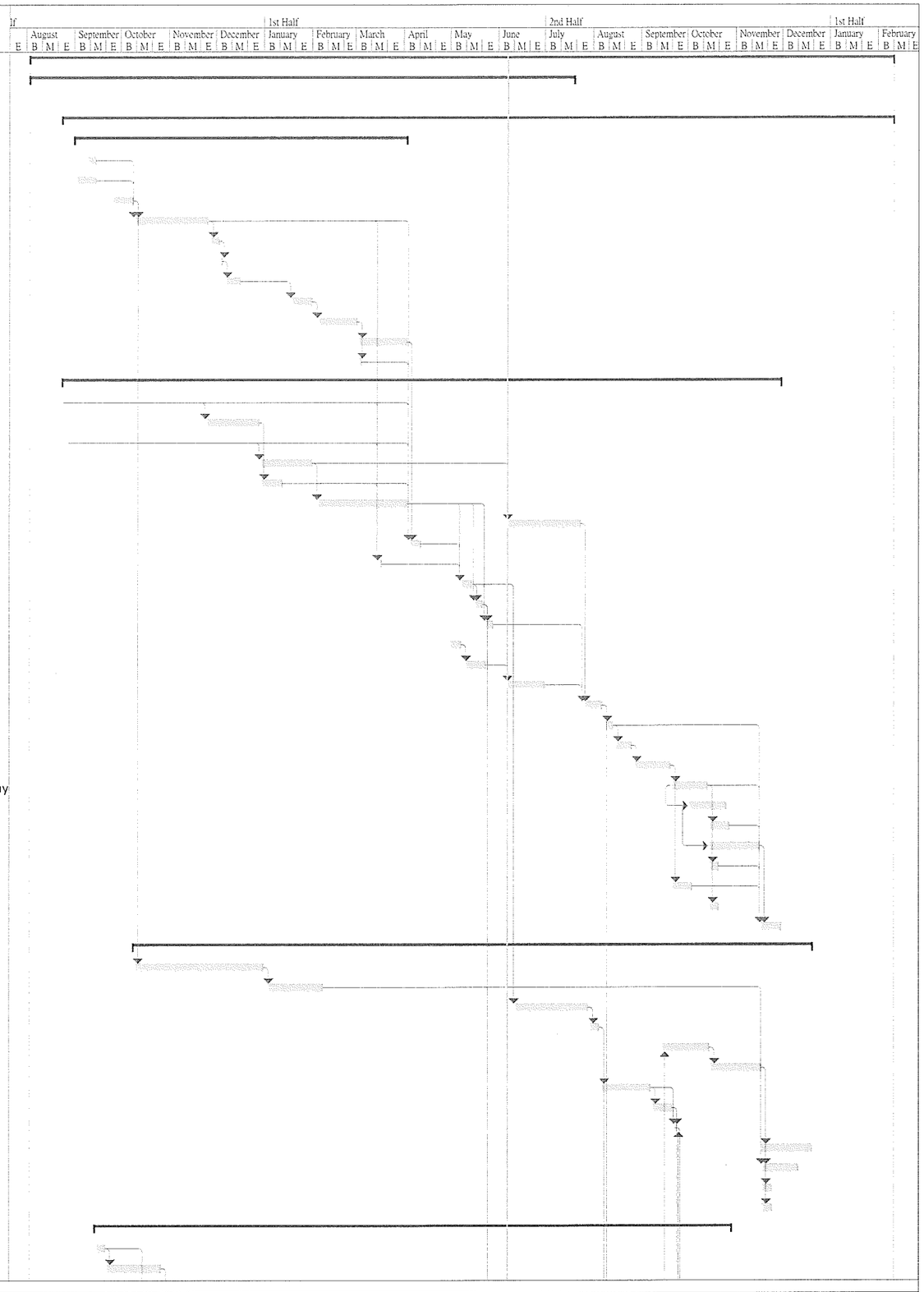
Planned Bar (WP) ◇ ◇ Planned Milestone (WP)
Actual Bar ◆ ◆ Milestone
Forecast Bar

3-month Rolling Programme
Anderson Rd Sub-programme
15-Jun-22

Date	Revision	Checked	Approved
15-Jun-22	C1-MPU202206		

Contract 2 (NE/2016/05)

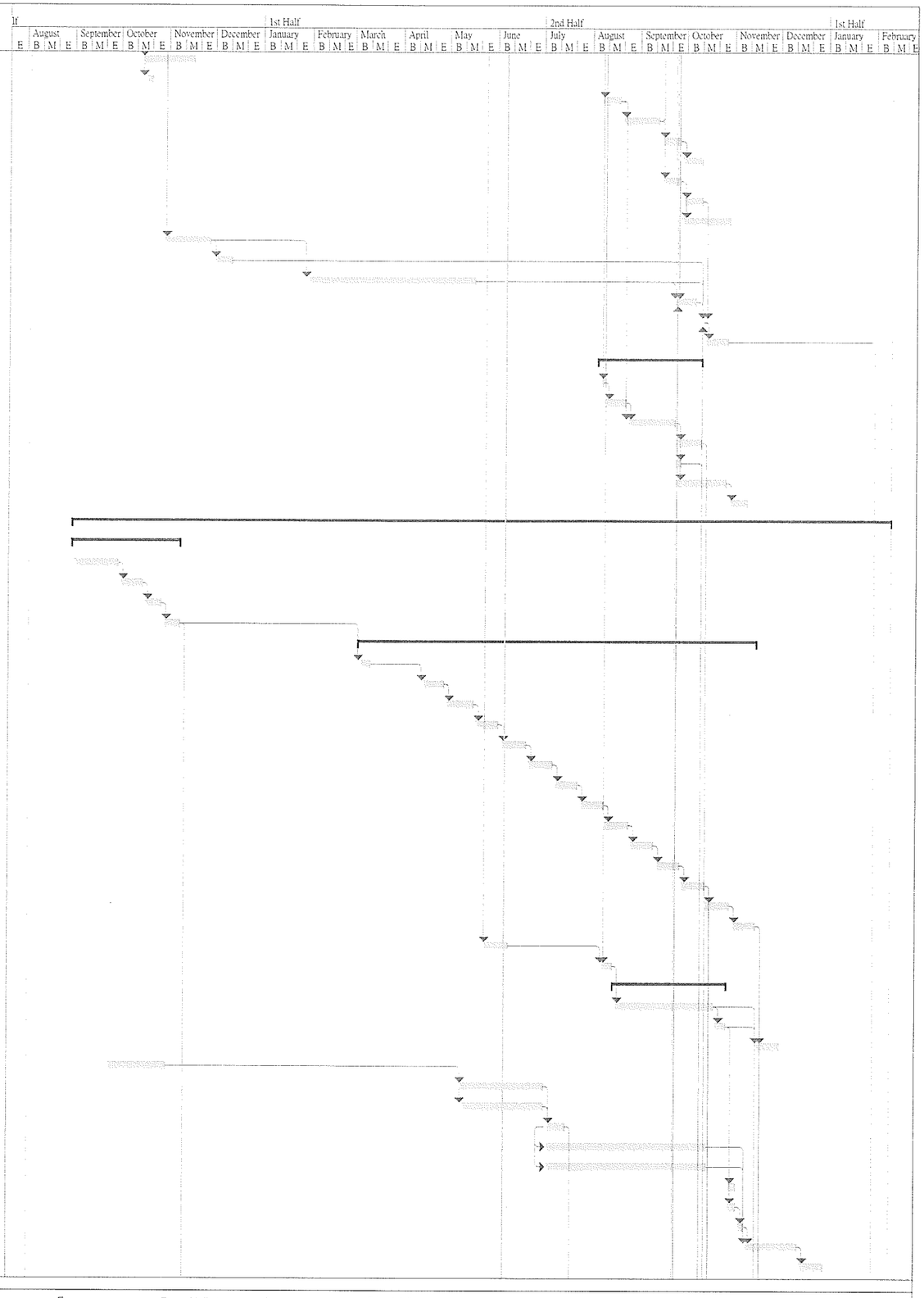
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
1	**NE/2016/05**	**461 days**	**Tue 3/8/21**	**Fri 10/2/23**		
2	**Portion 1**	**284 days**	**Tue 3/8/21**	**Wed 20/7/22**		
131						
132	**Portion 2**	**443 days**	**Tue 24/8/21**	**Fri 10/2/23**		
133	**E3-PC2 Pile Cap, Column and Pier**	**175 days**	**Wed 1/9/21**	**Sat 2/4/22**		
134	Concrete Capping Works	6 days	Wed 8/9/21	Tue 14/9/21		137
135	Temporary Working Platform for Piling	12 days	Wed 1/9/21	Tue 14/9/21		137
136	Risk Assessment for Existing RC Canopy at Fu Wah Court	12 days	Fri 24/9/21	Fri 8/10/21		137,174
137	Piling Works	40 days	Sat 9/10/21	Thu 25/11/21	135,134,136	138,153,154
138	Anchor Plate for Pile Heads incl. Testing	6 days	Fri 26/11/21	Thu 2/12/21	137	139
139	Construction of Blindng Layer	2 days	Fri 3/12/21	Sat 4/12/21	138	140
140	Constructiono of Pile Cap	10 days	Mon 6/12/21	Thu 16/12/21	139	141
141	Construction of Column	12 days	Tue 18/1/22	Mon 31/1/22	140	142
142	Construction of Pier Head and Corbal	22 days	Fri 4/2/22	Tue 1/3/22	141	143,144
143	Concrete Curing for Pier Head	28 days	Wed 2/3/22	Sat 2/4/22	142	153
144	Bearing Installation at Corbal	3 days	Wed 2/3/22	Fri 4/3/22	142	153
145	**E3-FB1 Bridge**	**380 days**	**Tue 24/8/21**	**Tue 29/11/22**		
146	Design Submission of Temporary Support at E3-Abt	1 day	Tue 24/8/21	Tue 24/8/21		153,147,154
147	Design Submission Approval of Temporary Support at E3-Abt	28 days	Wed 24/11/21	Tue 28/12/21	146	150
148	Shop Drawing Submission of E3-FB1	1 day	Fri 27/8/21	Fri 27/8/21		153,149,154
149	Shop Drawing Approval of E3-FB1	28 days	Wed 29/12/21	Mon 31/1/22	148	151,152
150	Procurement of Material for Temp. Support	12 days	Wed 29/12/21	Wed 12/1/22	147	153,154
151	Procurement / fabribation for E3-FB1 (1st - 3rd Session)	50 days	Fri 4/2/22	Sat 2/4/22	149	155,156,157
152	Procurement / fabribation for E3-FB1 (4th Session)	40 days	Tue 7/6/22	Sat 23/7/22	149	161
153	Erect Temp. Support at E3-Abt (For 1st Session, E3-FB1)	6 days	Mon 4/4/22	Mon 11/4/22	146,148,150,137,143,144	155
154	Bearing Installation at E3-Abt	3 days	Tue 15/3/22	Thu 17/3/22	146,148,150,137	155
155	Lifting & Install E3-FB1 - 1st Session (from E3-Abt)	6 days	Sat 7/5/22	Sat 14/5/22	151,153,154	156,157,176
156	Lifting & Install E3-FB1 - 2nd Session (from E3-P1)	6 days	Mon 16/5/22	Sat 21/5/22	155,151	234,157
157	Lifting & Install E3-FB1 - 3rd Session (Connect 1st & 2nd Session)	6 days	Mon 23/5/22	Sat 28/5/22	155,156,151	161
158	Fabribation & Delivery of Temp Steel Platform in Mainland	6 days	Sat 30/4/22	Sat 7/5/22		159
159	Fabribation & Delivery of Temp Steel Platform in HK	12 days	Tue 10/5/22	Mon 23/5/22	158	160
160	Install Temporary Steel Platform for E3-LT1 to E3-P1	21 days	Tue 7/6/22	Thu 30/6/22	159	161
161	Lifting & Install E3-FB1 - 4th Session (E3-LT1 to E3-P1)	12 days	Mon 25/7/22	Sat 6/8/22	157,152,160	235,162
162	Erection of Scaffolding	6 days	Mon 8/8/22	Sat 13/8/22	161	163,172
163	Concreting Bridge Deck	10 days	Mon 15/8/22	Thu 25/8/22	162	164
164	Construction of RC Planters	21 days	Fri 26/8/22	Mon 19/9/22	163	170,165
165	Installation of Corrugated Roof Panel & Gutter	21 days	Tue 20/9/22	Thu 13/10/22	164	169,171,172,167,166SS+10 day
166	Floor Tiling	21 days	Sat 1/10/22	Tue 25/10/22	165SS+10 days	168SS+11 days
167	Installation of GRP Feature	12 days	Fri 14/10/22	Thu 27/10/22	165	172
168	Installation of E&M Works incl. Lighting, Power Cable (From E3 Pillar	28 days	Fri 14/10/22	Tue 15/11/22	166SS+11 days	172
169	Installation of Downpipe	6 days	Fri 14/10/22	Thu 20/10/22	165	172
170	Installation of Irrigation System	12 days	Tue 20/9/22	Mon 3/10/22	164	172
171	Fall Arrest System	6 days	Fri 14/10/22	Thu 20/10/22	165	
172	Dismantling of Scaffolding & Temporary Support to E3-FB1	12 days	Wed 16/11/22	Tue 29/11/22	165,167,168,169,170,162	
173	**Covered Walkway, Sump Pit, E2 Pillar Box**	**359 days**	**Sat 9/10/21**	**Mon 19/12/22**		
174	Excavation of Sump Pit	69 days	Sat 9/10/21	Fri 31/12/21	136	175
175	Construction of Sump Pit	28 days	Mon 3/1/22	Mon 7/2/22	174	184
176	Construction of Footing of Covered Walkway	40 days	Sat 11/6/22	Thu 28/7/22	155	177
177	Backfilling and Compaction Test	6 days	Fri 29/7/22	Thu 4/8/22	176	192,206,180
178	Installation of Steel Frame (Covered Walkway)	28 days	Tue 13/9/22	Fri 14/10/22	193	179
179	Installation of Roofing (Covered Walkway)	28 days	Sat 15/10/22	Wed 16/11/22	178	183,185,186,184
180	Construction of E2 Pillar Box (Civil)	28 days	Fri 5/8/22	Tue 6/9/22	177	181,182
181	Construction of E2 Pillar Box (E&M)	12 days	Wed 7/9/22	Tue 20/9/22	180	182,257
182	E2 Pillar Energized from E3 Pillar	1 day	Thu 22/9/22	Thu 22/9/22	257,180,181	202
183	Construction of Pavement	28 days	Thu 17/11/22	Mon 19/12/22	179	
184	Installation of E&M Works (Pump & Lighting)	21 days	Thu 17/11/22	Sat 10/12/22	175,179	
185	Installation of Irrigation Pipe	6 days	Thu 17/11/22	Wed 23/11/22	179	
186	Fall Arrest System	6 days	Thu 17/11/22	Wed 23/11/22	179	
187	**E2 Lift Tower**	**335 days**	**Tue 14/9/21**	**Fri 28/10/22**		
188	Scaffolding Modification	6 days	Tue 14/9/21	Mon 20/9/21		189,190,191
189	Window and Louvre Installation	28 days	Tue 21/9/21	Tue 26/10/21	188	199



Project: NE201605_Programme_20

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

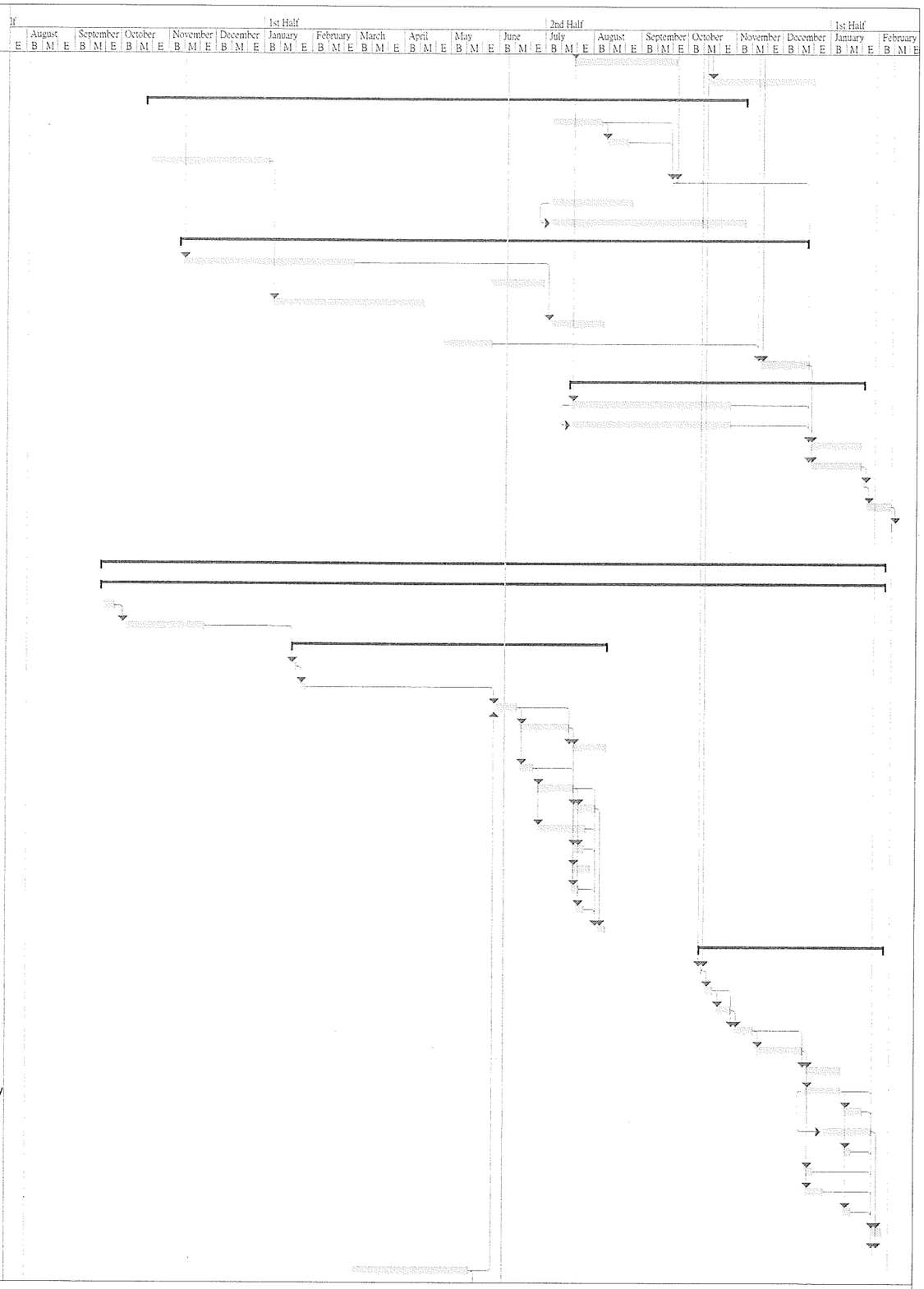
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
190	Tiling Works on Wall	28 days	Fri 15/10/21	Tue 16/11/21	188	
191	Waterproofing Works	5 days	Fri 15/10/21	Wed 20/10/21	188	
192	Erect Falseworks for E2-LT1 RC Decking at +66.3mPD	12 days	Fri 5/8/22	Thu 18/8/22	177	193,208
193	Construction of E2-LT1 RC Decking at +66.3mPD	21 days	Fri 19/8/22	Mon 12/9/22	192	196,178,194
194	Erect Falseworks for E2-LT1 Staircase Landing at +62.85mPD	12 days	Tue 13/9/22	Mon 26/9/22	193	195
195	Construction of E2-LT1 Staircase Landing at +62.85mPD	12 days	Tue 27/9/22	Mon 10/10/22	194	
196	Installation of Steel Frame (E2-LT1 Canopy)	12 days	Tue 13/9/22	Mon 26/9/22	193	197,198
197	Installation of Railing	12 days	Tue 27/9/22	Mon 10/10/22	196	203
198	Tiling Works	28 days	Tue 27/9/22	Fri 28/10/22	196	
199	E&M Works	28 days	Wed 27/10/21	Sat 27/11/21	189	200,201
200	Cabling for Permanent Power	12 days	Mon 29/11/21	Sat 11/12/21	199	203
201	Lift Installation	85 days	Fri 28/1/22	Tue 17/5/22	199	203,202
202	Lift T&C	12 days	Fri 23/9/22	Thu 6/10/22	201,257,182	203
203	LES Submission to EMSD	1 day	Tue 11/10/22	Tue 11/10/22	201,200,197,257,202	204
204	Use Permit for E2-LT1	14 days	Wed 12/10/22	Thu 27/10/22	203	310
205	**E2-PC2 Pile Cap**	**57 days**	**Fri 5/8/22**	**Mon 10/10/22**		
206	Excavation for Column Construction	3 days	Fri 5/8/22	Mon 8/8/22	177	207
207	Construction of Column	12 days	Tue 9/8/22	Mon 22/8/22	206	208
208	Construction of Pier Head and Corbal	28 days	Tue 23/8/22	Fri 23/9/22	207,192	211,209,210
209	Concrete Curing for Pier Head and Corbal	14 days	Sat 24/9/22	Mon 10/10/22	208	296
210	Bearing Installation	3 days	Sat 24/9/22	Tue 27/9/22	208	296
211	Drainage	28 days	Sat 24/9/22	Wed 26/10/22	208	212
212	Reinstatment	12 days	Thu 27/10/22	Wed 9/11/22	211	
213	**E3-LT1 Lift TowerPortion 2**	**437 days**	**Tue 31/8/21**	**Fri 10/2/23**		
214	**E3-LT1 Lift tower structure**	**57 days**	**Tue 31/8/21**	**Mon 8/11/21**		
215	15th pour (+59.7 - +63.3mPD)	25 days	Tue 31/8/21	Wed 29/9/21		216
216	16th pour (+63.3 - +66.5mPD)	12 days	Thu 30/9/21	Fri 15/10/21	215	217
217	17th pour (+66.5 - +70.45mPD)	10 days	Sat 16/10/21	Wed 27/10/21	216	218
218	18th pour (+70.45 - +71.35mPD & Partial Parapet wall)	10 days	Thu 28/10/21	Mon 8/11/21	217	220,261
219	**E3-ST1 Staircase (landing & stairs)**	**212 days**	**Fri 4/3/22**	**Tue 15/11/22**		
220	1st pour (+25.0 - +28.6mPD)	7 days	Fri 4/3/22	Fri 11/3/22	218	221
221	2nd pour (+28.6 - +32.2mPD)	10 days	Thu 14/4/22	Thu 28/4/22	220	222
222	3rd pour (+32.2 - +35.8mPD)	14 days	Fri 29/4/22	Tue 17/5/22	221	223
223	4th pour (+35.8 - +38.8mPD)	14 days	Wed 18/5/22	Thu 2/6/22	222	224
224	5th pour (+38.8 - +41.8mPD)	14 days	Sat 4/6/22	Mon 20/6/22	223	225
225	6th pour (+41.8 - +45.4mPD)	14 days	Tue 21/6/22	Thu 7/7/22	224	226
226	7th pour (+45.4 - +49.0mPD)	14 days	Fri 8/7/22	Sat 23/7/22	225	227
227	8th pour (+49.0 - +52.6mPD)	14 days	Mon 25/7/22	Tue 9/8/22	226	228
228	9th pour (+52.6 - +56.2mPD)	14 days	Wed 10/8/22	Thu 25/8/22	227	229
229	10th pour (+56.2 - +59.7mPD)	14 days	Fri 26/8/22	Sat 10/9/22	228	230
230	11th pour (+59.7 - +63.3mPD)	14 days	Mon 12/9/22	Tue 27/9/22	229	231
231	12th pour (+63.3mPD)	14 days	Wed 28/9/22	Thu 13/10/22	230	232,252
232	13th pour (+66.5mPD)	14 days	Fri 14/10/22	Sat 29/10/22	231	233
233	14th pour (+70.45mPD)	14 days	Mon 31/10/22	Tue 15/11/22	232	266,239
234	Erection of small crane at roof	15 days	Mon 23/5/22	Thu 9/6/22	156	235
235	Removal of tower crane & footing	7 days	Mon 8/8/22	Mon 15/8/22	234,161	237
236	**Reinstatement works for tower crane slab**	**63 days**	**Tue 16/8/22**	**Thu 27/10/22**		
237	Slab Opening Reinstatement	56 days	Tue 16/8/22	Wed 19/10/22	235	238,266
238	Parapet Wall (Remaining)	7 days	Thu 20/10/22	Thu 27/10/22	237	246,247,239
239	Removal of small crane	14 days	Wed 16/11/22	Thu 1/12/22	238,233	
240	Steel truss - welding works & welding test	31 days	Thu 23/9/21	Sun 31/10/21		241,242
241	Window installation	45 days	Tue 10/5/22	Sat 2/7/22	240	243
242	Louvre installation	45 days	Tue 10/5/22	Sat 2/7/22	240	243
243	Water tightness test for E3-LT1 louvre / windows	12 days	Mon 4/7/22	Sat 16/7/22	241,242	244SS,245SS,251,268
244	Tiles (Wall/Staircase/Floor)	90 days	Mon 4/7/22	Sat 15/10/22	243SS	249
245	Paint	90 days	Mon 4/7/22	Sat 15/10/22	243SS	249
246	Fall Arrest System (Roof)	6 days	Fri 28/10/22	Thu 3/11/22	238	
247	Waterproof (Roof)	6 days	Fri 28/10/22	Thu 3/11/22	238	248
248	Water tightness test for E3-LT1 roof	4 days	Fri 4/11/22	Tue 8/11/22	247	249
249	Dismantle of scaffolding working platform	30 days	Wed 9/11/22	Tue 13/12/22	248,244,245	250
250	Glass canopy at G/F	15 days	Wed 14/12/22	Fri 30/12/22	249	



Project: NE201605_Programme_20

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

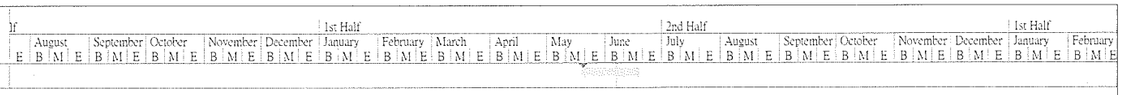
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
251	Install inclined plate at the recess of Windows & Louvres	59 days	Mon 18/7/22	Fri 23/9/22	243	
252	Railing (GMS) on staircase	59 days	Fri 14/10/22	Wed 21/12/22	231	
253	**E&M works**	**317 days**	**Mon 18/10/21**	**Mon 7/11/22**		
254	Excavation and Laying Cable by CLP (Next to HD Site)	30 days	Mon 4/7/22	Sat 6/8/22		255,257
255	Excavation by KO and Laying Cable by CLP (Outside E3-LT1)	14 days	Mon 8/8/22	Tue 23/8/22	254	257
256	E3 Pillar Box (Civil)	65 days	Mon 18/10/21	Tue 4/1/22		263
257	E3 Pillar Energized by CLP	1 day	Wed 21/9/22	Wed 21/9/22	181,254,255	270,203,202,182,271
258	Telemetry Duct	47 days	Mon 4/7/22	Fri 26/8/22		259SS
259	Drainage Manhole	109 days	Mon 4/7/22	Mon 7/11/22	258SS	
260	**Electrical installation**	**333 days**	**Tue 9/11/21**	**Sat 17/12/22**		
261	Lift Shafts	90 days	Tue 9/11/21	Mon 28/2/22	218	264
262	Sump Pit (E&M)	30 days	Thu 26/5/22	Thu 30/6/22		
263	Pillar Box (E&M)	82 days	Wed 5/1/22	Thu 14/4/22	256	
264	Lighting	31 days	Mon 4/7/22	Mon 8/8/22	261	
265	Machine room (Above Lift Shaft)	28 days	Mon 25/4/22	Sat 28/5/22		266
266	Machine room (Above E3-ST1 Staircase & Tower Crane)	28 days	Wed 16/11/22	Sat 17/12/22	237,265,233	271,270
267	**Lift installation**	**163 days**	**Mon 18/7/22**	**Mon 23/1/23**		
268	Lift Car Installation	90 days	Mon 18/7/22	Sat 29/10/22	243	269SS,270,271
269	Door frames / Misc.	90 days	Mon 18/7/22	Sat 29/10/22	268SS	270,271
270	Self test	30 days	Mon 19/12/22	Sat 21/1/23	257,268,269,266	
271	T&C	30 days	Mon 19/12/22	Sat 21/1/23	266,257,268,269	272
272	Submit LE5 to EMSD	1 day	Mon 23/1/23	Mon 23/1/23	271	273
273	Pre-handing over inspection (E3-LT1 & E3-FB1) by HyD/Structure	15 days	Tue 24/1/23	Thu 9/2/23	272	274
274	Ready to open Lift Tower E3-LT1 / Footbridge E3-FB1 to public	1 day	Fri 10/2/23	Fri 10/2/23	273	
275						
276	**Portion 3**	**416 days**	**Mon 20/9/21**	**Mon 6/2/23**		
277	**E2-FB1 Bridge**	**416 days**	**Mon 20/9/21**	**Mon 6/2/23**		
278	Shop Drawing Approval of E3-FB1	7 days	Mon 20/9/21	Tue 28/9/21		279
279	Procurement of Material for E3-FB1	45 days	Mon 4/10/21	Thu 25/11/21	278	281
280	**E2-FB1 - 1st Span (Housing Lift Tower to E2-P2)**	**163 days**	**Fri 21/1/22**	**Thu 11/8/22**		
281	Bridge Erection (Only allow on Sat to Sun / Public Holiday)	2 days	Fri 21/1/22	Sun 23/1/22	279	282
282	Remaining Steelworks before Bridge Deck Casting	6 days	Mon 24/1/22	Sat 29/1/22	281	283
283	Concreting Bridge Deck	12 days	Tue 31/5/22	Tue 14/6/22	282,311	284,286,285
284	Construction of RC Planter	28 days	Wed 15/6/22	Mon 18/7/22	283	292,291,285
285	Floor Tiling	21 days	Tue 19/7/22	Thu 11/8/22	283,284	
286	Erection of Scaffolding	10 days	Wed 15/6/22	Sat 25/6/22	283	287,288,289,290
287	Installation of Corrugated Roof Panel & Gutter	21 days	Mon 27/6/22	Thu 21/7/22	286	290,293,294,288
288	Installation of GRP Feature	12 days	Fri 22/7/22	Thu 4/8/22	286,287	294
289	Installation of E&M Works incl. Unistruct & Lighting	28 days	Mon 27/6/22	Fri 29/7/22	286	294
290	Installation of Downpipe	6 days	Fri 22/7/22	Thu 28/7/22	287,286	294
291	Installation of Railing	12 days	Tue 19/7/22	Mon 1/8/22	284	
292	Installation of Irrigation System	6 days	Tue 19/7/22	Mon 25/7/22	284	294
293	Fall Arrest System	6 days	Fri 22/7/22	Thu 28/7/22	287	294
294	Dismantling of Scaffolding	6 days	Fri 5/8/22	Thu 11/8/22	288,289,290,292,287,293	
295	**E2-FB1 - 2nd Span (E2-P2 to E2-LT1)**	**102 days**	**Tue 11/10/22**	**Mon 6/2/23**		
296	Bridge Lifting (Only allow on Sat to Sun / Public Holiday)	2 days	Tue 11/10/22	Wed 12/10/22	209,210	297
297	Remaining Steelworks before Bridge Deck Casting	6 days	Thu 13/10/22	Wed 19/10/22	296	299,298
298	Erection of Scaffolding	10 days	Thu 20/10/22	Mon 31/10/22	297	299
299	Concreting Bridge Deck	12 days	Tue 1/11/22	Mon 14/11/22	297,298	300,301
300	Construction of RC Planter	28 days	Tue 15/11/22	Fri 16/12/22	299	306,307,301,302
301	Floor Tiling	21 days	Sat 17/12/22	Tue 10/1/23	299,300	
302	Installation of Corrugated Roof Panel & Gutter	21 days	Sat 17/12/22	Tue 10/1/23	300	308,305,303,309,304SS+10 day
303	Installation of GRP Feature	12 days	Wed 11/1/23	Tue 24/1/23	302	309
304	Installation of E&M Works incl. Unistruct & Lighting	28 days	Thu 29/12/22	Mon 30/1/23	302SS+10 days	309,310
305	Installation of Downpipe	6 days	Wed 11/1/23	Tue 17/1/23	302	309
306	Installation of Irrigation System	6 days	Sat 17/12/22	Fri 23/12/22	300	309
307	Installation of Railing	12 days	Sat 17/12/22	Fri 30/12/22	300	310
308	Fall Arrest System	6 days	Wed 11/1/23	Tue 17/1/23	302	309
309	Dismantling of Scaffolding	6 days	Tue 31/1/23	Mon 6/2/23	303,304,305,306,308,302	
310	Ready to open Lift Tower E2-LT1 & E2-FB1	1 day	Tue 31/1/23	Tue 31/1/23	307,304,204	
311	Underground Drainage	60 days	Tue 1/3/22	Mon 16/5/22		312,283



Project: NE201605_Programme_20

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

ID	Task Name	Duration	Start	Finish	Predecessors	Successors
312	Road Surface Reinstatement	28 days	Tue 17/5/22	Sat 18/6/22	311	



Contract 3 (NE/2017/03)

Activity ID	Activity Name	Duration	Start	Finish
NE2017/03 - ARQ PHASE 2A - Monthly Programme Update (202202)-1 _220429		1043	04-Nov-20 A	16-Jun-23
Road Improvement Works Location 1 (RIW1)		800	04-Nov-20 A	16-Jun-23
Construction Works		800	04-Nov-20 A	16-Jun-23
CON10650	Construct RW wall (RWC2 type 1a & 1 [Bay 2 to Bay 1])	225	04-Nov-20 A	16-May-22
CON12110	Drainage & utilities works (RWC2 type 4, 6, 7, 8)	60	21-Jun-21 A	17-Mar-23
CON12130	Road works (RWC2 type 4, 6, 7, 8)	60	26-Jul-21 A	26-Apr-23
CON12134	Install stone facing for wall (RWC2 type 4, 6, 7, 8)	72	02-Aug-21 A	16-Jun-23
CON11550	Construct piling foundation at FE1 Type 2 (12nos, 2d/no, 1 team)	24	19-Aug-21 A	04-Apr-22
CON12356E	Construct 4nos. sewage manhole & sewage drainage diversion (near KS27 w	138	20-Aug-21 A	21-May-22
CON12356F	Construct 4nos. storm manhole & strom drainage diversion (near KS27 west s	138	20-Aug-21 A	21-May-22
CON10268	Trial pit excavation (RWC2 type 5)	60	21-Sep-21 A	05-Mar-22
CON10750	Construct socket H-pile works (RWC2 type 3; 400nos, 3d/no, 4 teams)	300	13-Oct-21 A	26-Jan-23
CON12370A	(NCE179) Unforeseen ground condition obstructed sheet-pile installation at KS	30	29-Oct-21 A	02-Apr-22
CON10231C	(CE358) JV prepare & submit; PM review, comment & acceptance watermain	30	20-Nov-21 A	12-Mar-22
CON10231D	(CE358) Prepare & subletting for watermain diversion works; & PM acceptanc	40	20-Nov-21 A	21-Apr-22
CON11328C	(EWN-C-084) (CE[TBA]) Cable diversion works	11	18-Jan-22 A	09-Apr-22
CON12370B	(NCE179) Install sheet-pile works after obstruction removal (KS27 LT1) (id: CC	21	28-Jan-22 A	03-May-22
CON10750B	Review temporary drainage system before year 2022 rain season (RIW1)	18	31-Jan-22 A	30-Mar-22
CON10630C	(CE140) 5th wave COVID-19 affected to RWC2 works area	12	07-Feb-22 A	26-Mar-22
CON12372	ELS works (KS27 east side)	60	04-May-22	15-Jul-22
CON10240	Existing drainage pipe diversion (lower stream)	14	11-May-22	26-May-22
CON10650A	(NCE148) Inclement weather 21/5/2021 to 20/6/2021 RWC2 type 1a, 1 & 2	12	17-May-22	30-May-22
CON11550A	Gas Main Diversion Works	29	23-May-22	25-Jun-22
CON10272	Cut slope works (RWC2 Bay 48 to Bay 47)	30	27-May-22	02-Jul-22
CON10274	Cut slope works (RWC2 type 4 Bay 45 to Bay 38)	60	27-May-22	06-Aug-22
CON10650B	(NCE153) Inclement weather 21/6/2021 to 20/7/2021 RWC2 type 1a, 1 & 2	12	31-May-22	14-Jun-22
CON10650C	(NCE157) Inclement weather 21/7/2021 to 20/8/2021 RWC2 type 1a, 1 & 2	11	15-Jun-22	27-Jun-22
CON11552	Install sheet pile for pile cap construction (FE1-PC1b, 32m, 1m/d)	14	27-Jun-22	13-Jul-22
CON10652	Construct RW footing (RWC2 type 2)	60	28-Jun-22	06-Sep-22
CON10412	Construct RW footing (RWC2 type 6 [bay 48 to bay 47])	24	04-Jul-22	30-Jul-22
CON11554	ELS works for pile cap construction (FE1-PC1b, 32m, 1m/d)	36	14-Jul-22	24-Aug-22
CON12410	Application for power supply & energization (KS27)	156	16-Jul-22	20-Jan-23
CON12390	ELS works & construct subway footing (KS27 east side)	90	16-Jul-22	01-Nov-22
CON10654	Construct RW wall (RWC2 type 2)	60	20-Jul-22	28-Sep-22
CON10414	Construct RW wall (RWC2 type 6 [bay 48 to bay 47])	24	01-Aug-22	27-Aug-22
CON10432	Construct RW footing (RWC2 type 4 [bay 45 to bay 38])	42	08-Aug-22	26-Sep-22
CON10452A	ELS to retaining wall footing (RWC2 type 3a Bay 37 to Bay 31)	72	08-Aug-22	02-Nov-22
CON10670	Slope reinstatement works (RWC2 type 1a, 1, 2)	60	19-Aug-22	31-Oct-22
Road Improvement Works Location 2 (RIW2)		402	21-Oct-21 A	28-Dec-22
Construction Works in Slope C3 (Portion B)		364	21-Oct-21 A	20-Nov-22
CON20670C	ELS to RW bay 9 to bay 16 formation (due to unforeseen ground condition)	34	21-Oct-21 A	04-Mar-22
CON20790	Construct RW bay 9 to bay 13 base (L=30m) (due to unforeseen ground cond	66	10-Jan-22 A	21-May-22
CON20152	Review temporary drainage system before year 2022 rain season (RIW2)	18	31-Jan-22 A	28-Feb-22
CON20810	Construct RW bay 9 to bay 13 wall (L=30m) (due to unforeseen ground condi	66	05-Mar-22	27-May-22
CON20990	Utilities & drainage works at Portion B (bay 9 to bay 13)	60	04-Apr-22	20-Jun-22
CON20290	Fabrication of NB acoustic panels - along slope side	70	02-May-22	10-Jul-22
CON21050	Utilities & drainage works at Portion B (bay 14 to bay 16)	30	07-May-22	13-Jun-22
CON20770	Fill slope at 11NE-B/F56 (Zone 7)	66	28-May-22	15-Aug-22
CON20850A	Remaining works for junction at RWC3 C & B	42	28-May-22	18-Jul-22
CON21070	Road works at Portion B (bay 1 to bay 16)	21	21-Jun-22	15-Jul-22
CON20310	Acoustic panels along slope side delivery	28	11-Jul-22	07-Aug-22
CON21112	Traffic diversion (Traffic to Sai Kung)	21	16-Jul-22	09-Aug-22
CON20330	Fabrication of NB Acoustic panels - central median near junction at on sau roac	105	08-Aug-22	20-Nov-22
CON21130	T&C and Statutory Inspection _Slope C3	30	10-Aug-22	14-Sep-22
CON21114	Construct drainage works & utilities at new U-turn bay	42	10-Aug-22	28-Sep-22
Construction Noise Semi-Enclosure SE2 (Portion C)		292	04-Jan-22 A	28-Dec-22
CON21770	Remove piling platform at CT4	18	04-Jan-22 A	23-Feb-22
CON219661	ELS works to +174mPD	24	15-Jan-22 A	01-Mar-22
CON21968	Construct piling fdn SE2 Bay13 to Bay18 (74nos, 2d/no. 2 teams + setup + uu	84	04-Apr-22	19-Jul-22
CON21658	(CE332) Construct piling fdn of SE2 (Bay9 to Bay12, stage 2 38nos. 1 team)	56	06-Apr-22	16-Jun-22
CON219704	Install pipe pile (SE2 Bay19 to Bay21 road side, 32no, 1 team)	16	05-May-22	24-May-22
CON21776	ELS works at CT4 (12nos. strut, 0.25no/d, 1 team + setup)	48	07-May-22	05-Jul-22
CON219705	ELS works to road level	16	25-May-22	13-Jun-22
CON21990	Construct piling fdn SE2 Bay 19 to 21 (21nos, 2d/no. 1 team + setup)	64	14-Jun-22	27-Aug-22
CON21670	Install pipe pile wall at SE2 Bay4 to Bay8 (48m 68no. 1 team + setup)	36	17-Jun-22	29-Jul-22
CON21778	Construct NB pile cap (CT4 Bay1 to Bay3; L=30m)	24	06-Jul-22	02-Aug-22
CON21970	ELS works & UU hanging (Bay13 to Bay18)	24	20-Jul-22	16-Aug-22
CON21690	Excavate & install lateral support (SE2 Bay4 to Bay12; L=110m)	125	30-Jul-22	28-Dec-22
CON21780	Construct NB RC L-shaped wall (CT4 Bay1 to Bay3; L=30m)	42	03-Aug-22	21-Sep-22
CON22010	Install pipe pile wall (SE2 Bay13 to Bay18; 65nos 2nos/d + setup, 1 team)	36	17-Aug-22	28-Sep-22

Actual Work
Remaining Work
Milestone

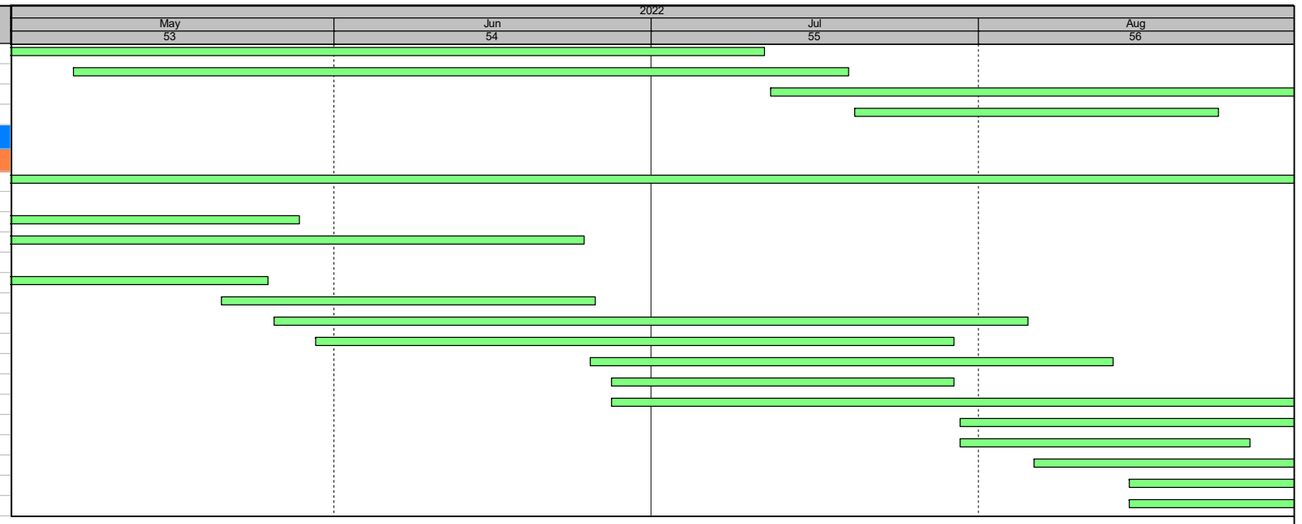
NE/2017/03 Development of Anderson Road Quarry Site - Investigation Design & Construction
Development of Anderson Road Quarry Site Road - Improvement Works & Pedestrian Connectivity Facilities Works Phase 2A
3-Month Rolling Programme

Activity ID	Activity Name	Duration	Start	Finish
Road Improvement Works Location 3 (RIW3)		444	19-Jul-21 A	08-Mar-23
Construction Works		444	19-Jul-21 A	08-Mar-23
CON31130	Cut slope works (CH115 to CH275) (L=160m, 24058m3, 65m3/d)	371	19-Jul-21 A	08-Mar-23
CON31150	Construct RWD3 (CH60 to CH152)	150	09-Aug-21 A	18-Jun-22
CON32410	Construct type 2 NB footing (SE1 bay13 to bay8)	150	16-Aug-21 A	15-Jun-22
CON30170	Slope works & fill no-fine concrete at slope D1 (Level 1/4, 400m3)	72	19-Aug-21 A	26-Mar-22
CON32412	Construct SE1 bay13 & bay8 (lower-pour) retaining wall	24	05-Nov-21 A	14-Jul-22
CON31422	TTAApplication and TMLG meeting for slope D4	90	15-Nov-21 A	19-Apr-22
CON30390	Construct RWD1 (bay 8 to bay 13) utilities works (2 teams)	60	29-Nov-21 A	12-Mar-22
CON30650	Lay twin DN600 watermain at LCSD Area Stage 1 (FW CH025 to CH050)	120	05-Jan-22 A	17-May-22
CON30412B	Install pipe pile wall (around 32nos. 1d/no.+ setup) (Bay 14b to Bay 16)	36	14-Jan-22 A	26-Mar-22
CON31706A	(NCE[TBA]) Design review to footing F1-4	36	15-Feb-22 A	28-Mar-22
CON32402	(CE[TBA]) Additional rock break due to unforeseen ground condition @ SE1 b	54	14-Mar-22	21-May-22
CON30392	Backfill RWD1 (bay10 to bay13)	60	14-Mar-22	28-May-22
CON30412E	Pre-drill & construct mini pile at RWD1 (bay 14b) (10nos, 3.0d/no, 1 team)	30	22-Apr-22	28-May-22
CON31430	Install safety fencing, from haul road & hoarding (Slope D4, CH275 to CH430)	18	13-May-22	02-Jun-22
CON30652	Lay twin DN600 watermain at LCSD Area Stage 2 (FW CH050 to CH100)	71	18-May-22	10-Aug-22
CON30656	Lay twin DN600 watermain at RW RWD1a Bay10 - Bay13 (FW CH290 to CH:	20	30-May-22	22-Jun-22
CON30430	Construct pile cap (Bay 14b)	12	30-May-22	13-Jun-22
CON30394	Backfill RWD1 (bay6 to bay10)	48	30-May-22	26-Jul-22
CON31450	Trees felling (Slope D4, CH275 to CH430)	24	04-Jun-22	02-Jul-22
CON30430A	Plate load test (Bay 15 to Bay 16)	12	14-Jun-22	27-Jun-22
CON30490	Drainage & utilities works (bay 8 to bay 14)	42	23-Jun-22	11-Aug-22
CON30430B	Construct RC stem wall (Bay 14a to Bay 14b)	24	28-Jun-22	26-Jul-22
CON31470	Erect working platform	24	04-Jul-22	30-Jul-22
CON32414	(CE[TBA]) Additional rock break due to unforeseen ground condition @ SE1 b	22	15-Jul-22	09-Aug-22
CON31490	Install monitoring & instrumentation (Slope D4, CH275 to CH430)	24	18-Jul-22	13-Aug-22
CON30660	Lay twin DN600 watermain at RW RWD1a Bay6 - Bay10 (FW CH250 to CH2:	16	27-Jul-22	13-Aug-22
CON30430C	Construct RC footing (Bay 15 to Bay 16)	18	27-Jul-22	16-Aug-22
CON31510	Moblization & setup for soil nails works (CH275 to CH430)	12	01-Aug-22	13-Aug-22
CON32416	Construct type 2 NB footing (SE1 bay7)	8	10-Aug-22	18-Aug-22
CON30530	Drainage & utilities works (bay 1 to bay 7)	42	12-Aug-22	30-Sep-22
CON30510	Road works (bay 8 to bay 14)	42	15-Aug-22	05-Oct-22
CON31530	Cut slope, Construct trial nails (2nos 10m depth, 3.5d/no) (CH275 to CH430)	60	15-Aug-22	26-Oct-22
CON30450	Construct RC stem wall (Bay 15 to Bay 16)	12	17-Aug-22	30-Aug-22
CON32430	Construct SE1 bay7 (lower-pour) retaining wall	12	19-Aug-22	01-Sep-22
Pedestrian Connectivity Facility (PC-E11)		581	10-Jun-21 A	29-Aug-22
Construction Works		581	10-Jun-21 A	29-Aug-22
CON42302A	(NCE139) Design review on backdrop manhole for M830 near E11-PC1	60	10-Jun-21 A	26-Feb-22
CON42772	ABWF works @LT2 (Other than lift shaft area)	48	04-Aug-21 A	05-Mar-22
CON42912	CLP off site bound cable laying works (by CLP)	155	01-Sep-21 A	11-May-22
CON42950	Lifts installation works in E11-LT2	60	02-Nov-21 A	15-Jun-22
CON42630	Construct covered-walkway between PC-E11 & BBI toilet	102	04-Nov-21 A	06-Apr-22
CON42790	E&M works to PC-E11 @E11-FB2 & E11-FB4	48	25-Nov-21 A	20-May-22
CON42810	E&M works to PC-E11 @E11-FB3 & E11-FB5	48	25-Nov-21 A	20-May-22
CON42750	ABWF works @E11-FB1	60	21-Dec-21 A	11-Apr-22
CON42774	Review temporary drainage system before year 2022 rain season (PC-E11)	18	31-Jan-22 A	28-Feb-22
CON42830	E&M works to PC-E11 @LT1 (inside 2nos lift shaft)	12	12-May-22	25-May-22
CON42850	E&M works to PC-E11 @E11-FB1	48	12-May-22	08-Jul-22
CON42732	ABWF works @LT1 (Other than lift shaft area)	48	12-May-22	08-Jul-22
CON42610A	Install fall arrest system on roof of footbridge	36	12-May-22	23-Jun-22
CON42930	Lifts installation works in E11-LT1	60	14-May-22	25-Jul-22
CON42832	E&M works to PC-E11 @LT1 (Other than lift shaft area)	36	26-May-22	08-Jul-22
CON42952	T&C to lift E11-LT2	30	16-Jun-22	21-Jul-22
CON42970	T&C to lift E11-LT1	30	26-Jul-22	29-Aug-22
Pedestrian Connectivity Facility (PC-E8)		42	21-Dec-21 A	05-Mar-22
Construction Works		42	21-Dec-21 A	05-Mar-22
CON43510	Construct concrete buttress wall Remove piling platform	24	21-Dec-21 A	05-Mar-22
CON40670	Slope replacement works cycle 2 (slope 326)	18	21-Jan-22 A	05-Mar-22
Pedestrian Connectivity Facility System A (SYA)		277	12-Nov-21 A	20-Oct-22
Construction Works		277	12-Nov-21 A	20-Oct-22
CON50330	(CE140 / NCE184) ABWF works (lift tower & staircase)	120	12-Nov-21 A	25-Apr-22
CON50332	(CE140 / NCE184) ABWF works (4 nos. lift shaft)	120	12-Nov-21 A	25-Apr-22
CON50312A	(NCE168) Off site fabrication for footbridge steel frame & delivery to site	62	12-Nov-21 A	18-Mar-22
CON50370	(CE140 / NCE184) Install windows & louvers (SYA 1st & 2nd lift shaft)	60	17-Dec-21 A	17-Mar-22
CON50492	(CE140 / NCE184) E&M works (SYA 1st & 2nd lift shaft)	42	11-Jan-22 A	17-Mar-22
CON50314	Steel works at SyA-ST1	90	11-Jan-22 A	20-May-22
CON50272	Review temporary drainage system before year 2022 rain season (Sys A)	18	31-Jan-22 A	28-Feb-22
CON50494	(CE140 / NCE184) E&M works (SYA 3rd & 4th lift shaft)	42	18-Feb-22 A	04-May-22
CON50410	Lifts installation works in SYA-LT1A & SYA-LT1B	60	18-Mar-22	02-Jun-22

Actual Work
Remaining Work
Milestone

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

Activity ID	Activity Name	Duration	Start	Finish
CON50310	Construct deck slab, planter wall and roofing for SYA	78	02-Apr-22	11-Jul-22
CON50430	Lifts installation works in SYA-LT1C & SYA-LT2A	60	07-May-22	19-Jul-22
CON50350	ABWF works (footbridge)	84	12-Jul-22	20-Oct-22
CON50450	T&C and Statutory Inspection to 4nos lift _SYA	30	20-Jul-22	23-Aug-22
Pedestrian Connectivity Facility System B (SYB)		396	21-Jun-21 A	17-Nov-22
Construction Works		396	21-Jun-21 A	17-Nov-22
CON52170	Construct superstructure SYB-LT1 (excluding part of support to escalator)	168	21-Jun-21 A	12-Nov-22
CON51450A	(NCE156) Unforseen gound condition affected install sheet pile at SYB-PC1	130	28-Jul-21 A	31-Mar-22
CON51730	Construct pile cap SYB-PC4 (52m3)	125	21-Dec-21 A	28-May-22
CON51690	Construct pile cap SYB-PC6 (120m3)	147	21-Dec-21 A	24-Jun-22
CON51592	Review temporary drainage system before year 2022 rain season (Sys B)	18	31-Jan-22 A	28-Feb-22
CON52224	Prepare & submit works submission for temporary working platform near PC7	30	19-Apr-22	25-May-22
CON51770	Construct pile cap SYB-PC1 (35m3)	30	21-May-22	25-Jun-22
CON52226	Review & acceptance works submission for temporary working platform near F	60	26-May-22	05-Aug-22
CON52110	Construct pier SYB-P3 (3 pour) {PC4-R}	51	30-May-22	29-Jul-22
CON51930	Construct pier SYB-P4 (2 pour) {PC6-R}	42	25-Jun-22	13-Aug-22
CON51990	Construct pier SYB-P1 (1 pour) {PC1}	28	27-Jun-22	29-Jul-22
CON53230	Application for power supply & energization (SYB)	120	27-Jun-22	17-Nov-22
CON52150	Construct pier SYB-P5 (5 pour) {PC4-L}	65	30-Jul-22	17-Oct-22
CON52290	Erect footbridge steel frame PC2 to PC1 (P2 to P1)	24	30-Jul-22	26-Aug-22
CON52228	Erect working platform	32	06-Aug-22	13-Sep-22
CON51950	Construct pier SYB-P6 (3 pour) {PC6-L}	52	15-Aug-22	17-Oct-22
CON52530	Construct escalator pit P4 to P7	48	15-Aug-22	12-Oct-22



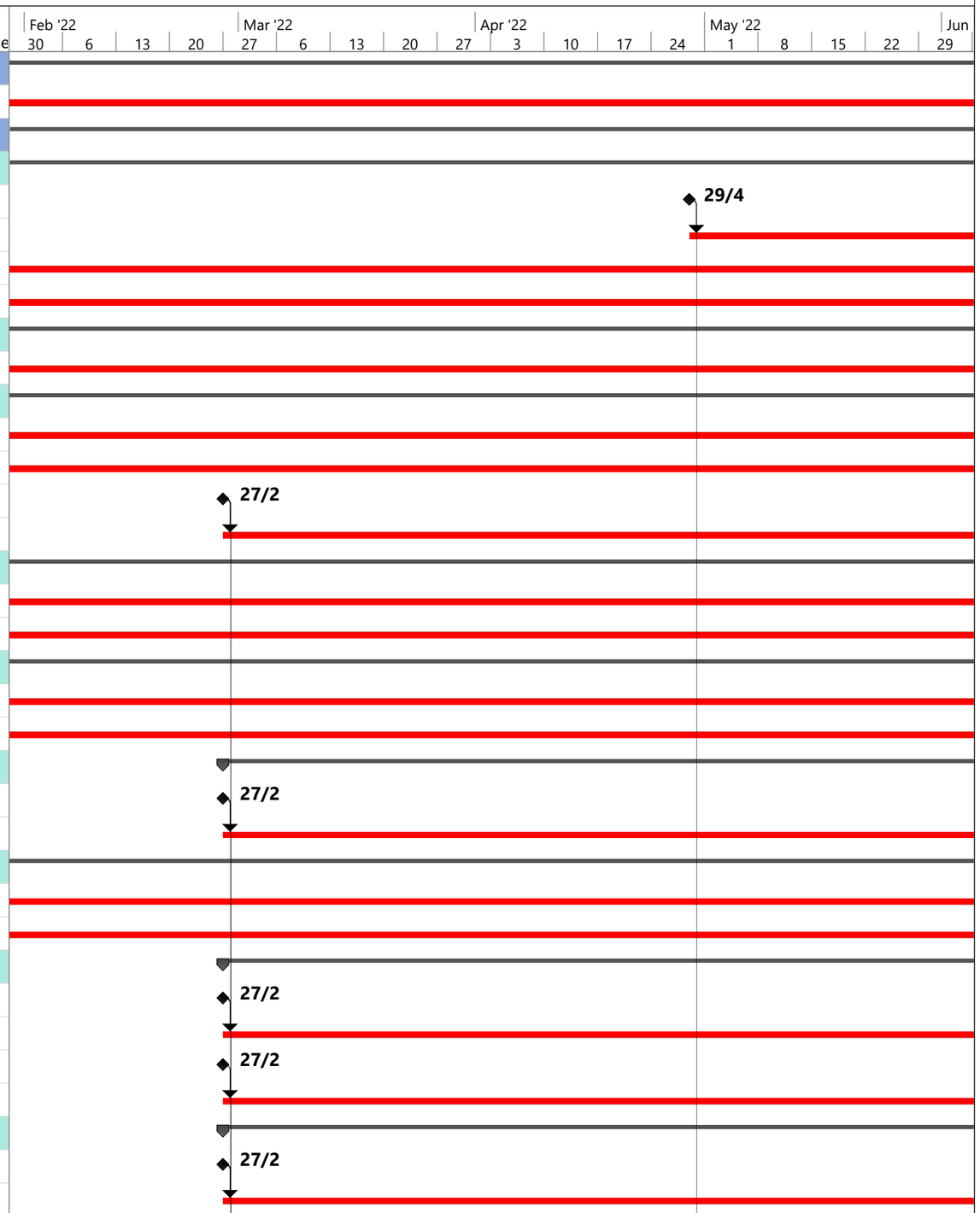
Actual Work
Remaining Work
Milestone

Contract 4 (ED/2020/02)

中国水利电力对外有限公司
China International Water & Electric Corp.

CEDD Contract No. ED/2020/02
Development of Anderson Road Quarry Site – Infrastructure, Greening and Landscape Works
Revised Works Programme : February 2022

ID	Activity Name	Dur	Early Start	Early Finish	Late Start	Late Finish	% Comple
1	**Contract Period**	**1248d**	**Fri 30/7/21**	**Sat 28/12/24**	**Fri 30/7/21**	**Sat 28/12/24**	**14%**
3	Contract Duration	1247d	Sat 31/7/21	Sat 28/12/24	Sat 31/7/21	Sat 28/12/24	14%
5	**Section of Works and Relevant Portions of Work**	**1248d**	**Fri 30/7/21**	**Sat 28/12/24**	**Fri 30/7/21**	**Sat 28/12/24**	**9%**
6	**Section of Works 1 - Portions 1a, 2a & 2b**	**836d**	**Mon 30/8/21**	**Thu 14/12/...**	**Mon 30/8/21**	**Thu 14/12/23**	**9%**
7	Access date for Portion 1a	0d	Fri 29/4/22	Fri 29/4/22	Fri 29/4/22	Fri 29/4/22	0%
8	Construction Duration for Portion 1a	594d	Fri 29/4/22	Wed 13/12/...	Fri 29/4/22	Wed 13/12/23	0%
11	Construction Duration for Portion 2a	836d	Mon 30/8/21	Wed 13/12/...	Mon 30/8/21	Wed 13/12/23	17%
14	Construction Duration for Portion 2b	730d	Tue 14/12/21	Wed 13/12/...	Tue 14/12/21	Wed 13/12/23	5%
20	**Section of Works 2 - Portion 8**	**730d**	**Fri 30/7/21**	**Sat 29/7/23**	**Fri 30/7/21**	**Sat 29/7/23**	**24%**
22	Construction Duration for Portion 8	730d	Fri 30/7/21	Sat 29/7/23	Fri 30/7/21	Sat 29/7/23	24%
28	**Section of Works 3 - Portions 1b, 3, 4, 5**	**731d**	**Fri 30/7/21**	**Sun 30/7/23**	**Fri 30/7/21**	**Sun 30/7/23**	**15%**
34	Construction Duration for Portion 3	609d	Mon 29/11/...	Sun 30/7/23	Mon 29/11/21	Sun 30/7/23	9%
37	Construction Duration for Portion 4	670d	Fri 30/7/21	Tue 30/5/23	Fri 30/7/21	Tue 30/5/23	26%
39	Access date for Portion 5	0d	Sun 27/2/22	Sun 27/2/22	Sun 27/2/22	Sun 27/2/22	0%
40	Construction Duration for Portion 5	458d	Sun 27/2/22	Tue 30/5/23	Sun 27/2/22	Tue 30/5/23	0%
46	**Section of Works 4 - Portions 6, 12**	**684d**	**Fri 30/7/21**	**Tue 13/6/23**	**Fri 30/7/21**	**Tue 13/6/23**	**15%**
48	Construction Duration for Portion 6	501d	Sat 29/1/22	Tue 13/6/23	Sat 29/1/22	Tue 13/6/23	0%
51	Construction Duration for Portion 12	684d	Fri 30/7/21	Tue 13/6/23	Fri 30/7/21	Tue 13/6/23	26%
57	**Section of Works 5A - Portions 9, 10**	**699d**	**Fri 30/7/21**	**Wed 28/6/23**	**Fri 30/7/21**	**Wed 28/6/23**	**22%**
59	Construction Duration for Portion 9	638d	Wed 29/9/21	Wed 28/6/23	Wed 29/9/21	Wed 28/6/23	18%
62	Construction Duration for Portion 10	699d	Fri 30/7/21	Wed 28/6/23	Fri 30/7/21	Wed 28/6/23	25%
68	**Section of Works 5B - Portion 11**	**487d**	**Sun 27/2/22**	**Wed 28/6/23**	**Sun 27/2/22**	**Wed 28/6/23**	**0%**
69	Access date for Portion 11	0d	Sun 27/2/22	Sun 27/2/22	Sun 27/2/22	Sun 27/2/22	0%
70	Construction Duration for Portion 11	487d	Sun 27/2/22	Wed 28/6/23	Sun 27/2/22	Wed 28/6/23	0%
80	**Section of Works 7A - Portions 13a, 14**	**669d**	**Fri 30/7/21**	**Mon 29/5/23**	**Fri 30/7/21**	**Mon 29/5/23**	**15%**
82	Construction Duration for Portion 13a	486d	Sat 29/1/22	Mon 29/5/23	Sat 29/1/22	Mon 29/5/23	0%
85	Construction Duration for Portion 14	669d	Fri 30/7/21	Mon 29/5/23	Fri 30/7/21	Mon 29/5/23	26%
91	**Section of Works 7B - Portions 13b, 15**	**671d**	**Sun 27/2/22**	**Fri 29/12/23**	**Sun 27/2/22**	**Fri 29/12/23**	**0%**
92	Access date for Portion 13b	0d	Sun 27/2/22	Sun 27/2/22	Sun 27/2/22	Sun 27/2/22	0%
93	Construction Duration for Portion 13b	671d	Sun 27/2/22	Fri 29/12/23	Sun 27/2/22	Fri 29/12/23	0%
95	Access date for Portion 15	0d	Sun 27/2/22	Sun 27/2/22	Sun 27/2/22	Sun 27/2/22	0%
96	Construction Duration for Portion 15	671d	Sun 27/2/22	Fri 29/12/23	Sun 27/2/22	Fri 29/12/23	0%
110	**Section of Works 9 - Portion 17**	**671d**	**Sun 27/2/22**	**Fri 29/12/23**	**Sun 27/2/22**	**Fri 29/12/23**	**0%**
111	Access date for Portion 17	0d	Sun 27/2/22	Sun 27/2/22	Sun 27/2/22	Sun 27/2/22	0%
112	Construction Duration for Portion 17	671d	Sun 27/2/22	Fri 29/12/23	Sun 27/2/22	Fri 29/12/23	0%



Project Start Date: 30 July 2021
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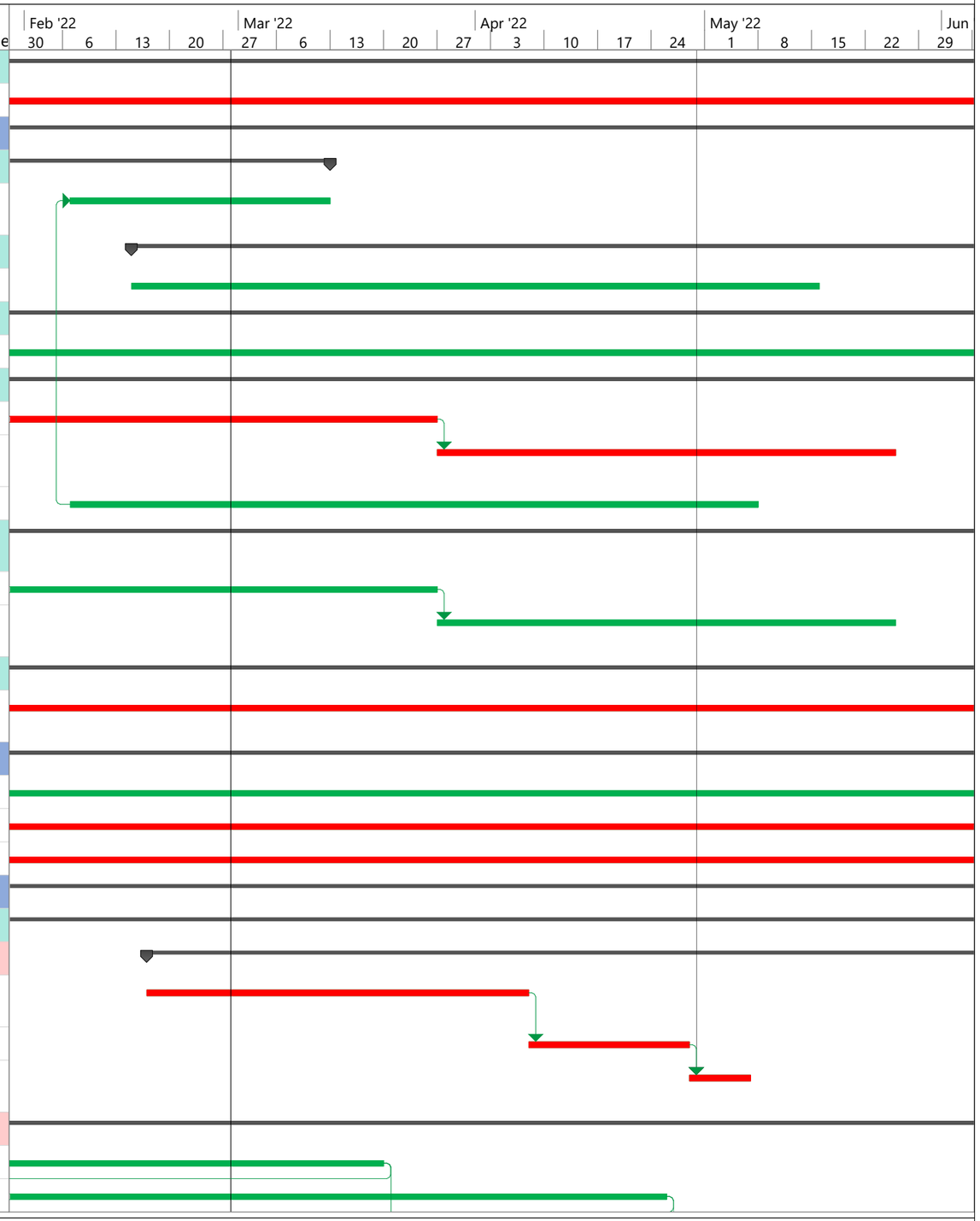
Task — Milestone — Summary — Critical Task

ID	Activity Name	Dur	Early Start	Early Finish	Late Start	Late Finish	% Comple
118	**Section of Works 10 - All Tree Protection and Preservation Works**	**883d**	**Fri 30/7/21**	**Fri 29/12/23**	**Fri 30/7/21**	**Fri 29/12/23**	**20%**
120	All Tree Protection and Preservation Work Duration for Section 10	883d	Fri 30/7/21	Fri 29/12/23	Fri 30/7/21	Fri 29/12/23	20%
122	**Preliminaries**	**1248d**	**Fri 30/7/21**	**Sat 28/12/24**	**Fri 30/7/21**	**Sat 28/12/24**	**35%**
123	**Establishment of Commercial/Organization**	**226d**	**Fri 30/7/21**	**Sat 12/3/22**	**Fri 30/7/21**	**Sat 4/6/22**	**81%**
158	Nomination of Treatment process specialist, Design Engineer, and Independent Checking Engineer (ICE)	30d	Mon 7/2/22	Sat 12/3/22	Fri 29/4/22	Sat 4/6/22	0%
180	**Procurements of Major Materials**	**430d**	**Tue 15/2/22**	**Thu 20/4/23**	**Sun 20/3/22**	**Tue 7/11/23**	**0%**
187	Procurement of Raise Planter Type A&B	90d	Tue 15/2/22	Sun 15/5/22	Sun 20/3/22	Fri 17/6/22	0%
197	**Programme**	**1239d**	**Fri 30/7/21**	**Thu 19/12/...**	**Fri 30/7/21**	**Sat 28/12/24**	**15%**
203	Implementation of Programme Management and Monthly Reporting	1145d	Mon 1/11/21	Thu 19/12/24	Mon 1/11/21	Sat 28/12/24	7%
224	**Contractor's Design**	**659d**	**Fri 30/7/21**	**Fri 19/5/23**	**Fri 30/7/21**	**Wed 4/10/23**	**13%**
228	Re-submission Contractor's Design - Architectural & Structural	90d	Mon 27/12/...	Sat 26/3/22	Mon 27/12/21	Sat 26/3/22	0%
229	Design Checker Review & Endorsement of Contractor's Design - Architectural	60d	Sun 27/3/22	Wed 25/5/22	Sun 27/3/22	Wed 25/5/22	0%
237	Prepare Contractor's Design - Underground Water Treatment Plant	90d	Mon 7/2/22	Sat 7/5/22	Mon 7/3/22	Sat 4/6/22	0%
246	**Contractor's Design [Enhancement on Architectural Design & Associated Works]**	**450d**	**Fri 30/7/21**	**Sat 22/10/22**	**Fri 30/7/21**	**Thu 27/10/22**	**27%**
250	Vetting of design through public engagement activities	60d	Wed 26/1/22	Sat 26/3/22	Mon 31/1/22	Thu 31/3/22	0%
251	Submission of design to DSD, LCSD and other authorities for vetting and acceptance	60d	Sun 27/3/22	Wed 25/5/22	Fri 1/4/22	Mon 30/5/22	0%
267	**BIM Deliverable**	**1248d**	**Fri 30/7/21**	**Sat 28/12/24**	**Fri 30/7/21**	**Sat 28/12/24**	**17%**
274	Monthly Coordination meeting & Submission of monthly BIM progress reports & Submission of 4D Simulation	1098d	Mon 27/12/21	Sat 28/12/24	Mon 27/12/21	Sat 28/12/24	2%
280	**Work Area**	**1248d**	**Fri 30/7/21**	**Sat 28/12/24**	**Fri 30/7/21**	**Sat 28/12/24**	**11%**
285	CRE Site office Mobilization & Maintenance	1050d	Mon 24/1/22	Sun 8/12/24	Sun 13/2/22	Sat 28/12/24	0%
287	Maintenance Duration for Works Area	1247d	Sat 31/7/21	Sat 28/12/24	Sat 31/7/21	Sat 28/12/24	14%
290	Contractor Site office Maintenance	1050d	Mon 24/1/22	Sun 8/12/24	Mon 24/1/22	Sun 8/12/24	0%
291	**Construction Works**	**1039d**	**Fri 30/7/21**	**Sat 28/12/24**	**Fri 30/7/21**	**Sat 28/12/24**	**6%**
292	**Section of Works 1 - Portions 1a, 1b, 2b**	**697d**	**Mon 30/8/21**	**Wed 13/12/...**	**Mon 30/8/21**	**Wed 13/12/23**	**3%**
293	**Portion 1a**	**556d**	**Thu 17/2/22**	**Wed 13/12/...**	**Thu 17/2/22**	**Wed 13/12/23**	**0%**
294	Preparation & submission of MS, Temp., works, associated plans & docs	42d	Fri 30/7/21	Fri 17/9/21	Thu 17/2/22	Thu 7/4/22	0%
295	Engineer's AIP of MS, Temp., works, plans & associated docs	18d	Fri 8/4/22	Thu 28/4/22	Fri 8/4/22	Thu 28/4/22	0%
296	Provision of site access [273 days after starting date as per Contract]	6d	Fri 29/4/22	Fri 6/5/22	Fri 29/4/22	Fri 6/5/22	0%
316	**Portion 2a**	**697d**	**Mon 30/8/21**	**Wed 13/12/...**	**Mon 30/8/21**	**Wed 13/12/23**	**3%**
321	Excavation and Construction Drainage System	90d	Thu 2/12/21	Sat 19/3/22	Wed 15/12/21	Fri 1/4/22	0%
322	Excavation and Construction of Catchpits + U channel	90d	Sat 8/1/22	Mon 25/4/22	Fri 21/1/22	Mon 9/5/22	0%



Project Start Date: 30 July 2021
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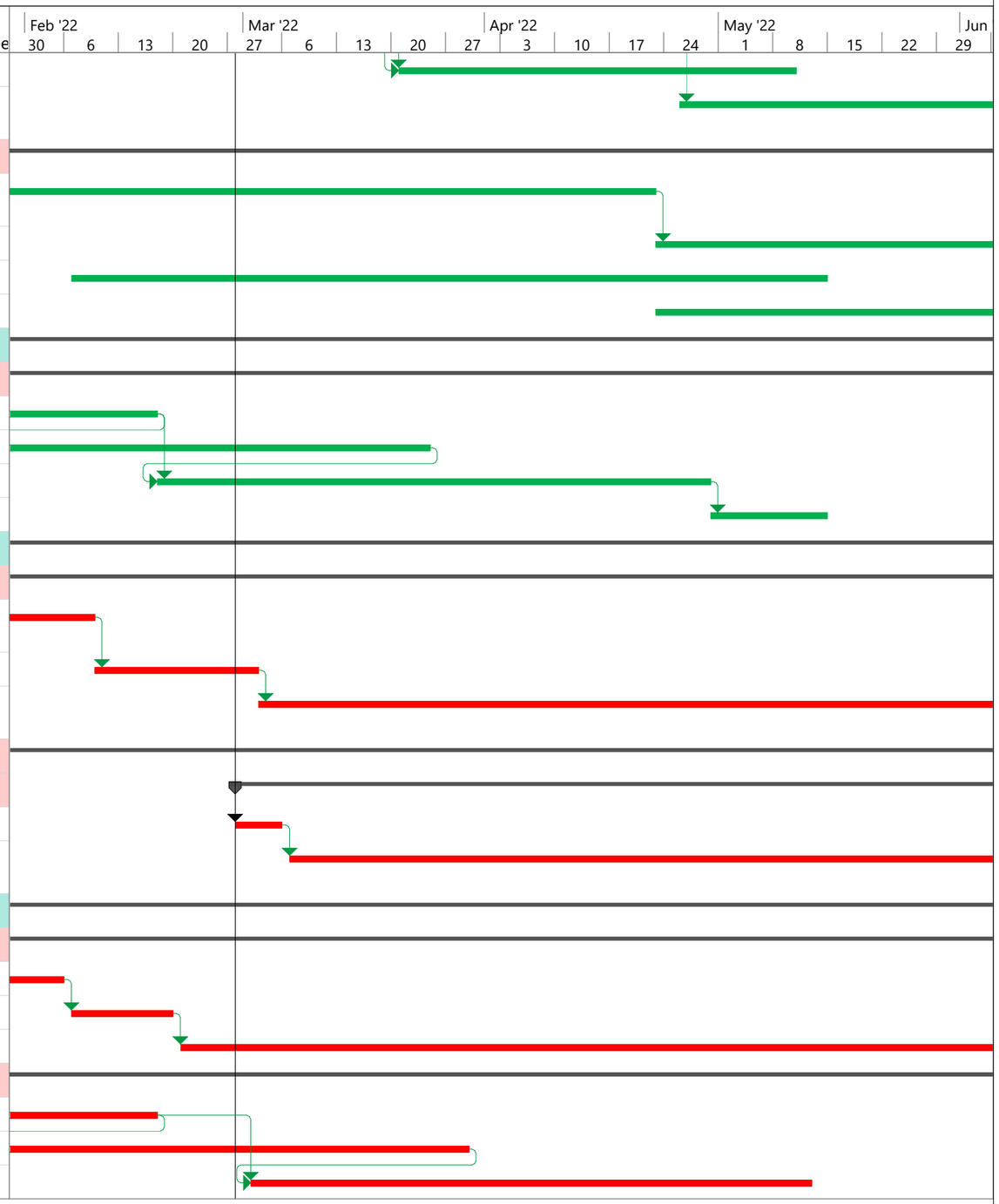
Task — Milestone ◆ — Summary — Critical Task

ID	Activity Name	Dur	Early Start	Early Finish	Late Start	Late Finish	% Comple
323	CCTV inspection, testing and commissioning of Drainage Lines	42d	Mon 21/3/22	Tue 10/5/22	Sat 2/4/22	Mon 23/5/22	0%
324	Excavation and Construction of Waterlines for treated water & flushing water, irrigation pipeline and pipe ends with blank flange	90d	Tue 26/4/22	Thu 11/8/22	Thu 21/7/22	Sat 5/11/22	0%
364	**Portion 2b**	**666d**	**Sat 2/10/21**	**Fri 8/12/23**	**Sat 2/10/21**	**Wed 13/12/23**	**7%**
369	Hard landscaping work for Island - placement of boulders, soil placement and planters construction	90d	Thu 6/1/22	Fri 22/4/22	Thu 6/1/22	Wed 27/4/22	5%
370	Soft landscaping works for Island	60d	Sat 23/4/22	Tue 5/7/22	Thu 28/4/22	Sat 9/7/22	0%
371	Construction of artificial lake	82d	Mon 7/2/22	Sat 14/5/22	Fri 1/4/22	Sat 9/7/22	0%
372	Construction of artificial island	60d	Sat 23/4/22	Tue 5/7/22	Thu 28/4/22	Sat 9/7/22	0%
389	**Section of Works 2 - Portion 8**	**596d**	**Fri 30/7/21**	**Mon 17/7/23**	**Fri 30/7/21**	**Sat 29/7/23**	**10%**
390	**Portion 8**	**596d**	**Fri 30/7/21**	**Mon 17/7/23**	**Fri 30/7/21**	**Sat 29/7/23**	**10%**
395	Excavation for Drainage Works	90d	Tue 2/11/21	Thu 17/2/22	Tue 2/11/21	Mon 21/3/22	40%
396	Construction of Drainage Works	90d	Tue 7/12/21	Thu 24/3/22	Tue 7/12/21	Thu 7/4/22	30%
397	CCTV inspection, testing and commissioning of Drainage Works	60d	Fri 18/2/22	Fri 29/4/22	Thu 3/3/22	Fri 13/5/22	0%
398	Time Risk Allowance	12d	Sat 30/4/22	Sat 14/5/22	Sat 14/5/22	Fri 27/5/22	0%
418	**Section of Works 3 - Portions 1b, 3, 4, 5**	**607d**	**Fri 30/7/21**	**Sat 29/7/23**	**Mon 29/11/21**	**Sat 29/7/23**	**3%**
432	**Portion 3**	**506d**	**Mon 29/11/...**	**Sat 29/7/23**	**Mon 29/11/21**	**Sat 29/7/23**	**7%**
435	Preparation & submission of MS, Temp., works, associated plans & docs	42d	Mon 20/12/21	Wed 9/2/22	Mon 20/12/21	Wed 9/2/22	67%
436	Engineer AIP of MS, Temp., works, plans & associated docs	18d	Thu 10/2/22	Wed 2/3/22	Thu 10/2/22	Wed 2/3/22	0%
437	Installation of chain-link fencing + Provision of temporary drainage system	158d	Thu 3/3/22	Wed 7/9/22	Thu 3/3/22	Wed 7/9/22	0%
441	**Portion 4**	**529d**	**Fri 30/7/21**	**Wed 26/4/23**	**Mon 10/10/22**	**Tue 30/5/23**	**0%**
445	**Portion 5**	**381d**	**Mon 28/2/22**	**Tue 30/5/23**	**Mon 28/2/22**	**Tue 30/5/23**	**0%**
446	Provision of site access [212 days after starting date as per Contract]	6d	Mon 28/2/22	Sat 5/3/22	Mon 28/2/22	Sat 5/3/22	0%
447	Installation of chain-link fencing + + Provision of temporary drainage system	135d	Mon 7/3/22	Mon 15/8/22	Mon 7/3/22	Mon 15/8/22	0%
454	**Section of Works 4 - Portions 6, 12**	**568d**	**Fri 30/7/21**	**Tue 13/6/23**	**Fri 30/7/21**	**Tue 13/6/23**	**8%**
455	**Portion 6**	**491d**	**Mon 1/11/21**	**Tue 13/6/23**	**Mon 1/11/21**	**Tue 13/6/23**	**7%**
458	Provision of site access [183 days after starting date as per Contract]	6d	Sat 29/1/22	Sat 5/2/22	Sat 29/1/22	Sat 5/2/22	0%
459	Mobilization & Site Clearance	12d	Mon 7/2/22	Sat 19/2/22	Mon 7/2/22	Sat 19/2/22	0%
460	Excavation and Construction of Drainage Works	90d	Mon 21/2/22	Wed 8/6/22	Mon 21/2/22	Wed 8/6/22	0%
474	**Portion 12**	**568d**	**Fri 30/7/21**	**Tue 13/6/23**	**Fri 30/7/21**	**Tue 13/6/23**	**8%**
479	Excavation for Drainage Works	90d	Tue 2/11/21	Thu 17/2/22	Tue 2/11/21	Thu 17/2/22	5%
480	Construction of Drainage Works	90d	Sat 11/12/21	Tue 29/3/22	Sat 11/12/21	Tue 29/3/22	0%
481	CCTV inspection, testing and commissioning of Drainage Works	60d	Wed 2/3/22	Thu 12/5/22	Wed 2/3/22	Thu 12/5/22	0%



Project Start Date: 30 July 2021
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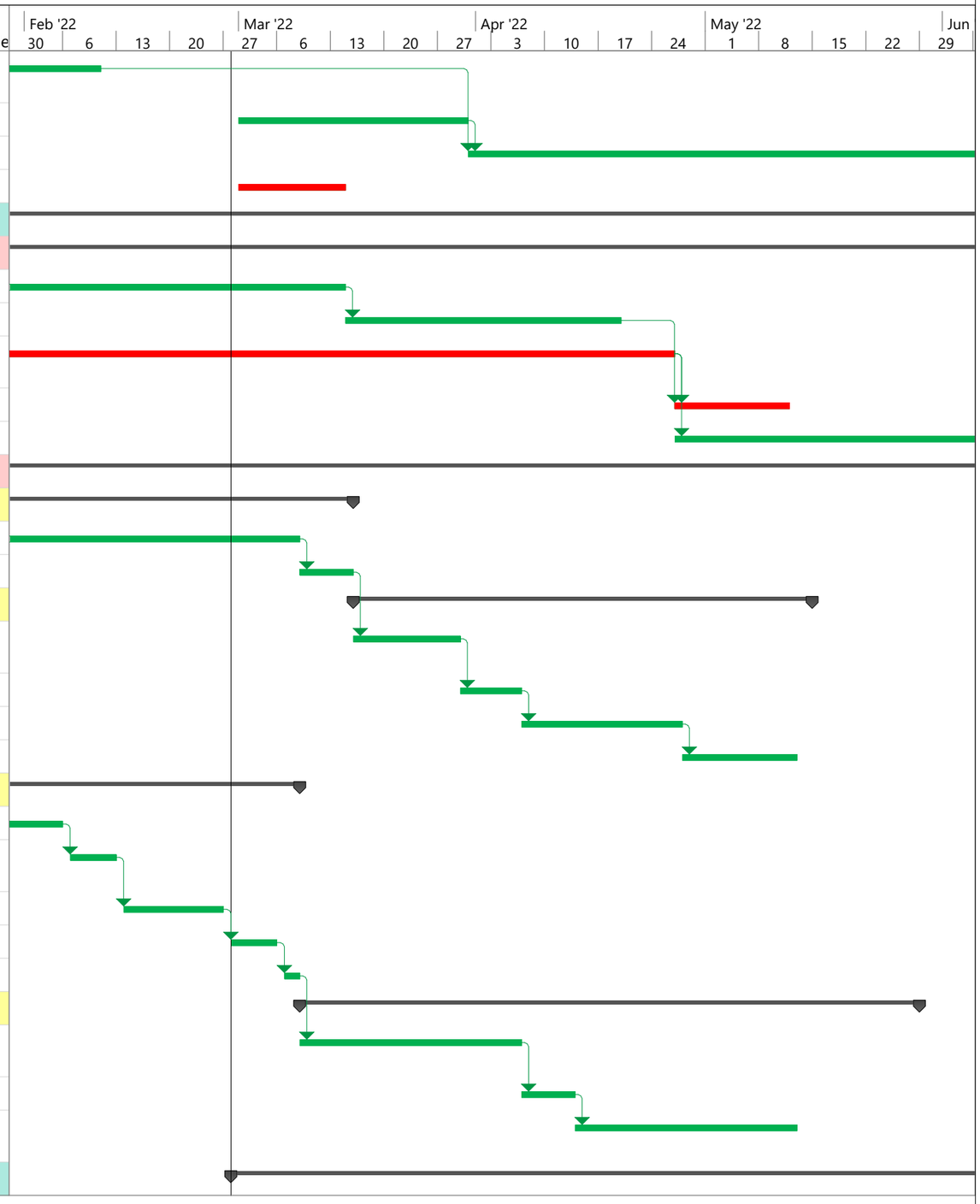
Task — Milestone — Summary — Critical Task

ID	Activity Name	Dur	Early Start	Early Finish	Late Start	Late Finish	% Comple
483	Testing and Commissioning of Waterlines for fresh water and flushing water	24d	Thu 13/1/22	Thu 10/2/22	Thu 28/4/22	Thu 26/5/22	0%
484	Application for Irrigation system (WW0046 Part I & II)	30d	Tue 1/3/22	Thu 31/3/22	Wed 27/4/22	Thu 26/5/22	0%
485	Miscellaneous works (e.g. irrigation system)	60d	Thu 31/3/22	Sat 11/6/22	Fri 27/5/22	Sat 6/8/22	0%
494	PMI 005 : Additional GI at Portion 12	12d	Tue 1/3/22	Tue 15/3/22	Tue 1/3/22	Tue 15/3/22	0%
499	**Section of Works 5A - Portions 9, 10**	**581d**	**Fri 30/7/21**	**Wed 28/6/23**	**Fri 30/7/21**	**Wed 28/6/23**	**16%**
500	**Portion 9 [Sitting Out Area C & R2-1 Footpath]**	**530d**	**Wed 29/9/21**	**Wed 28/6/23**	**Wed 29/9/21**	**Wed 28/6/23**	**10%**
505	Excavation and construction of drainage line and catchpits	60d	Mon 3/1/22	Mon 14/3/22	Mon 10/1/22	Mon 21/3/22	0%
506	CCTV inspection, testing and commissioning of Drainage Lines	30d	Tue 15/3/22	Tue 19/4/22	Tue 22/3/22	Tue 26/4/22	0%
508	Excavation and construction of draw pits and ducting & Irrigation system	90d	Mon 10/1/22	Tue 26/4/22	Mon 10/1/22	Tue 26/4/22	0%
509	Time Risk Allowance	12d	Wed 27/4/22	Wed 11/5/22	Wed 27/4/22	Wed 11/5/22	0%
517	Application for Irrigation system (WW0046: Part IV & V)	60d	Wed 27/4/22	Sat 25/6/22	Sun 30/4/23	Wed 28/6/23	0%
518	**Portion 10**	**581d**	**Fri 30/7/21**	**Wed 28/6/23**	**Fri 30/7/21**	**Wed 28/6/23**	**21%**
525	**Slope Works at Feature No. 11NE-D/C998 (409m)**	**38d**	**Sat 29/1/22**	**Tue 15/3/22**	**Sat 29/1/22**	**Wed 28/6/23**	**42%**
526	Construction of concrete maintenance staircase with hand railings	32d	Sat 29/1/22	Tue 8/3/22	Sat 29/1/22	Wed 21/6/23	50%
527	Installation of display sign for slope registration no. x2	6d	Wed 9/3/22	Tue 15/3/22	Thu 22/6/23	Wed 28/6/23	0%
528	**Slope Works at Feature No. 11NE-D/FR657 (63m)**	**50d**	**Wed 16/3/22**	**Sat 14/5/22**	**Wed 16/3/22**	**Wed 28/6/23**	**24%**
529	Demolition and removal of disused water pipe and sprinkler system	12d	Wed 16/3/22	Tue 29/3/22	Wed 16/3/22	Tue 29/3/22	100%
530	Filling of void with cement soil	6d	Wed 30/3/22	Wed 6/4/22	Mon 15/5/23	Sat 20/5/23	0%
531	Construction of concrete berm	18d	Thu 7/4/22	Wed 27/4/22	Mon 22/5/23	Mon 12/6/23	0%
532	Installation of hand railings	12d	Thu 28/4/22	Thu 12/5/22	Tue 13/6/23	Mon 26/6/23	0%
569	**Slope Works at Feature No. 11NE-D/C979 (45m)**	**32d**	**Sat 29/1/22**	**Tue 8/3/22**	**Wed 2/2/22**	**Thu 10/3/22**	**0%**
570	Time Risk Allowance	6d	Sat 29/1/22	Sat 5/2/22	Wed 2/2/22	Tue 8/2/22	0%
571	Demolition and removal of disused water pipe and sprinkler system	6d	Mon 7/2/22	Sat 12/2/22	Wed 9/2/22	Tue 15/2/22	0%
572	Construction of concrete berm	12d	Mon 14/2/22	Sat 26/2/22	Wed 16/2/22	Tue 1/3/22	0%
573	Installation of hand railings	6d	Mon 28/2/22	Sat 5/3/22	Wed 2/3/22	Tue 8/3/22	0%
574	Installation of display sign for slope registration no. x1	2d	Mon 7/3/22	Tue 8/3/22	Wed 9/3/22	Thu 10/3/22	0%
575	**Slope Works at Feature No. 11NE-D/C947 (420m)**	**68d**	**Wed 9/3/22**	**Sat 28/5/22**	**Fri 11/3/22**	**Tue 31/5/22**	**0%**
576	Demolition and removal of disused water pipe and sprinkler system	24d	Wed 9/3/22	Wed 6/4/22	Fri 11/3/22	Fri 8/4/22	0%
577	Filling of void with cement soil	6d	Thu 7/4/22	Wed 13/4/22	Sat 9/4/22	Fri 15/4/22	0%
578	Removal of damaged wire mesh and construction of new wire mesh	24d	Thu 14/4/22	Thu 12/5/22	Sat 16/4/22	Sat 14/5/22	0%
624	**Section of Works 5B - Portion 11**	**391d**	**Mon 28/2/22**	**Mon 12/6/23**	**Tue 11/4/23**	**Wed 28/6/23**	**0%**



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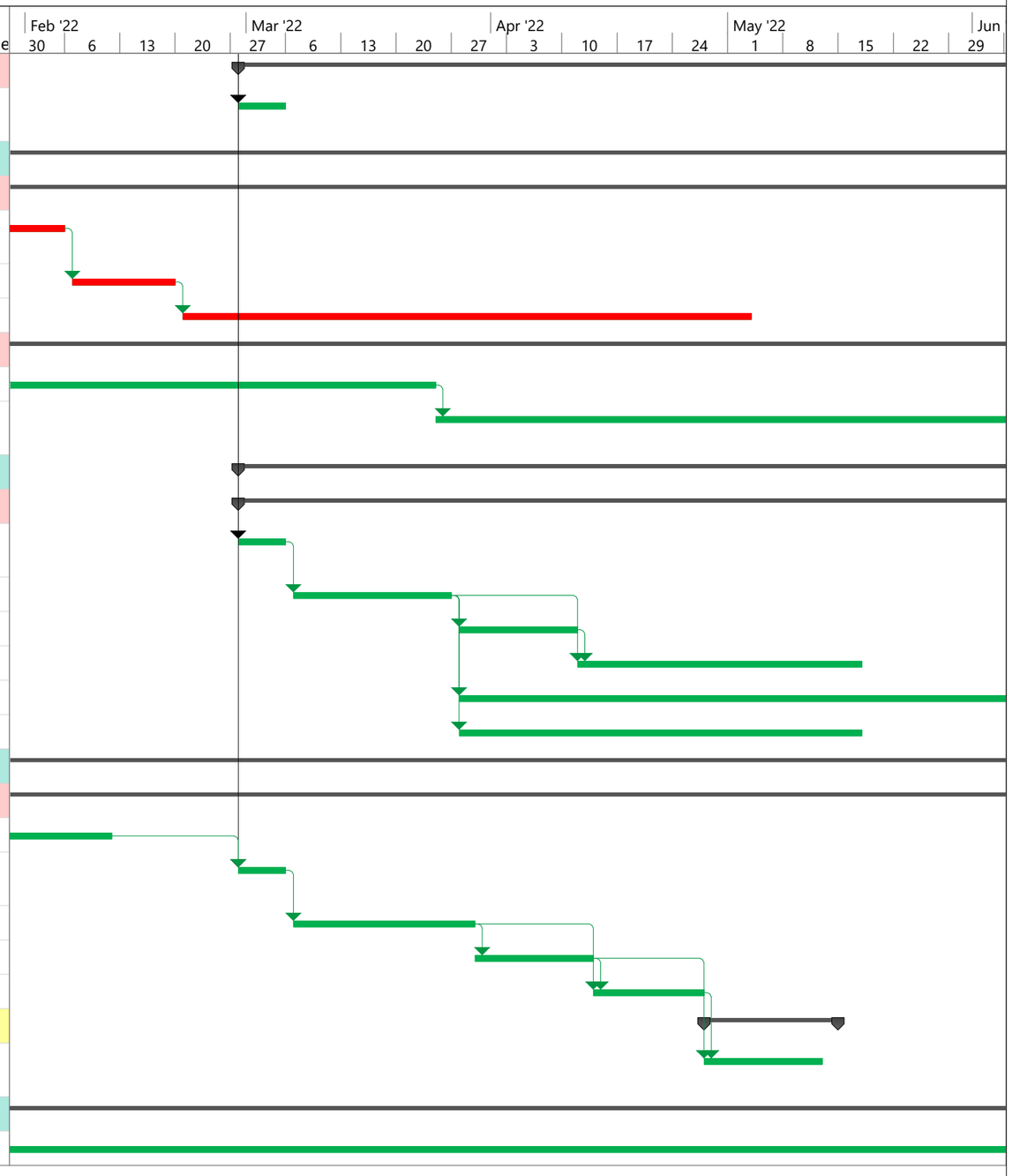
Task — Milestone ◆ — Summary — Critical Task

中国水利电力对外有限公司
China International Water & Electric Corp.

CEDD Contract No. ED/2020/02
Development of Anderson Road Quarry Site – Infrastructure, Greening and Landscape Works
Revised Works Programme : February 2022

ID	Activity Name	Dur	Early Start	Early Finish	Late Start	Late Finish	% Comple
625	Portion 11	391d	Mon 28/2/22	Mon 12/6/23	Tue 11/4/23	Wed 28/6/23	0%
626	Provision of site access [212 days after starting date as per Contract]	6d	Mon 28/2/22	Sat 5/3/22	Tue 11/4/23	Mon 17/4/23	0%
644	**Section of Works 7A - Portions 13a, 14**	**556d**	**Fri 30/7/21**	**Mon 29/5/23**	**Fri 30/7/21**	**Mon 29/5/23**	**21%**
645	**Portion 13a**	**404d**	**Sat 29/1/22**	**Mon 29/5/23**	**Sat 29/1/22**	**Mon 29/5/23**	**0%**
646	Provision of site access [183 days after starting date as per Contract]	6d	Sat 29/1/22	Sat 5/2/22	Sat 29/1/22	Sat 5/2/22	0%
647	Mobilization & Site Clearance	12d	Mon 7/2/22	Sat 19/2/22	Mon 7/2/22	Sat 19/2/22	0%
648	(G.I Works) Geotechnical Instrumentation Installation	60d	Mon 21/2/22	Tue 3/5/22	Mon 21/2/22	Tue 3/5/22	0%
655	**Portion 14**	**423d**	**Fri 30/7/21**	**Tue 20/12/22**	**Fri 30/7/21**	**Mon 29/5/23**	**36%**
661	Cutting & filling of slopes to formation level {Site G-2}	90d	Tue 7/12/21	Thu 24/3/22	Tue 17/5/22	Wed 31/8/22	0%
662	Excavation and Construction of Waterlines for fresh water & flushing water	60d	Fri 25/3/22	Mon 6/6/22	Thu 1/9/22	Sat 12/11/22	0%
672	**Section of Works 7B - Portions 13b, 15**	**560d**	**Mon 28/2/22**	**Fri 29/12/23**	**Mon 7/3/22**	**Fri 29/12/23**	**4%**
673	Portion 13b & 15	560d	Mon 28/2/22	Fri 29/12/23	Mon 7/3/22	Fri 29/12/23	4%
674	Provision of site access [212 days after starting date as per Contract]	6d	Mon 28/2/22	Sat 5/3/22	Mon 7/3/22	Sat 12/3/22	0%
675	Mobilization & Site Clearance	18d	Mon 7/3/22	Sat 26/3/22	Mon 14/3/22	Sat 2/4/22	0%
676	Time Risk Allowance	12d	Mon 28/3/22	Mon 11/4/22	Sat 21/5/22	Sat 4/6/22	0%
677	Modification of Ext R.W RWA9	30d	Tue 12/4/22	Tue 17/5/22	Mon 6/6/22	Mon 11/7/22	0%
685	Installation of monitoring instruments	60d	Mon 28/3/22	Wed 8/6/22	Fri 8/4/22	Sat 18/6/22	0%
690	Construction of Access Road to Area G2	42d	Mon 28/3/22	Tue 17/5/22	Mon 4/4/22	Tue 24/5/22	0%
716	**Section of Works 9 - Portion 17**	**629d**	**Wed 1/12/21**	**Sat 23/12/23**	**Wed 1/12/21**	**Fri 29/12/23**	**4%**
717	**Portion 17**	**629d**	**Wed 1/12/21**	**Sat 23/12/23**	**Wed 1/12/21**	**Fri 29/12/23**	**4%**
719	Engineer's AIP of MS, Temp., works, plans & associated docs	18d	Fri 21/1/22	Fri 11/2/22	Fri 21/1/22	Thu 3/3/22	11%
720	Provision of site access [212 days after starting date as per Contract]	6d	Mon 28/2/22	Sat 5/3/22	Fri 4/3/22	Thu 10/3/22	0%
721	Slope inspection & assessment work & Tree Survey	20d	Mon 7/3/22	Tue 29/3/22	Fri 11/3/22	Sat 2/4/22	0%
722	Mobilization, access & Site Clearance	12d	Wed 30/3/22	Wed 13/4/22	Mon 4/4/22	Mon 18/4/22	0%
723	Time Risk Allowance	12d	Thu 14/4/22	Wed 27/4/22	Tue 19/4/22	Tue 3/5/22	0%
724	**Slope Works at Feature No. 11NE-D/C982 (235m)**	**14d**	**Thu 28/4/22**	**Sat 14/5/22**	**Wed 4/5/22**	**Thu 19/5/22**	**0%**
725	Demolition and removal of disused water pipe and sprinkler system	12d	Thu 28/4/22	Thu 12/5/22	Wed 4/5/22	Tue 17/5/22	0%
812	**Section of Works 10 - All Tree Protection and Preservation Works**	**736d**	**Fri 30/7/21**	**Fri 29/12/23**	**Fri 30/7/21**	**Fri 29/12/23**	**20%**
814	All Tree Protection and Preservation Work Duration for Section 8	880d	Fri 30/7/21	Tue 26/12/23	Fri 30/7/21	Fri 29/12/23	20%



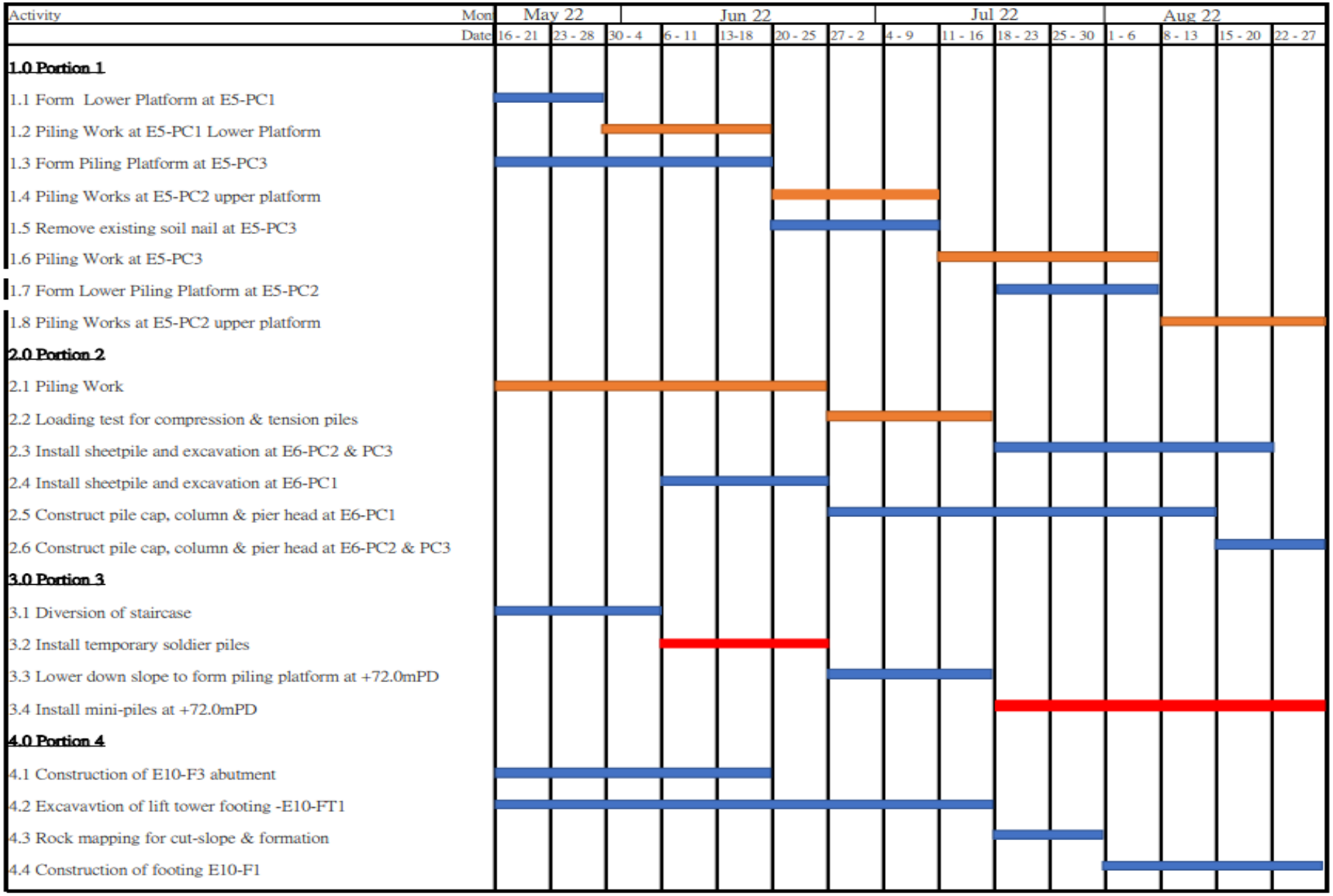
Project Start Date: 30 July 2021
Data Date: 30 July 2021

Task — Milestone — Summary — Critical Task

Contract 5 (NE/2019/02)

Major Activities in Coming 3 Months

3 Months Rolling Programme (May 22 - Aug 22)



Appendix D

Monitoring Locations for Impact Monitoring

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

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.
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HVS in AMS-1 for 24-Hour TSP

AMS-1

AMS-1a

AMS-2

AMS-3

Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 1 of 3)

Drawing no.	Rev.
227724/E/1045	B

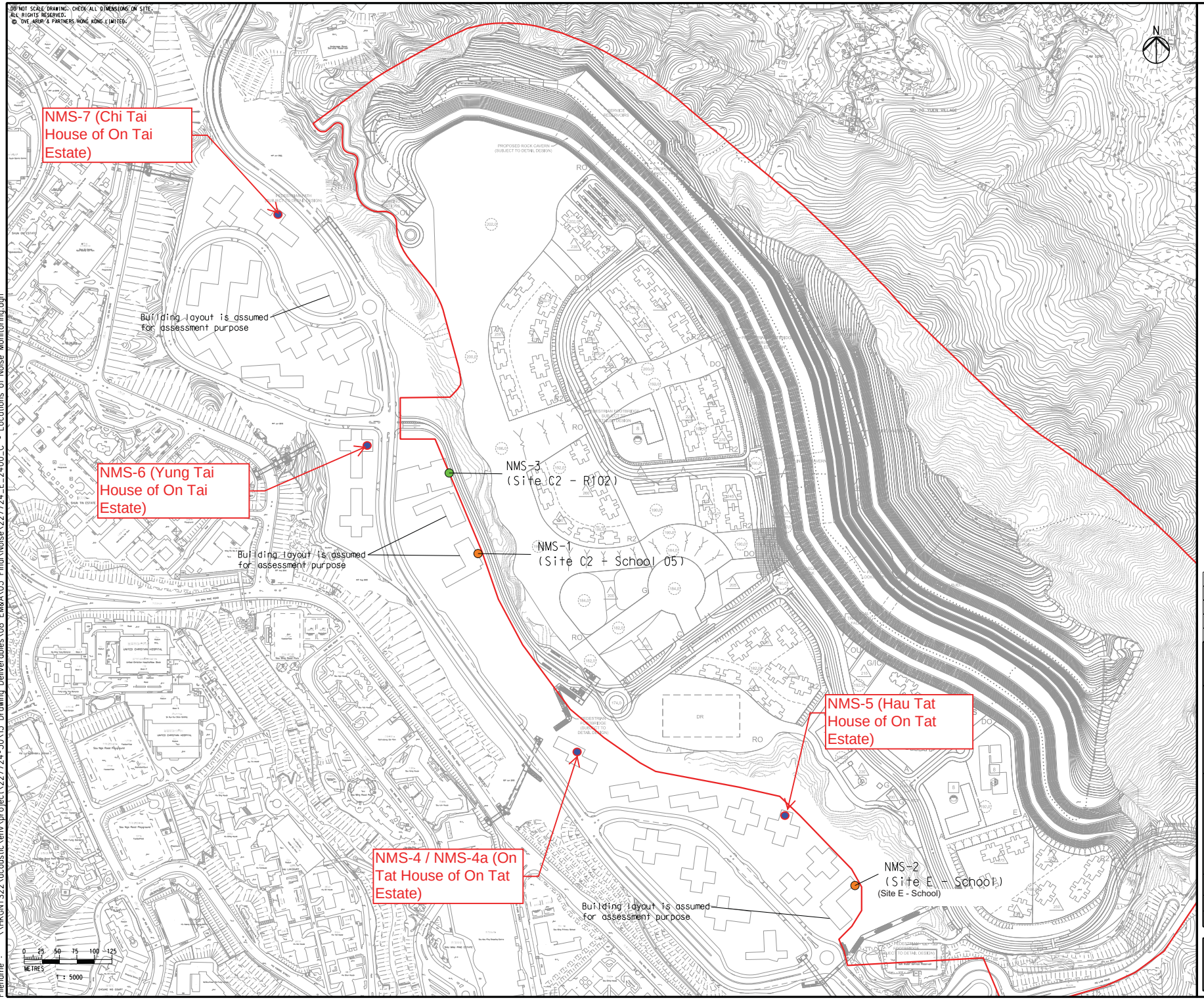
Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale 1:5000 @A3

Status PRELIMINARY

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

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



Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Noise Monitoring

Drawing no.	Rev.
227724/E/2400	C

Drawn	Date	Checked	Approved
GL	05/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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

Printed by : 6/3/2014
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AMS-3

AMS-4

AMS-5

AMS-6

HVS in AMS-5 for 24-Hour TSP

HVS in AMS-6 for 24-Hour TSP

Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 2 of 3)

Drawing no.	Rev.
227724/E/1046	B

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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

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

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HVS in AMS-1 for 24-Hour TSP

AMS-1

AMS-1a

AMS-2

AMS-3

Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 1 of 3)

Drawing no.	Rev.
227724/E/1045	B

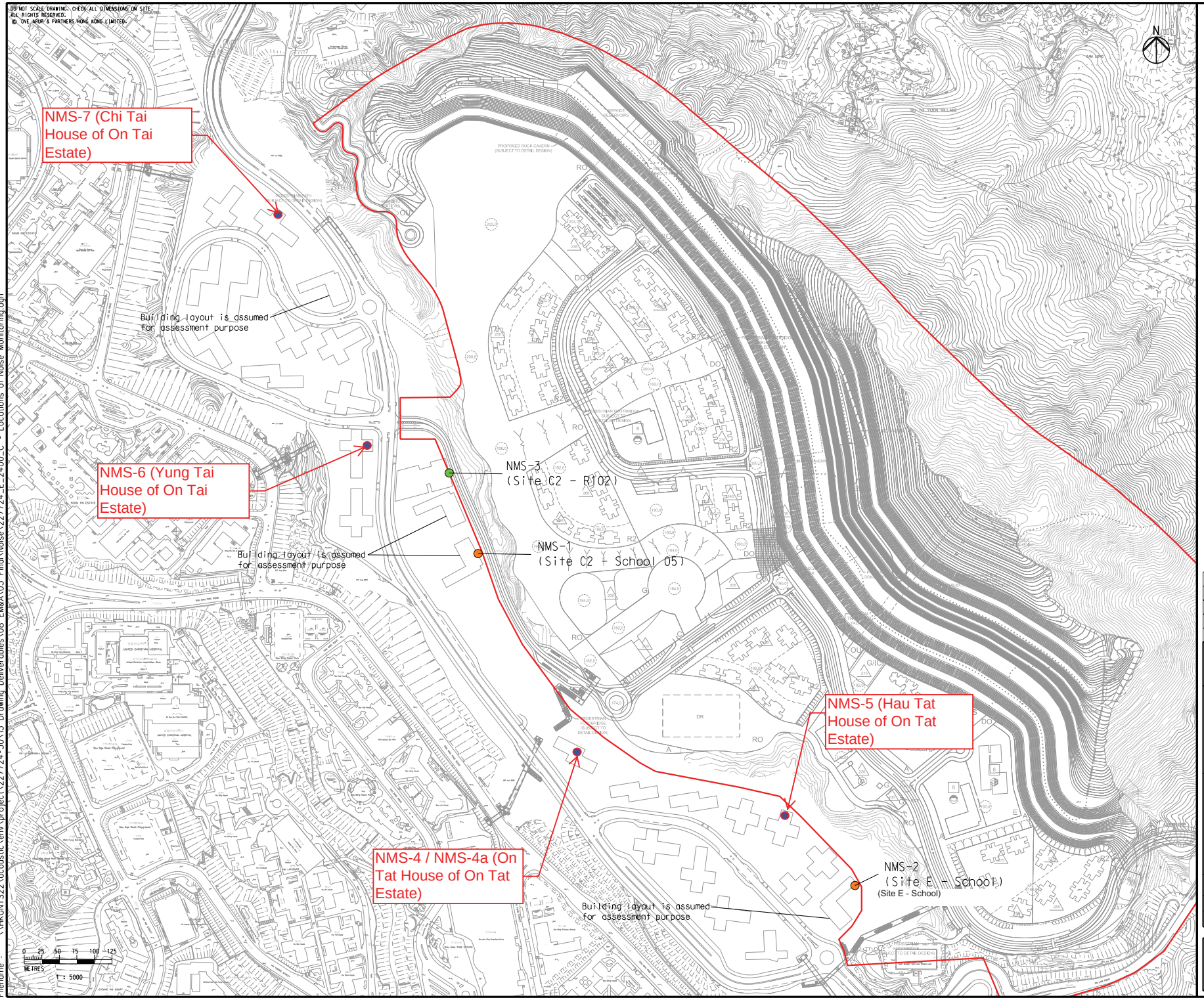
Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale 1:5000 @A3

Status PRELIMINARY

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

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



Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Noise Monitoring

Drawing no.	Rev.
227724/E/2400	C

Drawn	Date	Checked	Approved
GL	05/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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

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

AMS-3

AMS-4

AMS-5

AMS-6

HVS in AMS-5 for 24-Hour TSP

HVS in AMS-6 for 24-Hour TSP

Legend

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

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

Consultant

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Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 2 of 3)

Drawing no.	Rev.
227724/E/1046	B

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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

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Printed by : 4/8/2014
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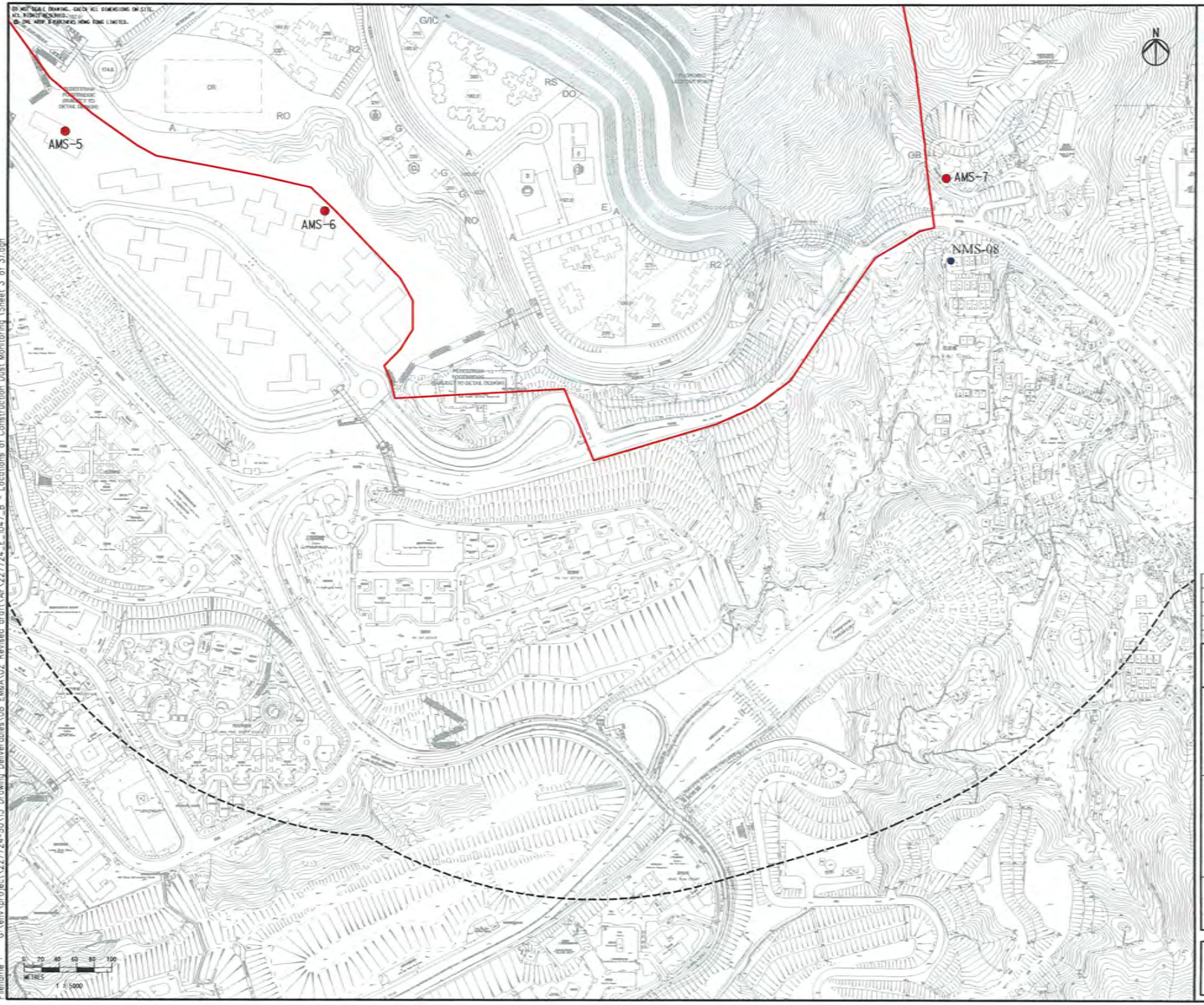


Legend

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

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

Consultant

Contract No. and Title

Agreement No. CE 18/2012(CE)

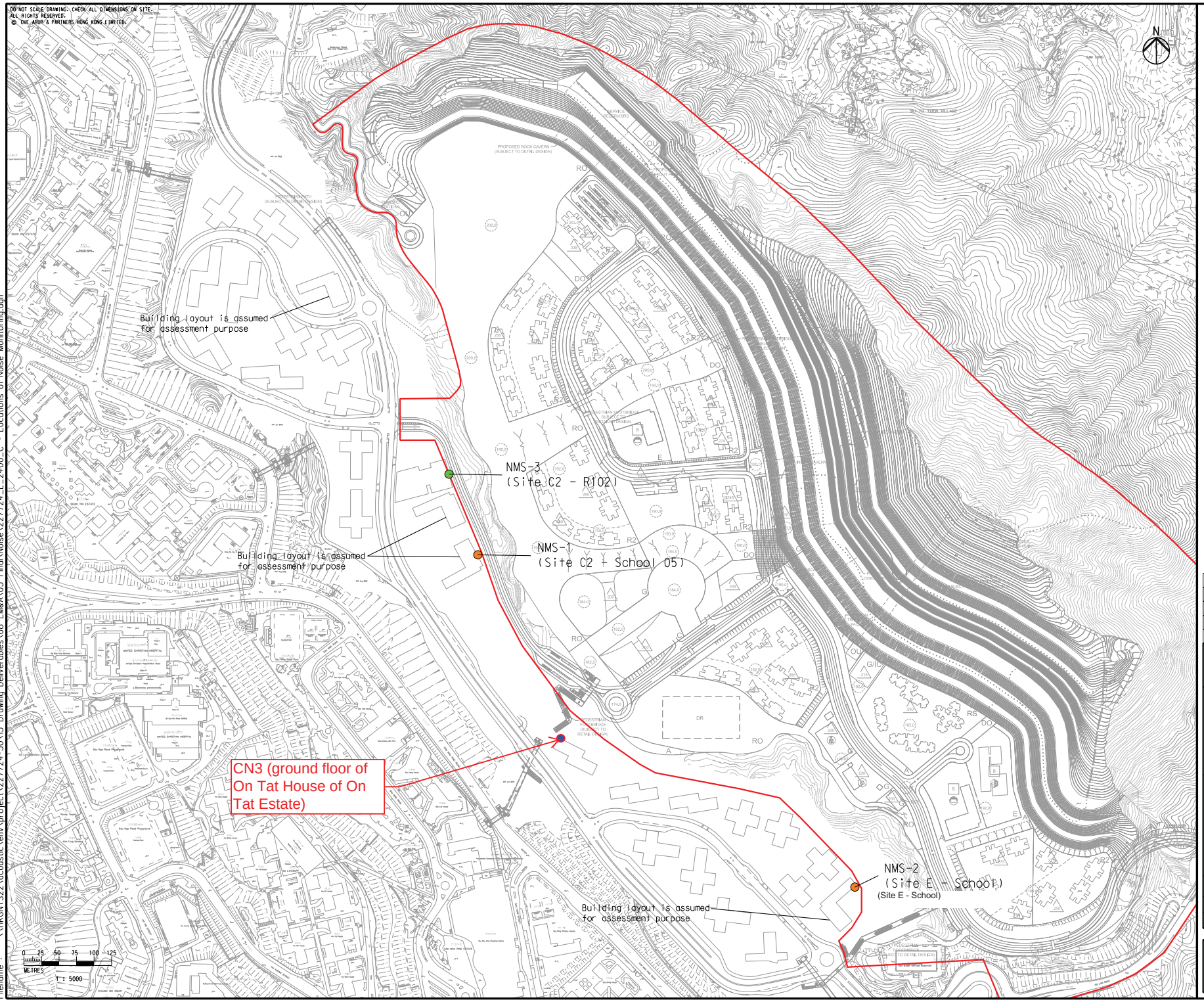
Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust and Noise Monitoring

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

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



Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Noise Monitoring

Drawing no.		Rev.
227724/E/2400		C
Drawn: GL	Date: 05/14	Checked: TC / Approved: ST
Scale: 1:5000 @A3	Status: PRELIMINARY	

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

Printed by : 6/3/2014
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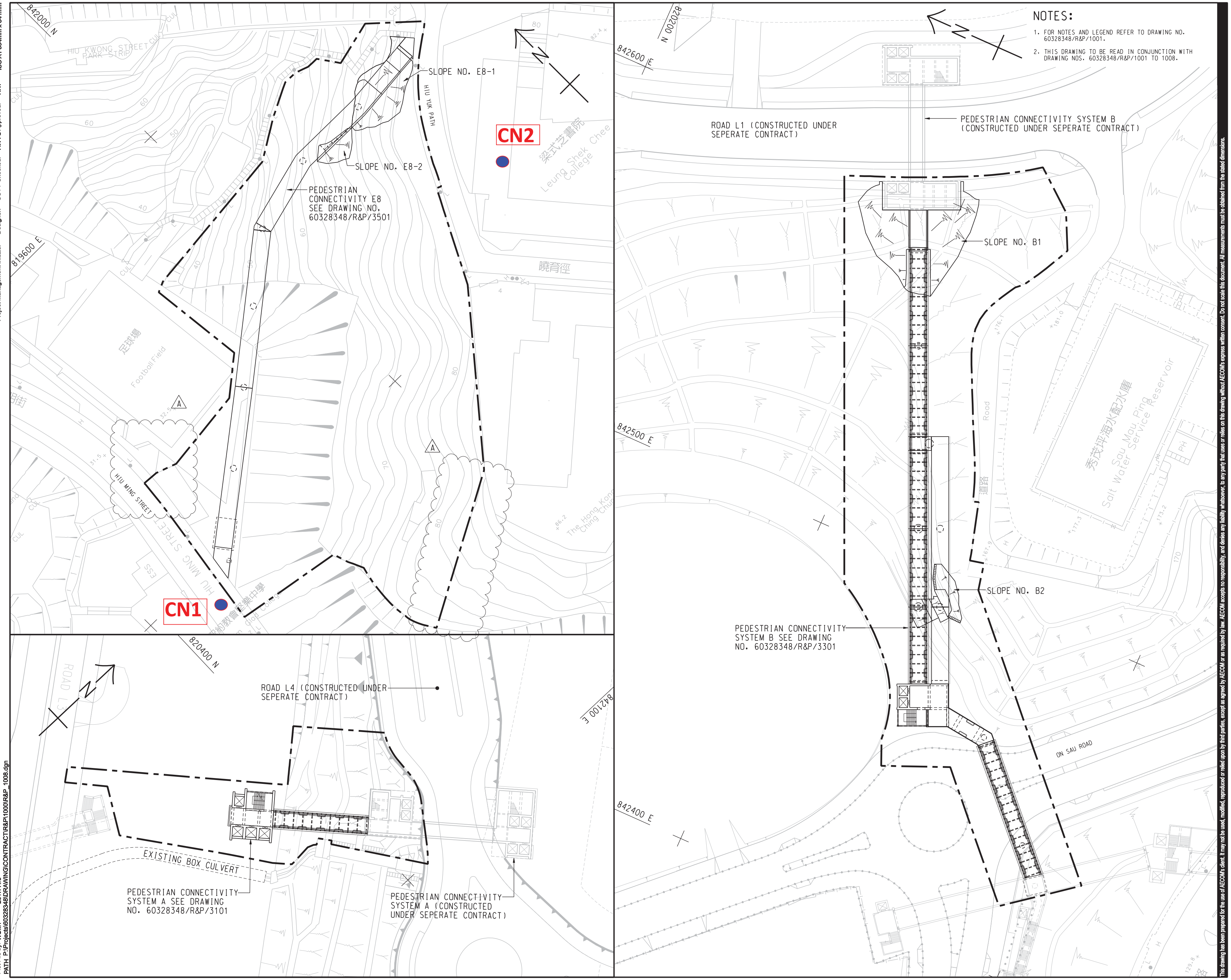

Project Management Initials: Designer: CCYT Checked: AWYC Approved: HKT ISO A1 594mm x 841mm

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AECOM

PROJECT 項目

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

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

● noise monitoring location

ISSUE/REVISION 修訂

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

STATUS 階段

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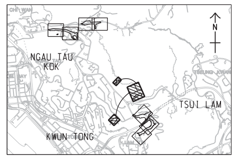
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖 A1 1:60000



PROJECT NO. 項目編號: 60328348

CONTRACT NO. 合約編號: NE/2017/03

SHEET TITLE 圖紙名稱

GENERAL LAYOUT

SHEET 8 OF 8

SHEET NUMBER 圖紙編號

60328348/R&P/1008A

Appendix E

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

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Tan Shan Village No. 5 - 6
Location ID : AMS1a
Model:TISCH High Volume Air Sampler TE-5170

Date of Calibration: 31-Mar-22
Next Calibration Date: 30-May-22
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1016.3	Corrected Pressure (mm Hg)	762.225
Temperature (°C)	23.4	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	TE-5025A	Qstd Intercept ->	-0.00903
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.4	6.4	12.8	1.802	51	51.21	Slope = 39.4006
13	5.2	5.2	10.4	1.625	45	45.19	Intercept = -19.5587
10	3.9	3.9	7.8	1.408	35	35.15	Corr. coeff. = 0.9992
7	2.6	2.6	5.2	1.150	26	26.11	
5	1.7	1.7	3.4	0.931	17	17.07	

Calculations :

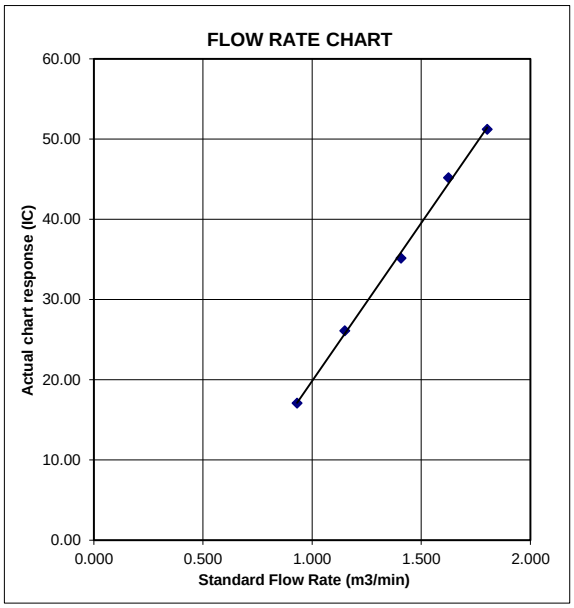
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Tan Shan Village No. 5 - 6 — Date of Calibration: 30-May-22
Location ID : AMS1a — Next Calibration Date: 29-Jul-22
Model:TISCH High Volume Air Sampler TE-5170 — Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1005.9	Corrected Pressure (mm Hg)	754.425
Temperature (°C)	29.2	Temperature (K)	302

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	TE-5025A	Qstd Intercept ->	-0.00903
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.4	6.4	12.8	1.776	51	50.46	Slope = 36.5599
13	5.2	5.2	10.4	1.601	45	44.52	Intercept = -14.8015
10	4	4	8	1.405	35	34.63	Corr. coeff. = 0.9967
7	2.4	2.4	4.8	1.089	26	25.72	
5	1.5	1.5	3	0.862	17	16.82	

Calculations :

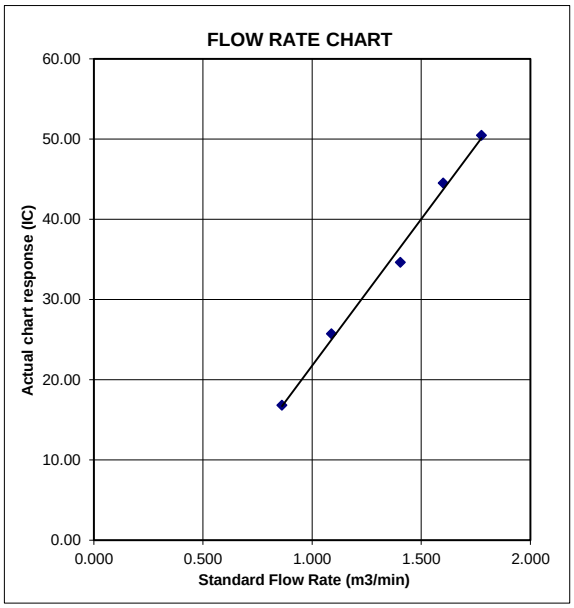
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Oi Tat House	Date of Calibration: 31-Mar-22
Location ID : AMS 5	Next Calibration Date: 30-May-22
Model:TISCH High Volume Air Sampler TE-5170	Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1016.3	Corrected Pressure (mm Hg)	762.225
Temperature (ºC)	23.4	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	TE-5025A	Qstd Intercept ->	-0.00903
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION	
18	6.4	6.4	12.8	1.802	56	56.23	Slope =	41.9983
13	5.2	5.2	10.4	1.625	47	47.20	Intercept =	-20.8083
10	4.1	4.1	8.2	1.443	37	37.15	Corr. coeff. =	0.9938
7	2.6	2.6	5.2	1.150	29	29.12		
5	1.6	1.6	3.2	0.903	17	17.07		

Calculations :

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

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K

Pstd = actual pressure during calibration (mm Hg

For subsequent calculation of sampler flow:

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

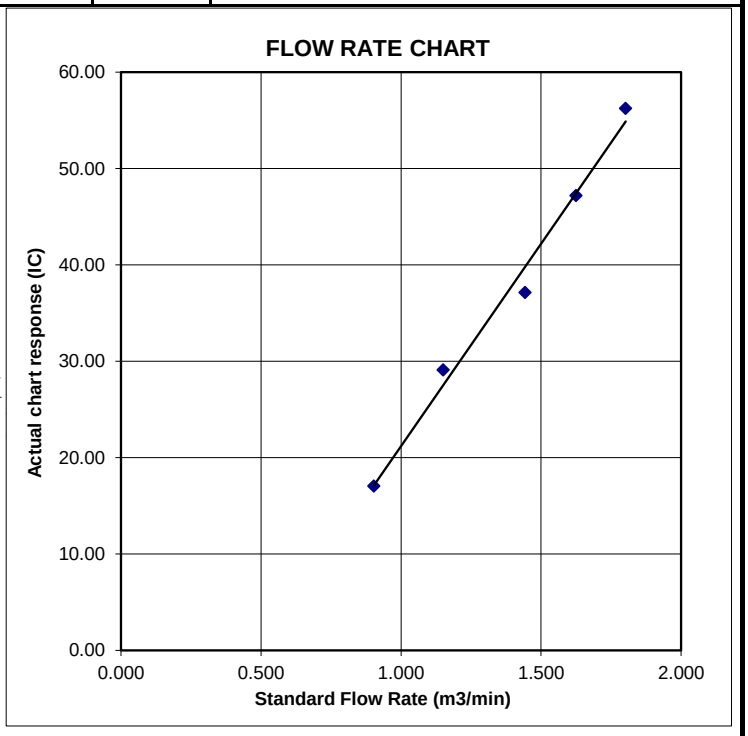
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Oi Tat House	Date of Calibration:	30-May-22
Location ID :	AMS 5	Next Calibration Date:	29-Jul-22
Model:TISCH High Volume Air Sampler TE-5170		Technician:	Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1005.9	Corrected Pressure (mm Hg)	754.425
Temperature (ºC)	29.2	Temperature (K)	302

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	TE-5025A	Qstd Intercept ->	-0.00903
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.4	6.4	12.8	1.776	56	55.41	Slope = 40.7127
13	5.2	5.2	10.4	1.601	47	46.50	Intercept = -18.6613
10	4.2	4.2	8.4	1.439	37	36.61	Corr. coeff. = 0.9912
7	2.6	2.6	5.2	1.133	29	28.69	
5	1.5	1.5	3	0.862	17	16.82	

Calculations :

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

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K

Pstd = actual pressure during calibration (mm Hg

For subsequent calculation of sampler flow:

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

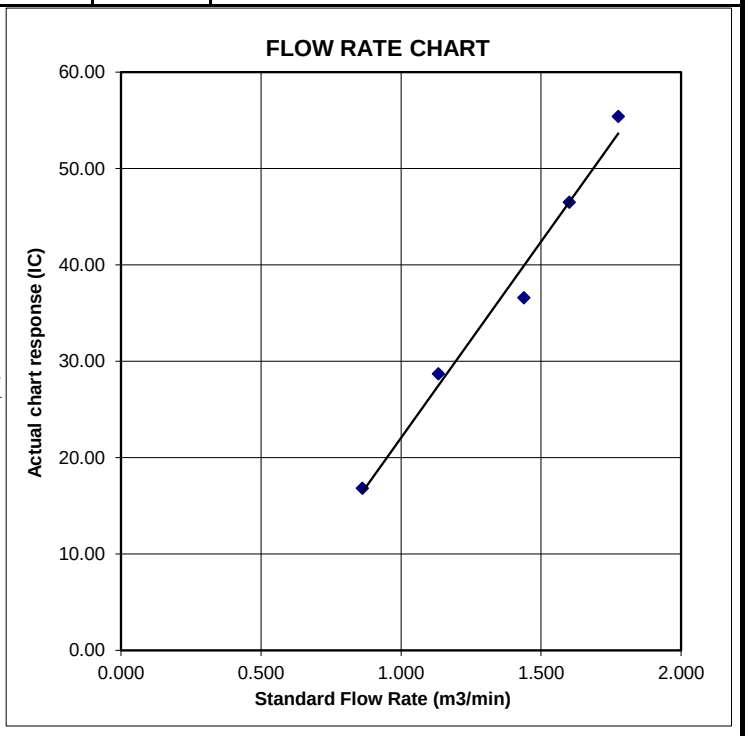
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Hau Tat House	Date of Calibration: 31-Mar-22
Location ID : AMS 6	Next Calibration Date: 30-May-22
Model:TISCH High Volume Air Sampler TE-5170	Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1016.3	Corrected Pressure (mm Hg)	762.225
Temperature (°C)	23.4	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	TE-5025A	Qstd Intercept ->	-0.00903
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.774	53	53.22	Slope = 40.5453
13	5.4	5.4	10.8	1.656	45	46.00	Intercept = -19.6451
10	3.7	3.7	7.4	1.371	35	35.15	Corr. coeff. = 0.9924
7	2.4	2.4	4.8	1.105	28	28.12	
5	1.4	1.4	2.8	0.845	13	13.05	

Calculations :

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

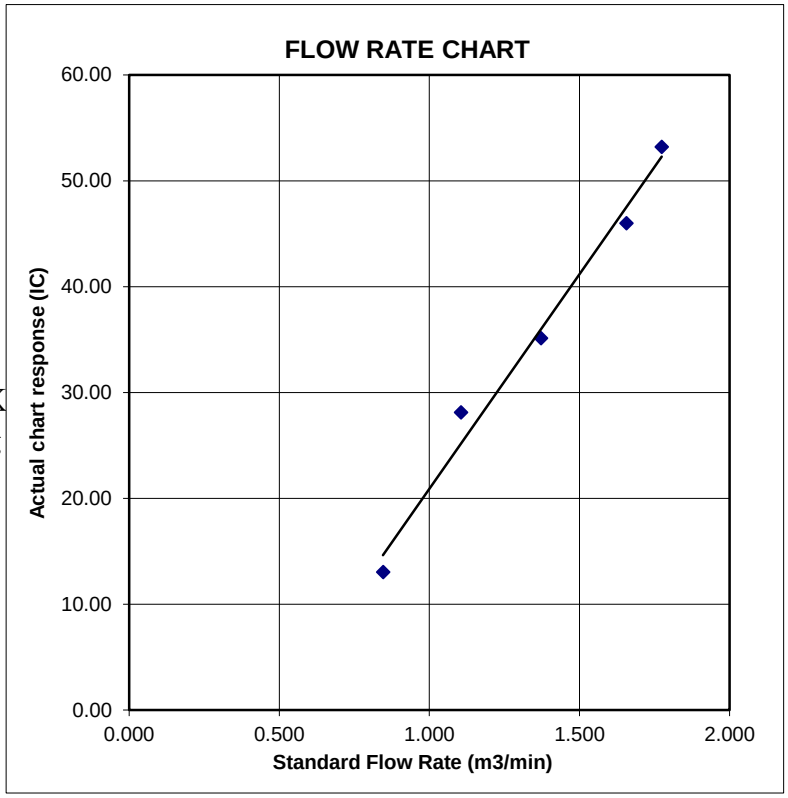
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K
Pstd = actual pressure during calibration (mm Hg

For subsequent calculation of sampler flow:

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

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



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Hau Tat House	Date of Calibration: 30-May-22
Location ID : AMS 6	Next Calibration Date: 29-Jul-22
Model:TISCH High Volume Air Sampler TE-5170	Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1005.9	Corrected Pressure (mm Hg)	754.425
Temperature (°C)	29.2	Temperature (K)	302

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	TE-5025A	Qstd Intercept ->	-0.00903
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.3	6.3	12.6	1.762	53	52.44	Slope = 41.9587
13	5.4	5.4	10.8	1.632	45	46.00	Intercept = -21.6530
10	3.7	3.7	7.4	1.351	35	34.63	Corr. coeff. = 0.9943
7	2.5	2.5	5	1.112	28	27.70	
5	1.5	1.5	3	0.862	13	12.86	

Calculations :

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

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K

Pstd = actual pressure during calibration (mm Hg

For subsequent calculation of sampler flow:

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

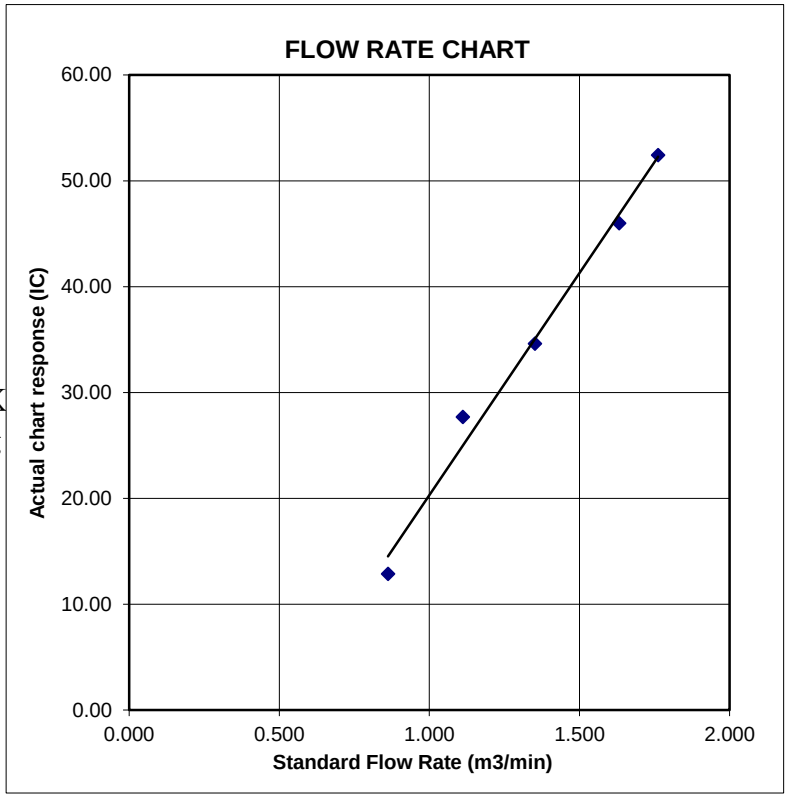
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

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

Date of Calibration: 31-Mar-22
Next Calibration Date: 30-May-22
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1016.3	Corrected Pressure (mm Hg)	762.225
Temperature (°C)	23.4	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	TE-5025A	Qstd Intercept ->	-0.00903
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.5	6.5	13	1.816	56	56.23	Slope = 42.3131
13	5.4	5.4	10.8	1.656	48	48.20	Intercept = -21.4334
10	3.7	3.7	7.4	1.371	35	35.15	Corr. coeff. = 0.9979
7	2.7	2.7	5.4	1.172	29	29.12	
5	1.7	1.7	3.4	0.931	18	18.07	

Calculations :

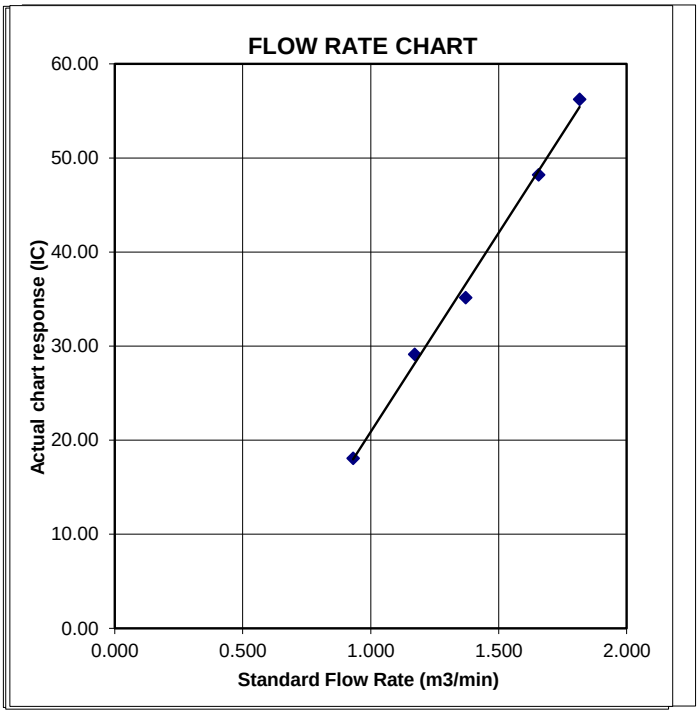
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

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

Date of Calibration: 30-May-22
Next Calibration Date: 29-Jul-22
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1005.9	Corrected Pressure (mm Hg)	754.425
Temperature (°C)	29.2	Temperature (K)	302

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	TE-5025A	Qstd Intercept ->	-0.00903
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.5	6.5	13	1.790	56	55.41	Slope = 43.9346
13	5.5	5.5	11	1.647	48	47.49	Intercept = -23.9309
10	3.7	3.7	7.4	1.351	35	34.63	Corr. coeff. = 0.9965
7	2.7	2.7	5.4	1.155	29	28.69	
5	1.9	1.9	3.8	0.970	18	17.81	

Calculations :

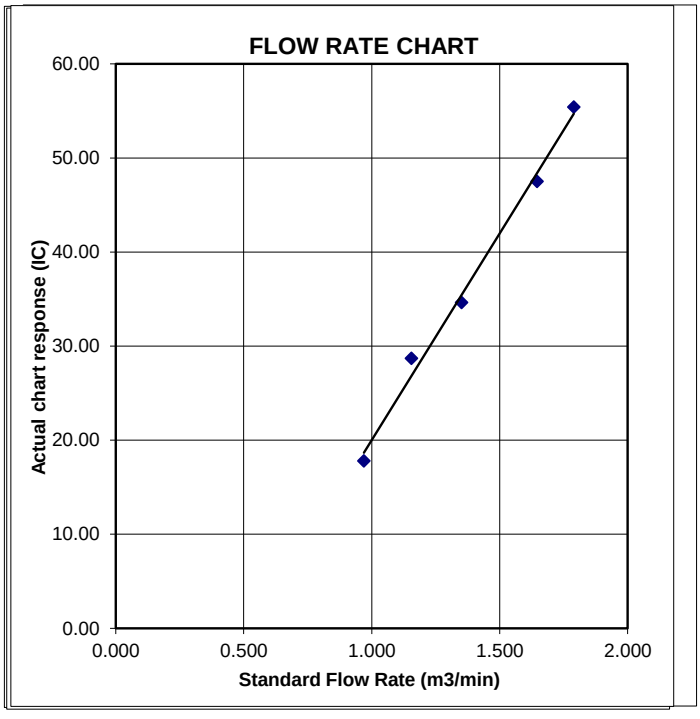
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TISCH Environmental

RECALIBRATION DUE DATE:
December 27, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 27, 2021	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 740.4	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3890	3.2	2.00
2	3	4	1	0.9760	6.4	4.00
3	5	6	1	0.8740	7.9	5.00
4	7	8	1	0.8320	8.8	5.50
5	9	10	1	0.6870	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9799	0.7055	1.4029	0.9957	0.7168	0.8927
0.9756	0.9996	1.9841	0.9914	1.0157	1.2624
0.9736	1.1140	2.2183	0.9893	1.1320	1.4114
0.9724	1.1688	2.3265	0.9881	1.1876	1.4803
0.9673	1.4079	2.8059	0.9828	1.4306	1.7853
QSTD	**m=**	**1.99838**	**QA**	**m=**	**1.25135**
	b=	**-0.00903**		**b=**	**-0.00574**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

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

For subsequent flow rate calculations:

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

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

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

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

RECALIBRATION

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

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ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK2212660**
CLIENT	: **ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING**		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH DATE RECEIVED DATE OF ISSUE	: 1 : 8-APR-2022 : 14-APR-2022
PROJECT	: ----	NO. OF SAMPLES CLIENT ORDER	: 1 : ----

General Comments

- **Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.**

Signatories

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

Signatories	*Position*
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

All pages of this report have been checked and approved for release.

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

WORK ORDER	:	HK2212660
SUB-BATCH	:	1
CLIENT	:	ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING
PROJECT	:	----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2212660-001	S/N: 456660	AIR	08-Apr-2022	S/N: 456660

Equipment Verification Report (TSP)

Equipment Calibrated:

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

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018 & HVS 019
Last Calibration Date:	22 February 2022

Equipment Verification Results:

Verification Date: 1 & 7 March 2022

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
7-Mar-22	2hr01mins	09:17 ~ 11:18	22.5	1010.6	26.4	1220	10.1
7-Mar-22	2hr01mins	11:24 ~ 13:25	22.5	1010.6	34.8	2041	16.8
7-Mar-22	2hr01mins	13:30 ~ 15:31	22.5	1010.6	40.3	2577	21.4
1-Mar-22	30mins	10:03 ~ 10:33	22	1016.9	123.1	1694	56.5
1-Mar-22	31mins	10:39 ~ 11:10	22	1016.9	93.9	1407	46.0

(*) Suspended particle was added into calibration room of HVS019 for high concentration test.

Sensitivity Adjustment Scale Setting (Before Calibration) 615 (CPM)

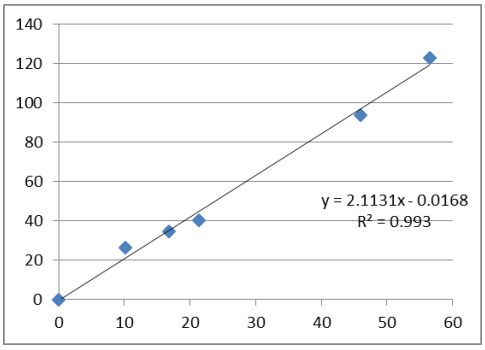
Sensitivity Adjustment Scale Setting (After Calibration) 620 (CPM)

Linear Regression of Y or X

Slope (K-factor): 2.1131 (µg/m^3)/CPM

Correlation Coefficient (R) 0.9965

Date of Issue 26 March 2022



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 2.1131 (µg/m^3)/CPM should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 26 March 2022

QC Reviewer : Ben Tam Signature : Date : 26 March 2022

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.713	54	54.13	Slope = 27.3242
13	4.7	4.7	9.4	1.543	49	49.12	Intercept = 7.2177
10	3.6	3.6	7.2	1.351	44	44.11	Corr. coeff. = 0.9997
8	2.3	2.3	4.6	1.080	37	37.09	
5	1.4	1.4	2.8	0.844	30	30.07	

Calculations :

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

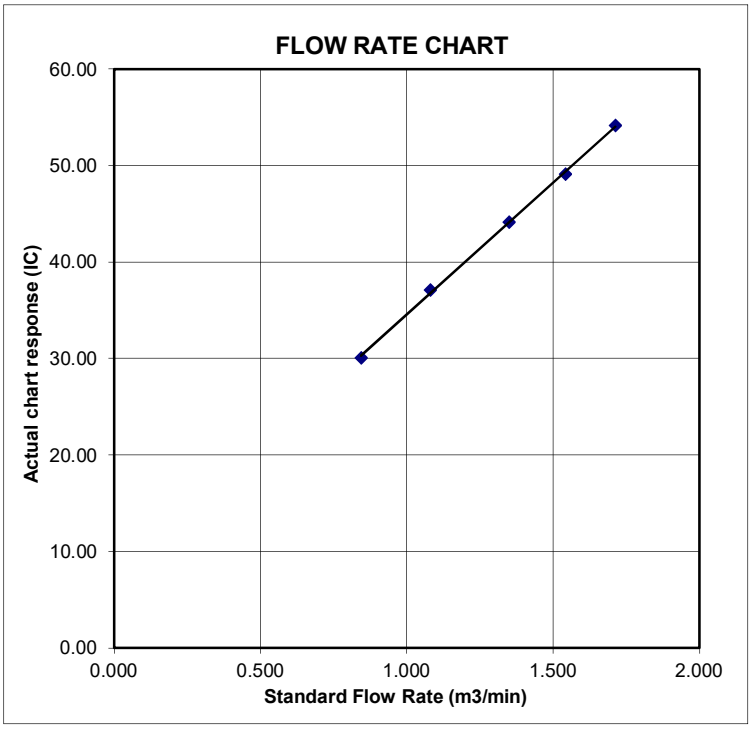
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.771	52	52.13	Slope = 34.6002
13	4.9	4.9	9.8	1.575	44	44.11	Intercept = -9.1434
10	3.8	3.8	7.6	1.387	40	40.10	Corr. coeff. = 0.9958
8	2.4	2.4	4.8	1.104	30	30.07	
5	1.5	1.5	3.0	0.873	20	20.05	

Calculations :

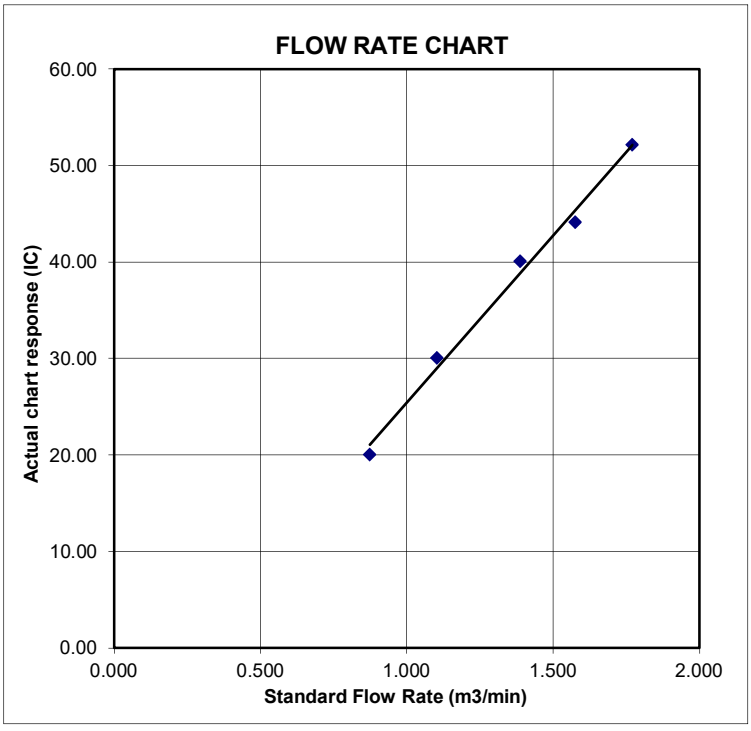
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TISCH Environmental

RECALIBRATION DUE DATE:
December 27, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 27, 2021	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 740.4	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3890	3.2	2.00
2	3	4	1	0.9760	6.4	4.00
3	5	6	1	0.8740	7.9	5.00
4	7	8	1	0.8320	8.8	5.50
5	9	10	1	0.6870	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9799	0.7055	1.4029	0.9957	0.7168	0.8927
0.9756	0.9996	1.9841	0.9914	1.0157	1.2624
0.9736	1.1140	2.2183	0.9893	1.1320	1.4114
0.9724	1.1688	2.3265	0.9881	1.1876	1.4803
0.9673	1.4079	2.8059	0.9828	1.4306	1.7853
QSTD	**m=**	**1.99838**	**QA**	**m=**	**1.25135**
	b=	**-0.00903**		**b=**	**-0.00574**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

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

For subsequent flow rate calculations:

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

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

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

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

RECALIBRATION

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

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FAX: (513)467-9009

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK2212658**
CLIENT	: **ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING**		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH DATE RECEIVED DATE OF ISSUE	: 1 : 8-APR-2022 : 14-APR-2022
PROJECT	: ----	NO. OF SAMPLES CLIENT ORDER	: 1 : ----

General Comments

- **Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.**

Signatories

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

Signatories	*Position*
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

All pages of this report have been checked and approved for release.

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

WORK ORDER	:	HK2212658
SUB-BATCH	:	1
CLIENT	:	ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING
PROJECT	:	----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2212658-001	S/N: 456659	AIR	08-Apr-2022	S/N: 456659

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456659
Equipment Ref:	EQ116

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018 & HVS 019
Last Calibration Date:	22 February 2022

Equipment Verification Results:

Verification Date: 1 & 7 March 2022

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
7-Mar-22	2hr01mins	09:17 ~ 11:18	22.5	1010.6	26.4	1742	14.4
7-Mar-22	2hr01mins	11:24 ~ 13:25	22.5	1010.6	34.8	1547	12.8
7-Mar-22	2hr01mins	13:30 ~ 15:31	22.5	1010.6	40.3	1994	16.5
1-Mar-22	30mins	10:03 ~ 10:33	22	1016.9	123.1	1677	55.9
1-Mar-22	31mins	10:39 ~ 11:10	22	1016.9	93.9	1578	51.6

(*) Suspended particle was added into calibration room of HVS019 for high concentration test.

Sensitivity Adjustment Scale Setting (Before Calibration) 726 (CPM)

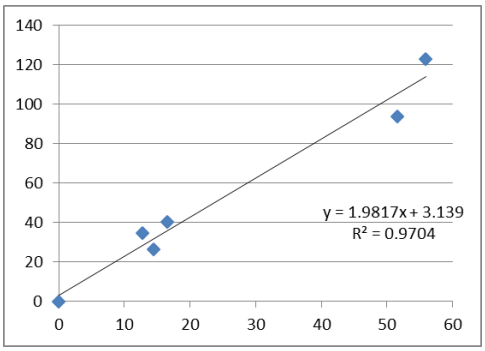
Sensitivity Adjustment Scale Setting (After Calibration) 719 (CPM)

Linear Regression of Y or X

Slope (K-factor): 1.9817 (µg/m^3)/CPM

Correlation Coefficient (R) 0.9851

Date of Issue 26 March 2022



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 1.9817 (µg/m^3)/CPM should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 26 March 2022

QC Reviewer : Ben Tam Signature : Date : 26 March 2022

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.713	54	54.13	Slope = 27.3242
13	4.7	4.7	9.4	1.543	49	49.12	Intercept = 7.2177
10	3.6	3.6	7.2	1.351	44	44.11	Corr. coeff. = 0.9997
8	2.3	2.3	4.6	1.080	37	37.09	
5	1.4	1.4	2.8	0.844	30	30.07	

Calculations :

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

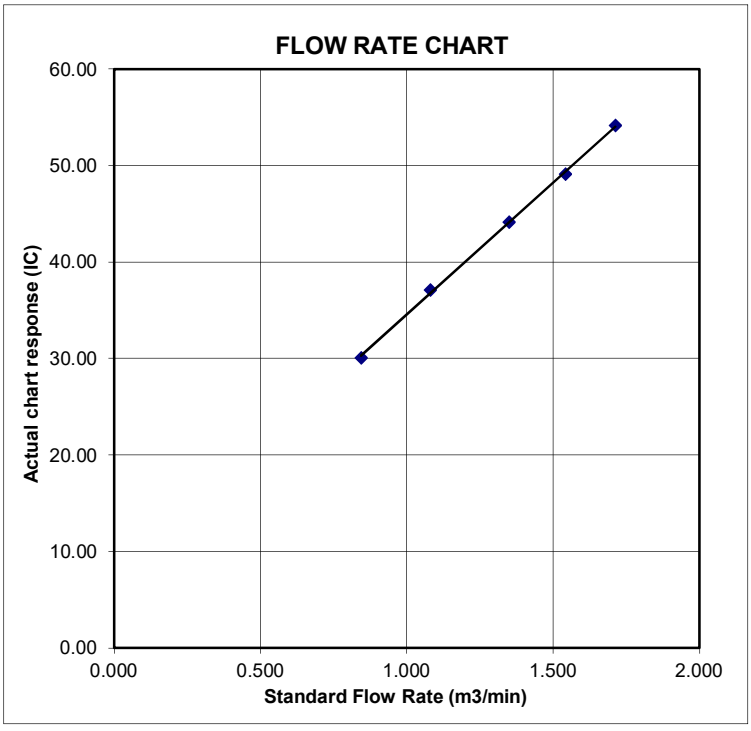
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.771	52	52.13	Slope = 34.6002
13	4.9	4.9	9.8	1.575	44	44.11	Intercept = -9.1434
10	3.8	3.8	7.6	1.387	40	40.10	Corr. coeff. = 0.9958
8	2.4	2.4	4.8	1.104	30	30.07	
5	1.5	1.5	3.0	0.873	20	20.05	

Calculations :

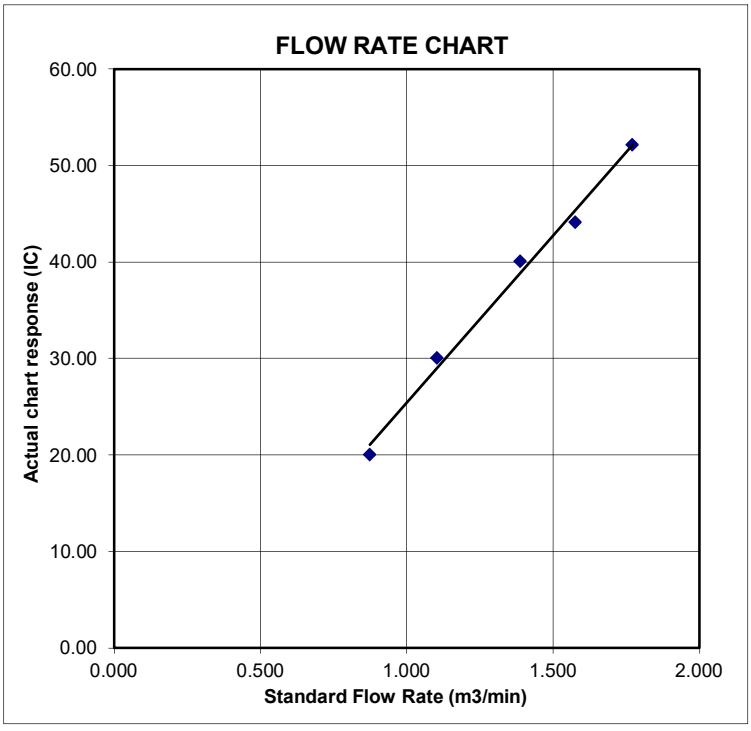
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TISCH Environmental

RECALIBRATION DUE DATE:
December 27, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 27, 2021	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 740.4	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3890	3.2	2.00
2	3	4	1	0.9760	6.4	4.00
3	5	6	1	0.8740	7.9	5.00
4	7	8	1	0.8320	8.8	5.50
5	9	10	1	0.6870	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9799	0.7055	1.4029	0.9957	0.7168	0.8927
0.9756	0.9996	1.9841	0.9914	1.0157	1.2624
0.9736	1.1140	2.2183	0.9893	1.1320	1.4114
0.9724	1.1688	2.3265	0.9881	1.1876	1.4803
0.9673	1.4079	2.8059	0.9828	1.4306	1.7853
QSTD	**m=**	**1.99838**	**QA**	**m=**	**1.25135**
	b=	**-0.00903**		**b=**	**-0.00574**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

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

For subsequent flow rate calculations:

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

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

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

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

RECALIBRATION

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

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

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FAX: (513)467-9009

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK2212657**
CLIENT	: **ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING**		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 8-APR-2022
		DATE OF ISSUE	: 14-APR-2022
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- **Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.**

Signatories

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

Signatories	*Position*
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

All pages of this report have been checked and approved for release.

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

WORK ORDER	:	HK2212657
SUB-BATCH	:	1
CLIENT	:	ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING
PROJECT	:	----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2212657-001	S/N: 456658	AIR	08-Apr-2022	S/N: 456658

Equipment Verification Report (TSP)

Equipment Calibrated:

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

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018 & HVS 019
Last Calibration Date:	22 February 2022

Equipment Verification Results:

Verification Date: 1 & 7 March 2022

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
7-Mar-22	2hr01mins	09:17 ~ 11:18	22.5	1010.6	26.4	1004	8.3
7-Mar-22	2hr01mins	11:24 ~ 13:25	22.5	1010.6	34.8	1674	13.8
7-Mar-22	2hr01mins	13:30 ~ 15:31	22.5	1010.6	40.3	1709	14.2
1-Mar-22	30mins	10:03 ~ 10:33	22	1016.9	123.1	1799	60.0
1-Mar-22	31mins	10:39 ~ 11:10	22	1016.9	93.9	1208	39.5

(*) Suspended particle was added into calibration room of HVS019 for high concentration test.

Sensitivity Adjustment Scale Setting (Before Calibration) 702 (CPM)

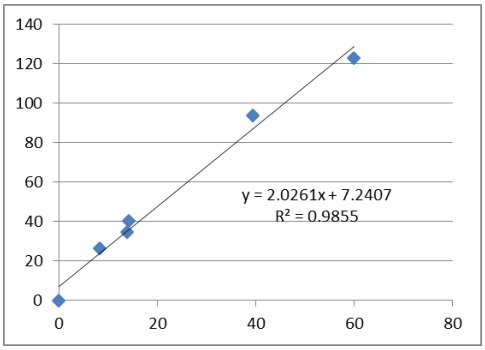
Sensitivity Adjustment Scale Setting (After Calibration) 711 (CPM)

Linear Regression of Y or X

Slope (K-factor): 2.0261 (µg/m^3)/CPM

Correlation Coefficient (R) 0.9927

Date of Issue 26 March 2022



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 2.0261 (µg/m^3)/CPM should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 26 March 2022

QC Reviewer : Ben Tam Signature : Date : 26 March 2022

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.713	54	54.13	Slope = 27.3242
13	4.7	4.7	9.4	1.543	49	49.12	Intercept = 7.2177
10	3.6	3.6	7.2	1.351	44	44.11	Corr. coeff. = 0.9997
8	2.3	2.3	4.6	1.080	37	37.09	
5	1.4	1.4	2.8	0.844	30	30.07	

Calculations :

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

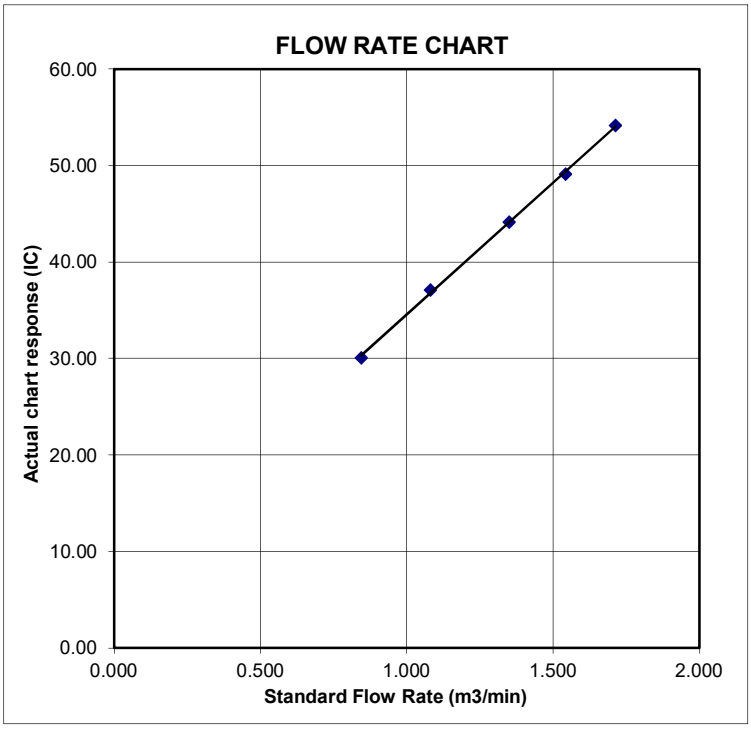
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.771	52	52.13	Slope = 34.6002
13	4.9	4.9	9.8	1.575	44	44.11	Intercept = -9.1434
10	3.8	3.8	7.6	1.387	40	40.10	Corr. coeff. = 0.9958
8	2.4	2.4	4.8	1.104	30	30.07	
5	1.5	1.5	3.0	0.873	20	20.05	

Calculations :

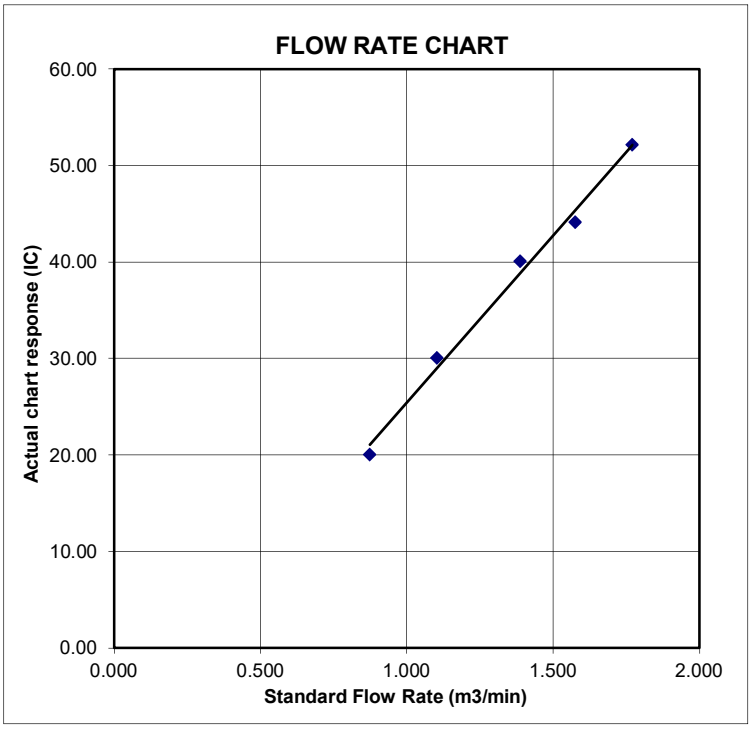
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TISCH Environmental

RECALIBRATION DUE DATE:
December 27, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 27, 2021	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 740.4	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3890	3.2	2.00
2	3	4	1	0.9760	6.4	4.00
3	5	6	1	0.8740	7.9	5.00
4	7	8	1	0.8320	8.8	5.50
5	9	10	1	0.6870	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9799	0.7055	1.4029	0.9957	0.7168	0.8927
0.9756	0.9996	1.9841	0.9914	1.0157	1.2624
0.9736	1.1140	2.2183	0.9893	1.1320	1.4114
0.9724	1.1688	2.3265	0.9881	1.1876	1.4803
0.9673	1.4079	2.8059	0.9828	1.4306	1.7853
QSTD	**m=**	**1.99838**	**QA**	**m=**	**1.25135**
	b=	**-0.00903**		**b=**	**-0.00574**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

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

For subsequent flow rate calculations:

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

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

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

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

RECALIBRATION

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK2212152**
CLIENT	: **ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING**		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 8-APR-2022
		DATE OF ISSUE	: 14-APR-2022
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- **Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.**

Signatories

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

Signatories	*Position*
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
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Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER	:	HK2212152
SUB-BATCH	:	1
CLIENT	:	ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING
PROJECT	:	----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2212152-001	S/N: 3Y6505	AIR	08-Apr-2022	S/N: 3Y6505

Equipment Verification Report (TSP)

Equipment Calibrated:

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

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018 & HVS 019
Last Calibration Date:	22 February 2022

Equipment Verification Results:

Verification Date: 1 & 7 March 2022

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
7-Mar-22	2hr01mins	09:17 ~ 11:18	22.5	1010.6	26.4	783	6.5
7-Mar-22	2hr01mins	11:24 ~ 13:25	22.5	1010.6	34.8	1104	9.1
7-Mar-22	2hr01mins	13:30 ~ 15:31	22.5	1010.6	40.3	2134	17.7
1-Mar-22	30mins	10:03 ~ 10:33	22	1016.9	123.1	1599	53.3
1-Mar-22	31mins	10:39 ~ 11:10	22	1016.9	93.9	1397	45.7

(*) Suspended particle was added into calibration room of HVS019 for high concentration test.

Sensitivity Adjustment Scale Setting (Before Calibration) 591 (CPM)

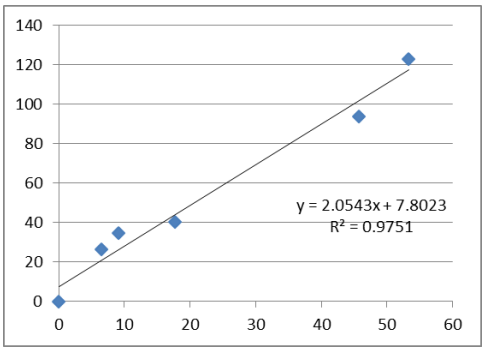
Sensitivity Adjustment Scale Setting (After Calibration) 588 (CPM)

Linear Regression of Y or X

Slope (K-factor): 2.0543 (µg/m^3)/CPM

Correlation Coefficient (R) 0.9875

Date of Issue 26 March 2022



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 2.0543 (µg/m^3)/CPM should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 26 March 2022

QC Reviewer : Ben Tam Signature : Date : 26 March 2022

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.713	54	54.13	Slope = 27.3242
13	4.7	4.7	9.4	1.543	49	49.12	Intercept = 7.2177
10	3.6	3.6	7.2	1.351	44	44.11	Corr. coeff. = 0.9997
8	2.3	2.3	4.6	1.080	37	37.09	
5	1.4	1.4	2.8	0.844	30	30.07	

Calculations :

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

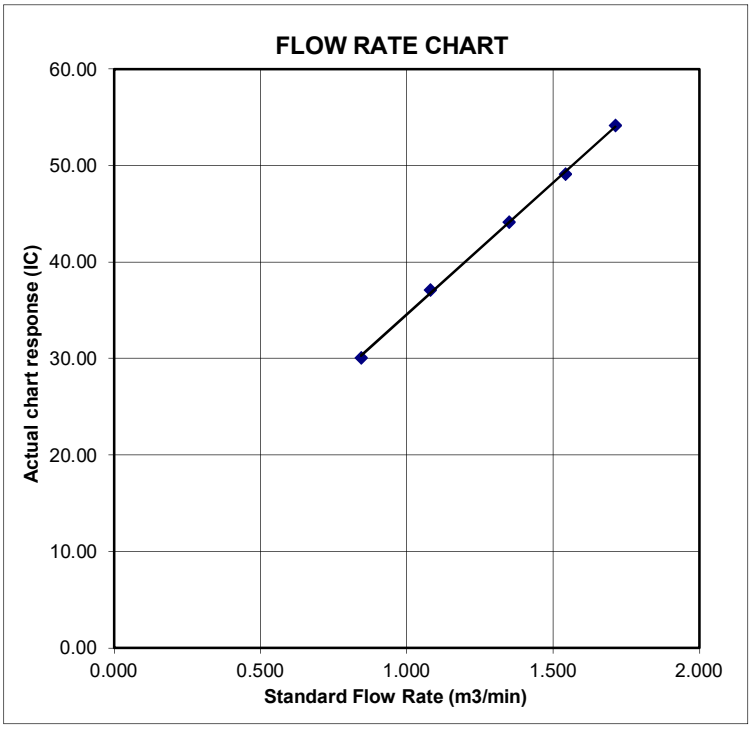
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.771	52	52.13	Slope = 34.6002
13	4.9	4.9	9.8	1.575	44	44.11	Intercept = -9.1434
10	3.8	3.8	7.6	1.387	40	40.10	Corr. coeff. = 0.9958
8	2.4	2.4	4.8	1.104	30	30.07	
5	1.5	1.5	3.0	0.873	20	20.05	

Calculations :

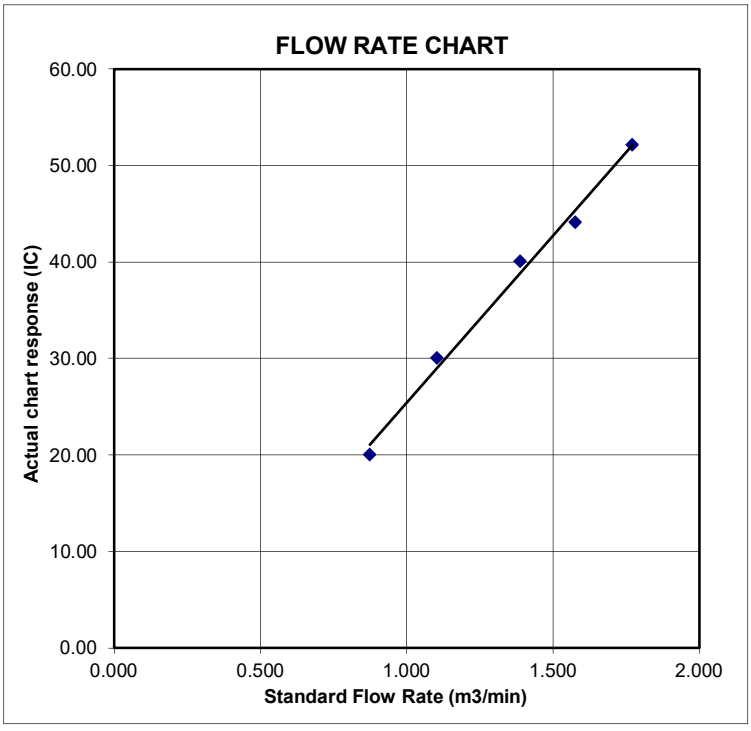
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

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



TISCH Environmental

RECALIBRATION DUE DATE:
December 27, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 27, 2021	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 740.4	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3890	3.2	2.00
2	3	4	1	0.9760	6.4	4.00
3	5	6	1	0.8740	7.9	5.00
4	7	8	1	0.8320	8.8	5.50
5	9	10	1	0.6870	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9799	0.7055	1.4029	0.9957	0.7168	0.8927
0.9756	0.9996	1.9841	0.9914	1.0157	1.2624
0.9736	1.1140	2.2183	0.9893	1.1320	1.4114
0.9724	1.1688	2.3265	0.9881	1.1876	1.4803
0.9673	1.4079	2.8059	0.9828	1.4306	1.7853
QSTD	**m=**	**1.99838**	**QA**	**m=**	**1.25135**
	b=	**-0.00903**		**b=**	**-0.00574**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

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

For subsequent flow rate calculations:

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

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

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

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

RECALIBRATION

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

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

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

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

Certificate of Calibration
校正證書

Certificate No. : C221364
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-0258) Date of Receipt / 收件日期 : 14 February 2022

Description / 儀器名稱	:	Sound Level Meter (EQ068)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-31
Serial No. / 編號	:	00410247
Supplied By / 委託者	:	Action-United Environmental Services and Consulting Unit A, 20/F., Gold King Industrial Building, 35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

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

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 12 March 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Fluke Everett Service Center, USA
- Agilent Technologies / Keysight Technologies

Tested By 測試 : K C Lee, Engineer

Certified By 核證 : H C Chan, Engineer

Date of Issue 簽發日期 : 16 March 2022

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C221364
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C220381
CL281	Multifunction Acoustic Calibrator	AV210017

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.8	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 120	L_A	A	Fast	94.00	1	93.8 (Ref.)
				104.00		103.8
				114.00		113.8

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

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.8	Ref.
			Slow			93.8	± 0.3

Certificate of Calibration
校正證書

Certificate No. : C221364
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_A	A	Fast	94.00	63 Hz	67.5	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.1	-8.6 ± 1.4
					500 Hz	90.5	-3.2 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	95.1	+1.2 ± 1.6
					4 kHz	94.9	+1.0 ± 1.6
					8 kHz	92.8	-1.1 (+2.1 ; -3.1)
					16 kHz	87.4	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_C	C	Fast	94.00	63 Hz	92.9	-0.8 ± 1.5
					125 Hz	93.6	-0.2 ± 1.5
					250 Hz	93.8	0.0 ± 1.4
					500 Hz	93.8	0.0 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	93.7	-0.2 ± 1.6
					4 kHz	93.1	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					16 kHz	85.4	-8.5 (+3.5 ; -17.0)

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

Certificate No. : C221364
證書編號

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 322738

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	:	± 0.35 dB
	250 Hz - 500 Hz	:	± 0.30 dB
	1 kHz	:	± 0.20 dB
	2 kHz - 4 kHz	:	± 0.35 dB
	8 kHz	:	± 0.45 dB
	16 kHz	:	± 0.70 dB
104 dB	: 1 kHz	:	± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	:	± 0.10 dB (Ref. 94 dB)

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

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

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

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

Certificate of Calibration
校正證書

Certificate No. : C221365
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-0258) Date of Receipt / 收件日期 : 14 February 2022

Description / 儀器名稱	:	Sound Level Meter (EQ018)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-52
Serial No. / 編號	:	00809405
Supplied By / 委託者	:	Action-United Environmental Services and Consulting Unit A, 20/F., Gold King Industrial Building, 35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

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

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 12 March 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Fluke Everett Service Center, USA
- Agilent Technologies / Keysight Technologies

Tested By 測試 : K C Lee, Engineer

Certified By 核證 : H C Chan, Engineer

Date of Issue 簽發日期 : 16 March 2022

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

Certificate No. : C221365
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C220381
CL281	Multifunction Acoustic Calibrator	AV210017

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L_A	A	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

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

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.3

Certificate of Calibration
校正證書

Certificate No. : C221365
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.5
					250 Hz	85.4	-8.6 ± 1.4
					500 Hz	90.8	-3.2 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	95.0	+1.2 ± 1.6
					4 kHz	94.7	+1.0 ± 1.6
					8 kHz	92.9	-1.1 (+2.1 ; -3.1)
					16 kHz	85.5	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.5
					250 Hz	94.0	0.0 ± 1.4
					500 Hz	94.1	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.6	-0.2 ± 1.6
					4 kHz	92.9	-0.8 ± 1.6
					8 kHz	91.0	-3.0 (+2.1 ; -3.1)
					16 kHz	83.5	-8.5 (+3.5 ; -17.0)

Certificate of Calibration
校正證書

Certificate No. : C221365
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 16463

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	16 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

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

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

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

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

Certificate of Calibration
校正證書

Certificate No. : C221362
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-0258) Date of Receipt / 收件日期 : 14 February 2022

Description / 儀器名稱	:	Sound Calibrator (EQ089)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NC-75
Serial No. / 編號	:	34680623
Supplied By / 委託者	:	Action-United Environmental Services and Consulting Unit A, 20/F., Gold King Industrial Building, 35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

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

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 12 March 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Fluke Everett Service Center, USA
- Agilent Technologies / Keysight Technologies

Tested By 測試 : K C Lee, Engineer

Certified By 核證 : H C Chan, Engineer

Date of Issue 簽發日期 : 16 March 2022

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

Certificate of Calibration
校正證書

Certificate No. : C221362
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C213954
CL281	Multifunction Acoustic Calibrator	AV210017
TST150A	Measuring Amplifier	C201309

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.25	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

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

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

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

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輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

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

is accredited by the Hong Kong Accreditation Service (HKAS) to ISO/IEC 17025:2017
for performing specific laboratory activities as listed in the scope of accreditation within the test category of
獲香港認可處根據ISO/IEC 17025:2017認可
進行載於認可範圍內下述測試類別中的指定實驗所活動

Environmental Testing
環境測試

This accreditation to ISO/IEC 17025:2017 demonstrates technical competence for a defined scope and the implementation of a management system relevant to laboratory operation (see joint IAF-ILAC-ISO Communiqué).
此項 ISO/IEC 17025:2017 的認可資格證明此實驗所具備指定範疇內所須的技術能力並實施一套與實驗所運作相關的管理體系(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

The common seal of HKAS is affixed hereto by the authority of the HKAS Executive
現經香港認可處執行機關授權在此蓋上香港認可處的印章

SHUM Wai-leung, Executive Administrator
執行幹事 沈偉良
Issue Date : 28 February 2020
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首次註冊日期：一九九五年九月十五日

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本證書按照香港認可處訂立的條款及條件發出

L001934

Appendix F

Event and Action Plan

Event / Action Plan for construction dust

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

Event and Action Plan for Construction Noise

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

Appendix G

Impact Monitoring Schedule

Impact Monitoring Schedule for the Reporting Period

Date		NOISE MONITORING (0700 – 1900)	AIR QUALITY MONITORING	
			1-HOUR TSP	24-HOUR TSP
Sun	1-May-22			
Mon	2-May-22			
Tue	3-May-22			✓
Wed	4-May-22	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Thu	5-May-22	CN1, CN2, CN3 and NMS8		
Fri	6-May-22			
Sat	7-May-22			✓
Sun	8-May-22			
Mon	9-May-22			
Tue	10-May-22	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Wed	11-May-22			
Thu	12-May-22			
Fri	13-May-22			✓
Sat	14-May-22	CN1, CN2, CN3 and NMS8		
Sun	15-May-22			
Mon	16-May-22	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Tue	17-May-22			
Wed	18-May-22			
Thu	19-May-22			✓
Fri	20-May-22	CN1, CN2, CN3 and NMS8		
Sat	21-May-22		✓	
Sun	22-May-22			
Mon	23-May-22			
Tue	24-May-22			
Wed	25-May-22			✓
Thu	26-May-22	CN1, CN2, CN3 and NMS8		
Fri	27-May-22	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Sat	28-May-22			
Sun	29-May-22			
Mon	30-May-22			
Tue	31-May-22			✓

✓	Monitoring Day
	Sunday or Public Holiday

Impact Monitoring Schedule for next Reporting Period

Date		NOISE MONITORING (0700 – 1900)	AIR QUALITY MONITORING	
			1-HOUR TSP	24-HOUR TSP
Wed	1-Jun-22	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Thu	2-Jun-22	CN1, CN2, CN3 and NMS8		
Fri	3-Jun-22			
Sat	4-Jun-22			
Sun	5-Jun-22			
Mon	6-Jun-22			✓
Tue	7-Jun-22	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Wed	8-Jun-22			
Thu	9-Jun-22			
Fri	10-Jun-22			
Sat	11-Jun-22	CN1, CN2, CN3 and NMS8		✓
Sun	12-Jun-22			
Mon	13-Jun-22	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Tue	14-Jun-22			
Wed	15-Jun-22			
Thu	16-Jun-22			
Fri	17-Jun-22			✓
Sat	18-Jun-22	CN1, CN2, CN3 and NMS8	✓	
Sun	19-Jun-22			
Mon	20-Jun-22			
Tue	21-Jun-22	CN1, CN2, CN3 and NMS8		
Wed	22-Jun-22			
Thu	23-Jun-22			✓
Fri	24-Jun-22	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Sat	25-Jun-22			
Sun	26-Jun-22			
Mon	27-Jun-22			
Tue	28-Jun-22			✓
Wed	29-Jun-22	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Thu	30-Jun-22			

✓	Monitoring Day
	Sunday or Public Holiday

Appendix H

Database of Monitoring Result

24-HOUR TSP MONITORING RESULT DATABASE

24-hour TSP Monitoring Data for AMS1a

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
3-May-22	28225	24883.78	24907.78	1440	40	40	40	22.3	1015.8	1.52	2185	2.8237	2.8811	0.0574	26
7-May-22	28268	24907.78	24931.78	1440	39	40	39.5	25.4	1013	1.50	2157	2.7649	2.7875	0.0226	10
13-May-22	28282	24931.78	24955.78	1440	40	41	40.5	25.5	1005.2	1.52	2188	2.7889	2.8184	0.0295	13
19-May-22	28242	24955.78	24979.78	1440	39	40	39.5	25.8	1011.9	1.50	2156	2.7896	2.843	0.0534	25
25-May-22	28310	24979.78	25003.78	1440	40	40	40	26	1024.5	1.52	2182	2.7642	2.7933	0.0291	13
31-May-22	28314	25003.78	25027.78	1440	39	40	39.5	27.6	1007.8	1.49	2148	2.7456	2.804	0.0584	27

24-hour TSP Monitoring Data for AMS-5

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
3-May-22	28239	12096.19	12120.19	1440.00	39	39	39.0	22.3	1015.8	1.43	2058	2.7803	2.8248	0.0445	22
7-May-22	28271	12120.19	12144.19	1440.00	38	39	38.5	25.4	1013	1.41	2032	2.7837	2.8156	0.0319	16
13-May-22	28270	12144.19	12168.19	1440.00	38	39	38.5	25.5	1005.2	1.41	2027	2.7487	2.7687	0.0200	10
19-May-22	28243	12168.19	12192.19	1440.00	38	39	38.5	25.8	1011.9	1.41	2031	2.7854	2.8601	0.0747	37
25-May-22	28322	12192.19	12216.19	1440.00	39	39	39.0	25.3	1007.7	1.42	2046	2.7570	2.7836	0.0266	13
31-May-22	28333	12216.19	12240.19	1440.00	39	39	39.0	28.2	1006.8	1.42	2039	2.7582	2.7848	0.0266	13

24-hour TSP Monitoring Data for AMS-6

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
3-May-22	28266	17240.11	17264.11	1440.00	40	40	40.0	22.3	1015.8	1.48	2127	2.7822	2.8524	0.0702	33
7-May-22	28044	17264.11	17288.11	1440.00	39	40	39.5	25.4	1013	1.46	2099	2.7276	2.7743	0.0467	22
13-May-22	28269	17288.11	17312.11	1440.00	39	40	39.5	25.5	1005.2	1.45	2094	2.7526	2.7707	0.0181	9
19-May-22	28244	17312.11	17336.11	1440.00	39	40	39.5	25.8	1011.9	1.46	2098	2.8010	2.8789	0.0779	37
25-May-22	28323	17336.11	17360.11	1440.00	40	41	40.5	25.3	1007.7	1.48	2131	2.7616	2.7955	0.0339	16
31-May-22	28332	17360.11	17384.11	1440.00	40	41	40.5	28.2	1006.8	1.47	2124	2.7697	2.8088	0.0391	18

24-hour TSP Monitoring Data for AMS-7

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
3-May-22	28222	12576.28	12600.28	1440.00	41	41	41.0	22.3	1015.8	1.48	2133	2.7663	2.9498	0.1835	86
7-May-22	28267	12600.28	12624.08	1428.00	40	41	40.5	25.4	1013	1.46	2089	2.7741	2.8833	0.1092	52
13-May-22	28277	12624.08	12648.08	1440.00	40	41	40.5	25.5	1005.2	1.46	2101	2.7764	2.8780	0.1016	48
19-May-22	27951	12648.08	12672.08	1440.00	40	41	40.5	25.8	1011.9	1.46	2105	2.7862	2.8271	0.0409	19
25-May-22	28309	12672.08	12696.08	1440.00	40	41	40.5	26	1024.5	1.47	2113	2.7625	2.8074	0.0449	21
31-May-22	28315	12696.08	12720.08	1440.00	40	41	40.5	27.6	1007.8	1.46	2098	2.7550	2.8014	0.0464	22

NOISE MONITORING RESULT DATABASE FOR CONTRACT 1

Noise Measurement Results (dB) of NMS2

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-May-22	10:45	63.3	65.1	56.1	62.5	64.6	54.6	61.4	63.1	54.6	63.5	64.6	57.6	63.7	65.1	56.1	63.3	64.6	55.6	63	70
12-May-22	11:15	62.3	62.8	60.4	59.9	61.3	58.6	60.1	61.2	59.5	62.4	63.2	61.2	63.1	64.5	59.9	61.2	63.4	59.7	62	70
16-May-22	16:04	61.8	62.6	60.6	62.5	63.9	59.3	60.6	62.8	59.1	60.5	61.6	59.9	62.7	63.2	60.8	60.3	61.7	59	62	70
21-May-22	9:48	60.1	64.8	55.3	61.4	64.9	55.8	61.3	63.4	56.4	60.3	62.7	55.1	63.4	65.7	56.6	62.7	65	55.3	62	70
27-May-22	10:02	63.2	65.7	56.7	62.7	64.9	54.7	61.8	65.9	54.9	63	64.3	57.1	63.8	65.4	56.7	62.8	67.5	56.3	63	70

Noise Measurement Results (dB) of NMS3

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-May-22	13:50	63.6	66.5	60.3	62.5	65.5	58.5	63.3	65.1	60.9	62.0	64.3	58.0	61.6	64.0	59.5	63.3	64.7	58.5	63	75
12-May-22	14:24	62.1	64.8	59.5	60.9	63.7	58.1	60.6	63.9	58.5	63.9	67.2	59.8	63.0	65.8	59.0	60.9	63.8	59.2	62	75
16-May-22	9:46	63.3	66.6	59.2	62.4	65.2	58.4	60.3	63.2	58.6	61.3	64.1	58.5	61.0	64.3	58.9	62.5	65.2	59.9	62	75
21-May-22	10:26	59.6	62.7	58.7	63.2	66.5	60.2	63.5	66.8	59.7	61.7	64.6	58.1	61.6	64.2	58.4	61.2	64.3	58.1	62	75
27-May-22	10:37	64.2	66.7	61.1	63.7	65.7	61.3	63.7	65.8	59.7	61.3	63.9	57.9	62.1	66.8	55.3	63.1	67.4	58.1	63	75

Noise Measurement Results (dB) of NMS4a

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-May-22	9:11	68.2	70.1	65	67	68.8	64.1	66.2	68.1	64	65	67.3	63.3	66.1	68.4	64.4	67.4	68.5	64.7	67	75
12-May-22	9:20	65.6	68.2	59.8	65.3	66.4	62.2	65.3	68.3	62.5	67.5	70.3	64.2	66.6	69.6	63.2	65.7	67.7	61.8	66	75
16-May-22	14:26	64.5	65.6	61.4	64.5	67.5	61.7	66.7	69.5	63.4	65.8	68.8	62.4	64.9	66.9	62	64.8	67.4	60	65	75
21-May-22	11:13	64.7	66.3	61.3	65.3	67.1	62.1	65.2	67.9	62	66	68.2	62.3	66.9	68.7	63.2	67.3	69.7	63.6	66	75
27-May-22	11:28	67.2	69.8	63.1	65.4	68.2	62.1	66.4	68.1	62.3	66.4	69	63.2	67.8	69.3	64.2	66.7	68	63.6	67	75

Noise Measurement Results (dB) of NMS5

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-May-22	9:47	67	68.3	63.7	67.9	69.4	64.1	65.9	67.6	60.5	67.6	69.9	63.6	66	67.6	62.7	65	66	60.5	67	75
12-May-22	9:59	64.9	66.9	62.3	65.5	67.4	62.9	66	67.9	63.6	66.2	68.1	63.5	66.2	68.1	63.8	64.3	66.1	62.7	66	75
16-May-22	15:12	65.2	67.1	62.8	65.4	67.3	62.7	65.4	67.3	63	65.1	67.1	62.5	64.5	66.3	62.9	65.7	67.6	63.1	65	75
21-May-22	13:08	67.3	69.4	64.8	68.1	70.3	65.9	68.6	70.7	66.2	69.2	71.3	66.9	69.6	72.4	67.1	69.4	72.1	66.5	69	75

Noise Measurement Results (dB) of NMS5

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
27-May-22	13:13	69.1	71.2	65.4	67.4	69.3	64.1	66.7	67.9	62.1	68.1	70.3	65.8	69.4	71.2	66.9	67.1	69.3	62.2	68	75

Noise Measurement Results (dB) of NMS6

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-May-22	14:53	67.5	69.8	63.6	66.6	68.2	62.3	65.2	67.5	62.3	65.8	68.6	64	67.9	71	65.6	67.2	71.1	64.2	67	75
12-May-22	15:07	66.1	67.8	63.2	64.2	66.8	63.5	64.5	66.8	63.5	66.1	68.2	64.1	66.2	67.7	62.9	66.9	69.7	64.3	66	75
16-May-22	10:27	65.8	67.3	62.5	66.5	69.3	63.9	65.7	67.4	62.8	64.7	66	62.7	64.7	66	62.7	65.3	67.4	63.3	65	75
21-May-22	13:43	65.1	68.9	61.3	65.3	69.1	62.6	66.2	69.9	63.3	66.7	71.1	63.7	67.3	72.1	63.9	66.5	69.7	62.3	66	75
27-May-22	13:57	68.2	70.2	64.3	66.7	70.6	65.9	68.3	70.8	65.9	68.1	72	65.2	69.3	70.4	66.1	68.7	72.6	64.8	68	75

Noise Measurement Results (dB) of NMS7

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-May-22	15:57	64.3	66.4	60.7	64.8	66.9	62	63.8	65.5	60.4	63.9	65.9	61	65.2	66.9	62	65.7	66.9	61.3	65	75
12-May-22	15:52	67.2	68.5	63	63	65	61.9	65.3	67.5	63	66	67.8	61.5	64.5	66.3	63	67.3	67.9	63.6	66	75
16-May-22	11:11	63.4	65.5	60.9	64.6	66.4	61.8	63.5	66.7	60.9	64.2	66.7	60.9	61.4	62.8	56.4	56.1	58	54.2	63	75
21-May-22	14:27	64.2	66.8	62.1	64.7	67.1	62.6	65.3	67.9	62.8	65.7	68.5	62.7	66.8	69.7	64.5	67.9	69.9	62.1	66	75
27-May-22	14:42	66.6	68.8	62.7	67.3	68.5	65.7	69.1	70	67.2	68.3	69.7	66.2	66.7	68.9	62.3	67.2	69.1	63.9	68	75

Noise Measurement Results (dB) of NMS8

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-May-22	15:01	57.1	61.2	53.6	56.2	60	52.4	60.1	63.4	58.9	60.5	61.1	57.2	58.8	61.7	53.1	57.5	60.6	51.9	59	75
13-May-22	9:32	58.9	60.9	56.2	58.6	61.4	53.6	58.9	60.8	55.7	59	60.7	54.8	58.9	60.6	55.5	58.2	60.3	53.6	59	75
21-May-22	10:13	61.8	62.5	59.3	59.3	61.2	56.1	61	64.6	57	64.9	66.3	61.7	59	61.8	54	59.3	61.3	56.6	61	75
27-May-22	9:14	65.1	67	62	65.8	68	62.5	63.2	65.5	61.5	63.7	66.5	61.5	65.1	67	63	64.8	67.5	62	65	75

NOISE MONITORING RESULT DATABASE FOR CONTRACT 3

Noise Measurement Results (dB) of CN1

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-May-22	16:01	61	63.6	58.2	61.2	64.1	60	58.3	61.5	56.7	60.4	62.1	57.8	59.3	61.4	57.2	61.6	63.9	57.1	60	70
13-May-22	13:00	61.4	62.4	57.4	61.1	62.9	59.4	60.3	61.4	56.9	61.3	62.9	58.9	61.7	62.9	59.4	61.8	62.4	60.9	61	70
21-May-22	13:37	61	62.7	58.4	59.9	62	57.8	62.2	64.5	57.7	61.6	64.2	58.8	61.8	64.7	60.6	59.9	63.1	57.3	61	70
27-May-22	13:16	60.7	63.5	59	63.2	65	61	61.8	63	58.5	63.4	64.5	62.5	63.7	65	61.5	61.6	65.5	62	63	70

Noise Measurement Results (dB) of CN2

Date	**Start Time**	**1st Leq (5min)**			**2nd Leq (5min)**			**3rd Leq (5min)**			**4th Leq (5min)**			**5th Leq (5min)**			**6th Leq (5min)**			**Leq30min, dB(A)**	**Limit Level dB(A)**
		Leq, dB(A)	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**		
4-May-22	15:16	62.3	64.4	60	63.1	66.1	60.3	60.2	64	56.8	62.4	64.6	60.5	62.8	64.7	59.9	63.4	65.3	60.8	62	70
13-May-22	11:19	62.1	65.5	60.6	62.6	65.3	60.8	63.4	65.3	60.2	62.7	64.8	60.4	63.5	66.5	60.7	60.6	64.4	58.2	63	70
21-May-22	13:02	61.6	63.4	57.5	61.9	63.7	58	60.6	61.9	57.1	60.7	62.2	57.1	61.1	62.3	59.4	60	62.7	57.9	61	70
27-May-22	10:58	62.3	64	58.5	61.8	63.5	60	60.7	62.5	59.5	62.2	63.5	60	63.5	66	58.5	63.7	65	58	62	70

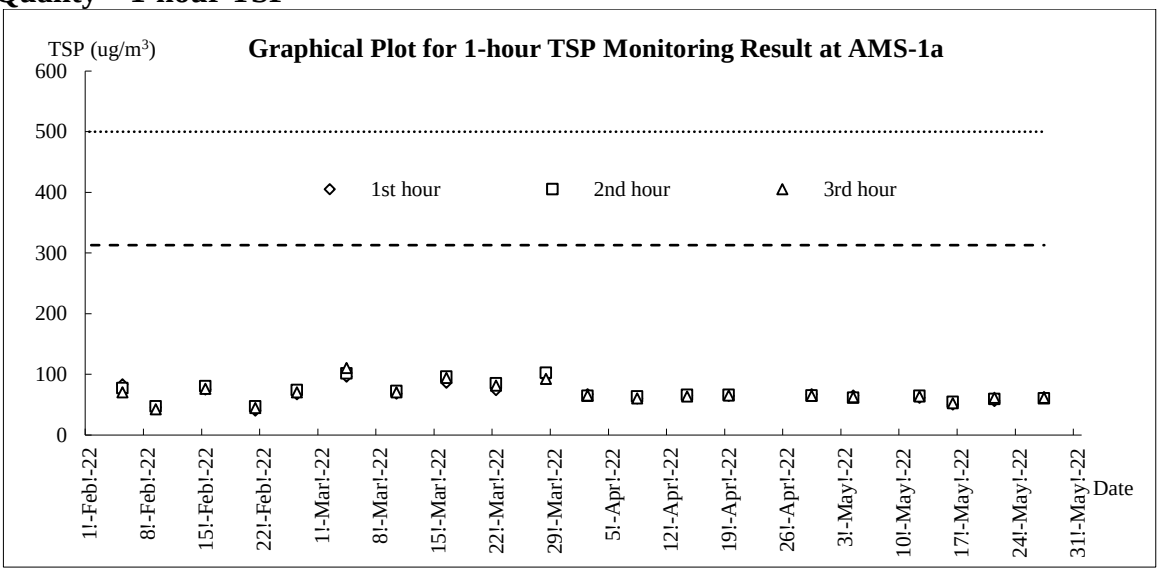
Noise Measurement Results (dB) of CN3

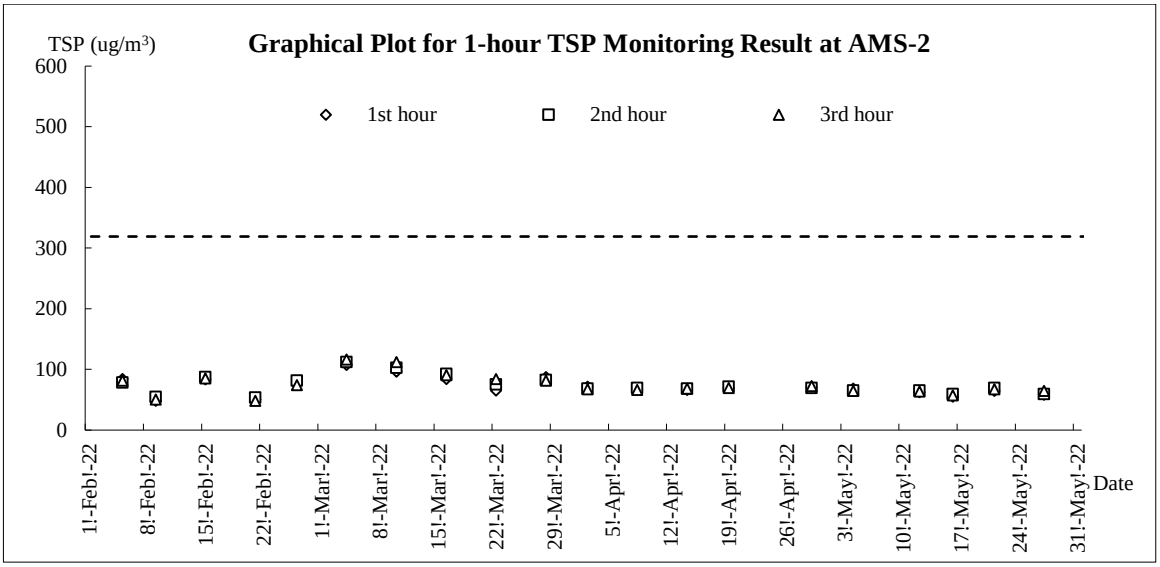
Date	**Start Time**	**1st Leq (5min)**			**2nd Leq (5min)**			**3rd Leq (5min)**			**4th Leq (5min)**			**5th Leq (5min)**			**6th Leq (5min)**			**Leq30min, dB(A)**	**Limit Level dB(A)**
		Leq, dB(A)	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**		
4-May-22	15:45	61.6	65.3	56.6	60.1	63.8	55.6	61.3	63.2	57.1	61.2	66.4	55.1	62.3	66.9	56.8	60.2	63.9	57.7	61	75
13-May-22	10:30	59.7	62.5	57.1	61.9	65.4	56.9	61.4	64.1	57	60.5	62.6	58	61.2	63.6	57.7	61.9	64.4	58	61	75
21-May-22	10:55	61.9	64.2	58.3	62.1	65.2	59.1	62.3	65	59.3	61.4	63.5	57.7	62.5	65.7	59.4	61.6	63.6	57.3	62	75
27-May-22	10:03	63.8	67.5	61.5	65.1	68	60.5	64.3	68	62	65.7	68.5	61.5	65.3	67.5	63.5	66.1	68	62	65	75

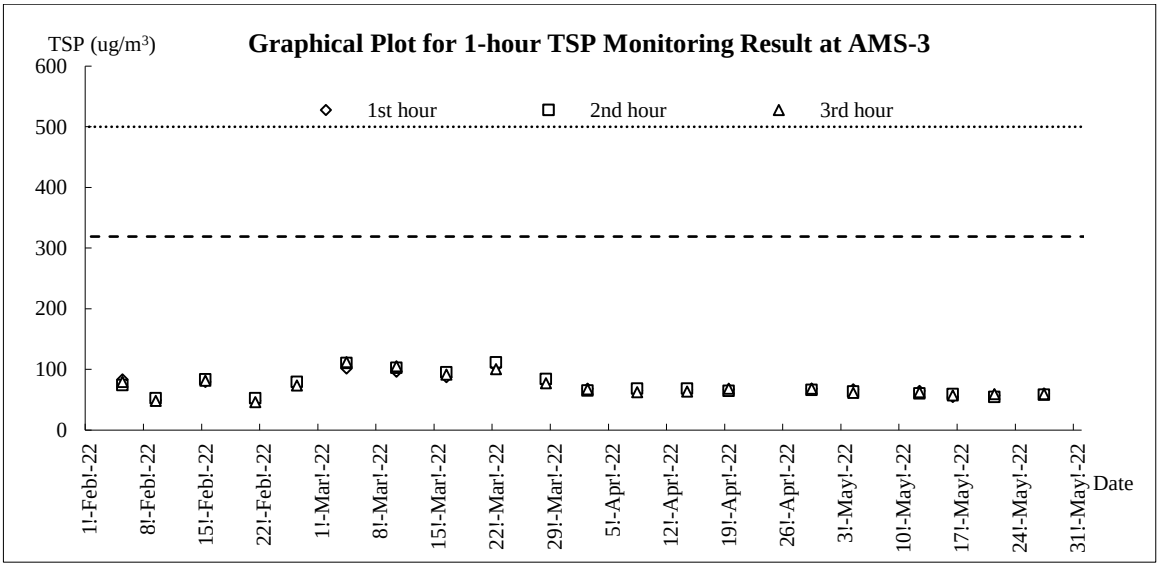
Appendix I

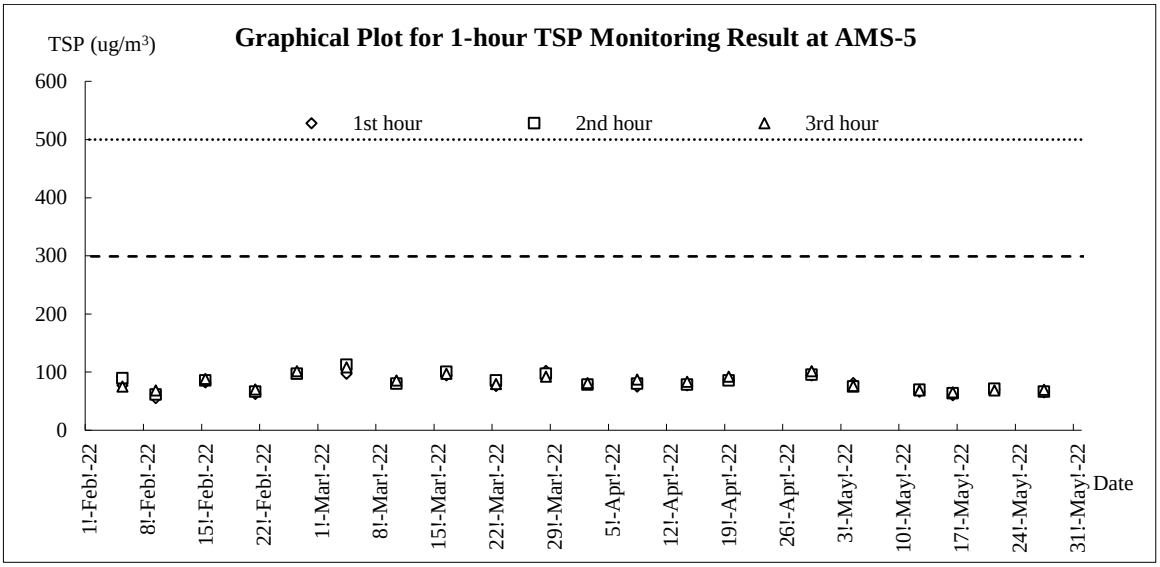
Graphical Plots for Monitoring Result

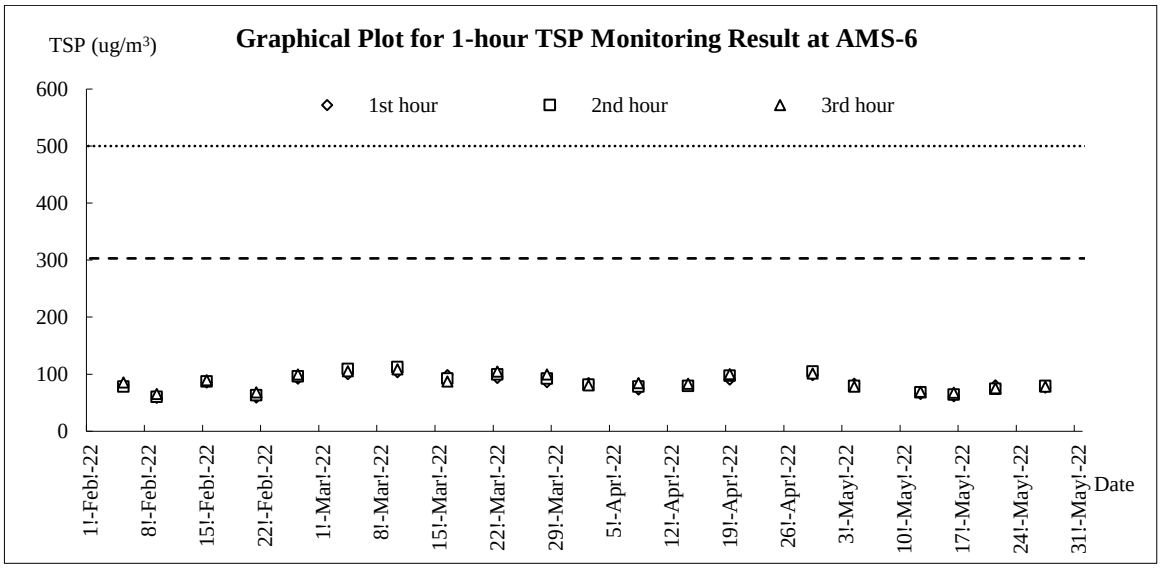
Air Quality – 1-hour TSP

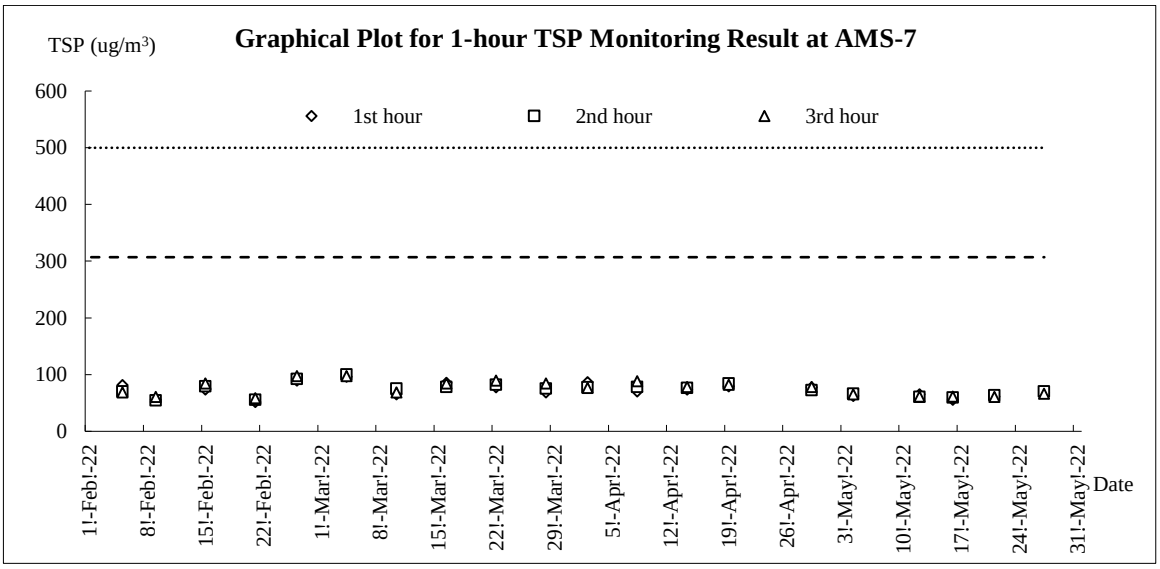




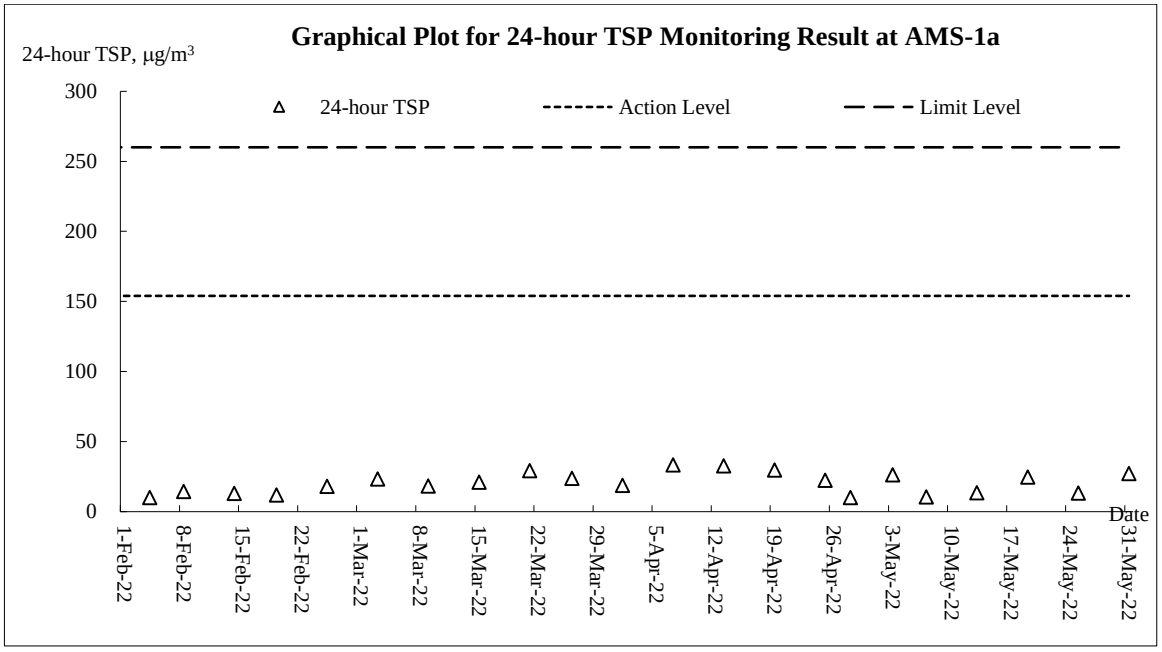


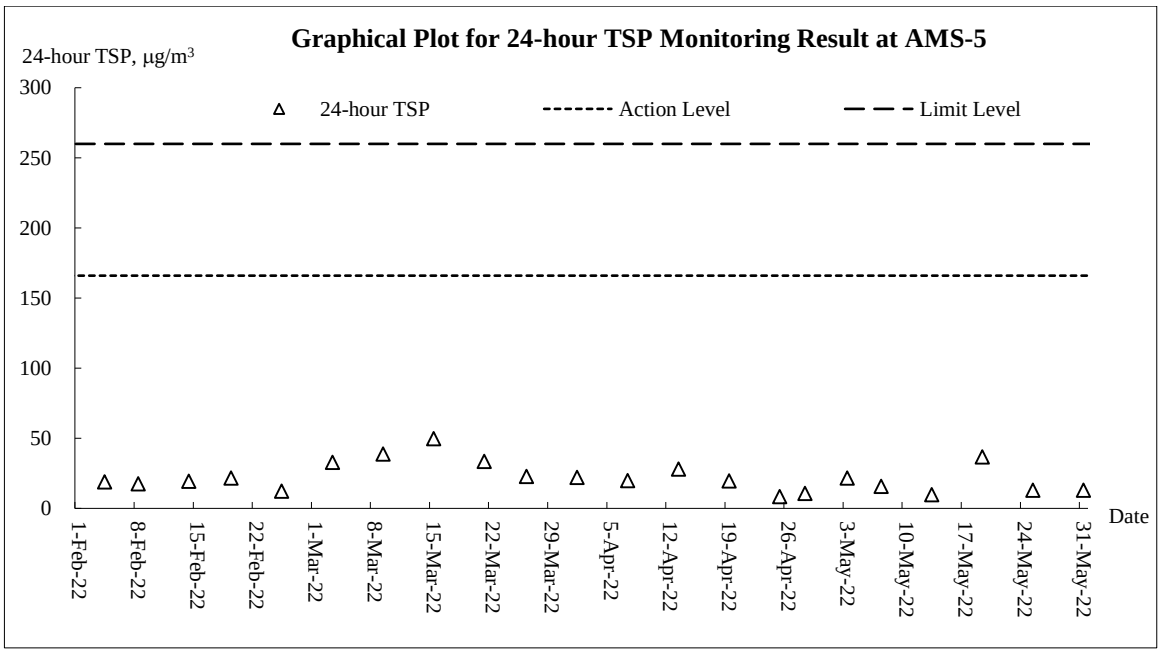

Graphical Plot for 1-hour TSP Monitoring Result at AMS-5
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1!-Feb!-22
8!-Feb!-22
15!-Feb!-22
22!-Feb!-22
1!-Mar!-22
8!-Mar!-22
15!-Mar!-22
22!-Mar!-22
29!-Mar!-22
5!-Apr!-22
12!-Apr!-22
19!-Apr!-22
26!-Apr!-22
31-May!-22
10!-May!-22
17!-May!-22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

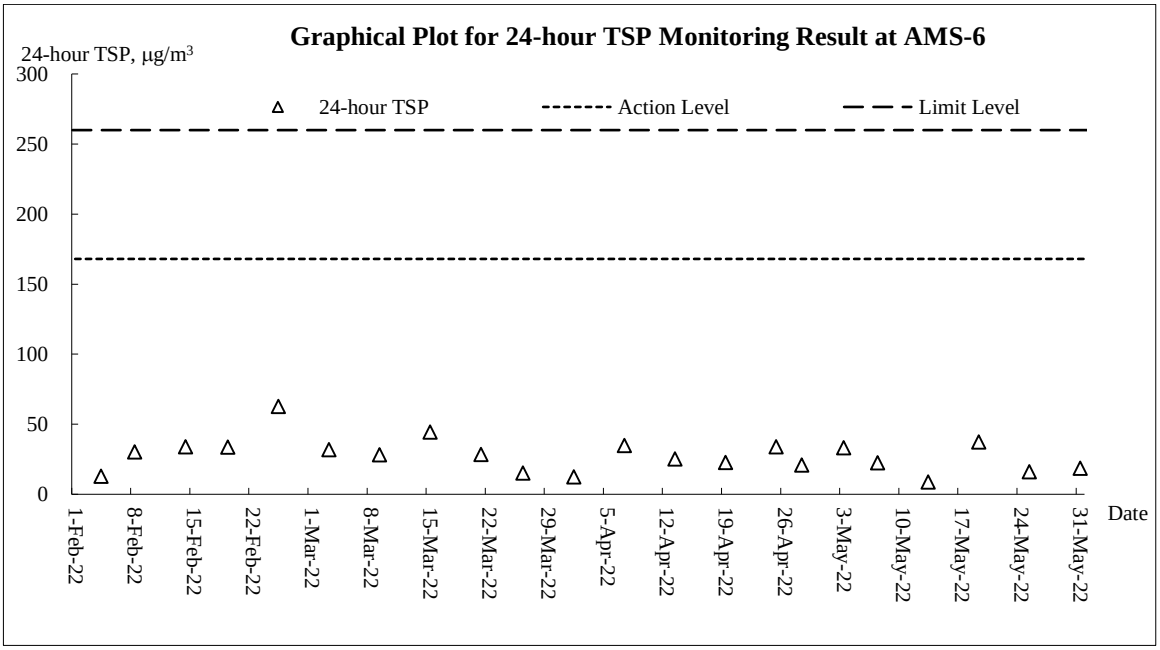

Graphical Plot for 1-hour TSP Monitoring Result at AMS-6
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1!-Feb!-22
8!-Feb!-22
15!-Feb!-22
22!-Feb!-22
1!-Mar!-22
8!-Mar!-22
15!-Mar!-22
22!-Mar!-22
29!-Mar!-22
5!-Apr!-22
12!-Apr!-22
19!-Apr!-22
26!-Apr!-22
31-May!-22
10!-May!-22
17!-May!-22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

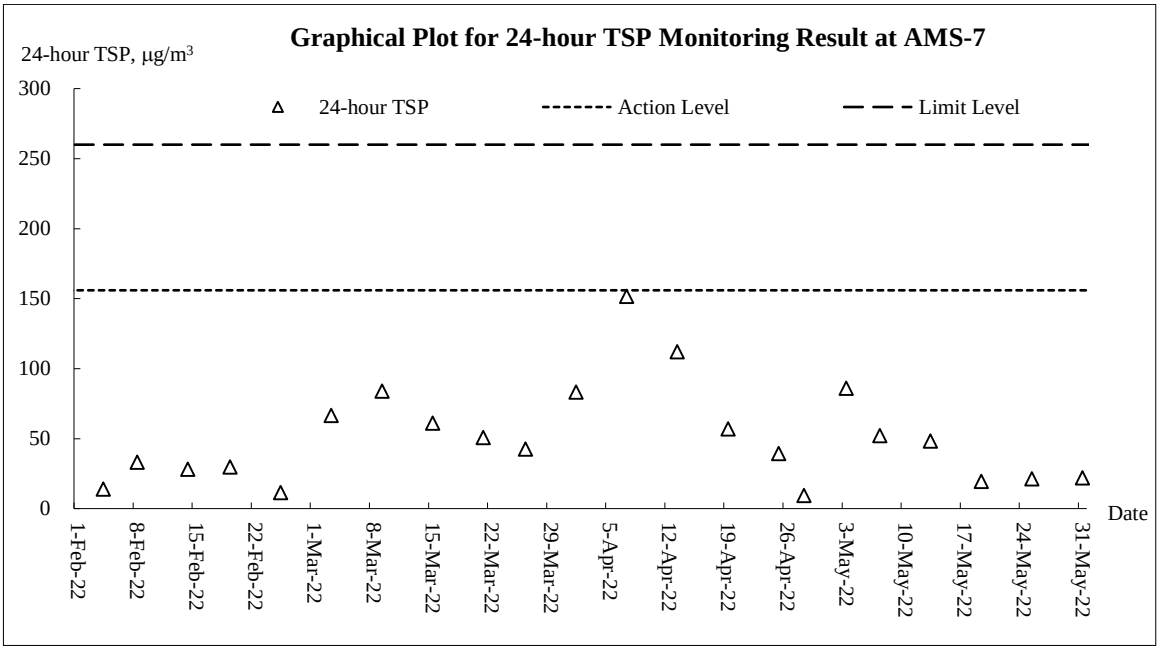

Graphical Plot for 1-hour TSP Monitoring Result at AMS-7
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1!-Feb!-22
8!-Feb!-22
15!-Feb!-22
22!-Feb!-22
1!-Mar!-22
8!-Mar!-22
15!-Mar!-22
22!-Mar!-22
29!-Mar!-22
5!-Apr!-22
12!-Apr!-22
19!-Apr!-22
26!-Apr!-22
31-May!-22
10!-May!-22
17!-May!-22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

Air Quality – 24-hour TSP

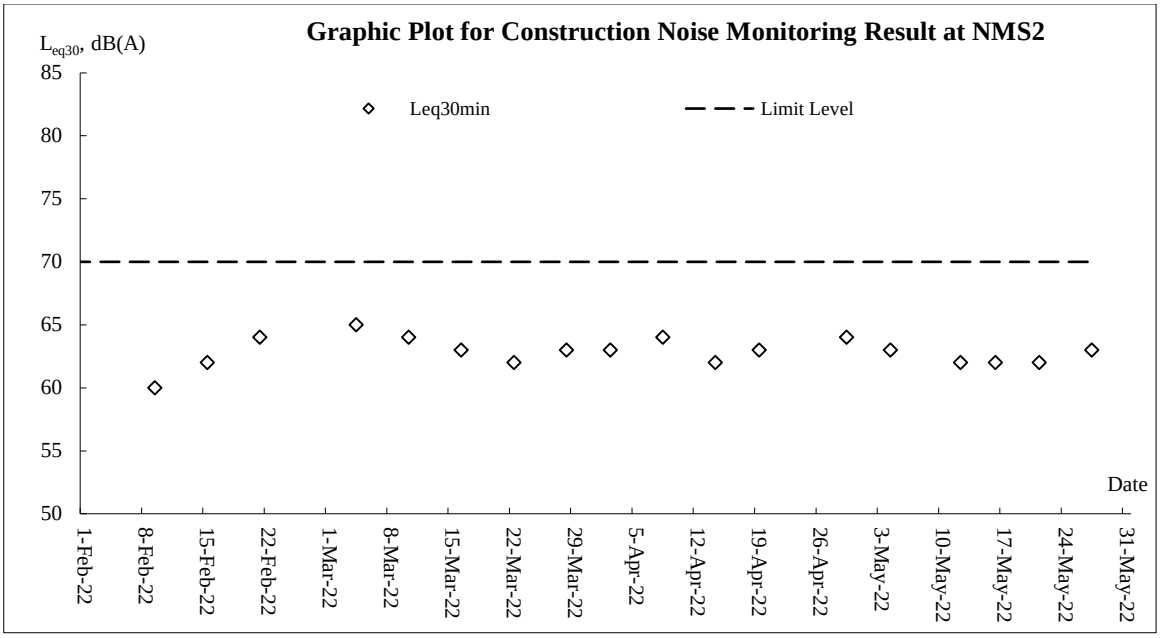





Graphical Plot for 24-hour TSP Monitoring Result at AMS-6
24-hour TSP, μg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Feb-22
8-Feb-22
15-Feb-22
22-Feb-22
1-Mar-22
8-Mar-22
15-Mar-22
22-Mar-22
29-Mar-22
5-Apr-22
12-Apr-22
19-Apr-22
26-Apr-22
3-May-22
10-May-22
17-May-22
24-May-22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


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

Noise


Graphic Plot for Construction Noise Monitoring Result at NMS2
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Feb-22
8-Feb-22
15-Feb-22
22-Feb-22
1-Mar-22
8-Mar-22
15-Mar-22
22-Mar-22
29-Mar-22
5-Apr-22
12-Apr-22
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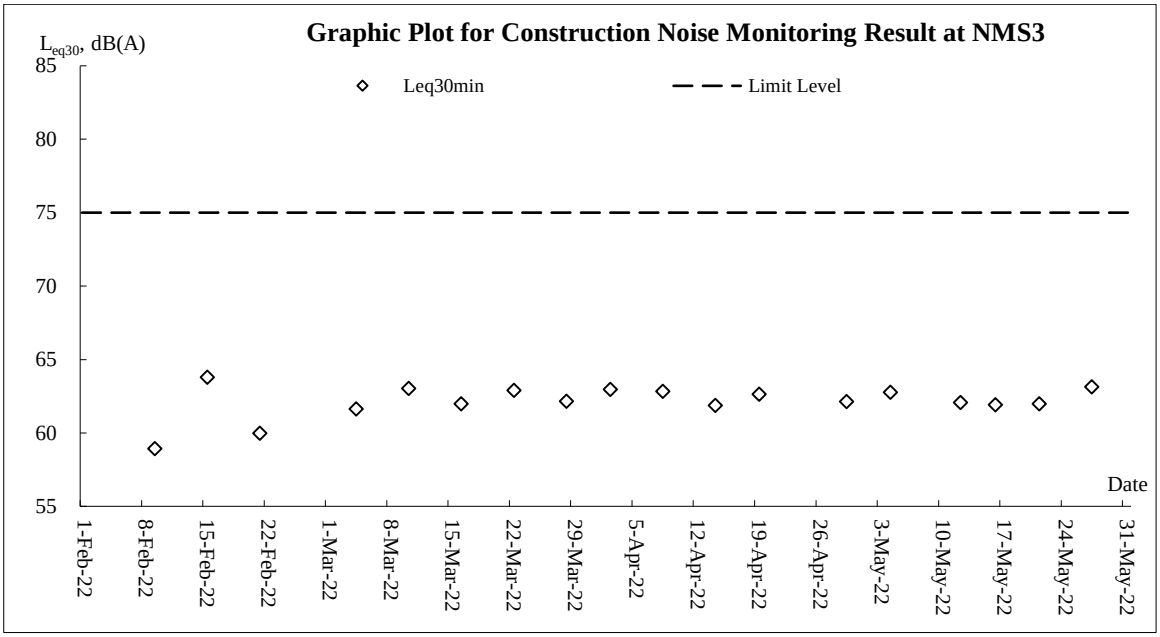
24-May-22
31-May-22


Graphic Plot for Construction Noise Monitoring Result at NMS3
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
Date
1-Feb-22
8-Feb-22
15-Feb-22
22-Feb-22
1-Mar-22
8-Mar-22
15-Mar-22
22-Mar-22
29-Mar-22
5-Apr-22
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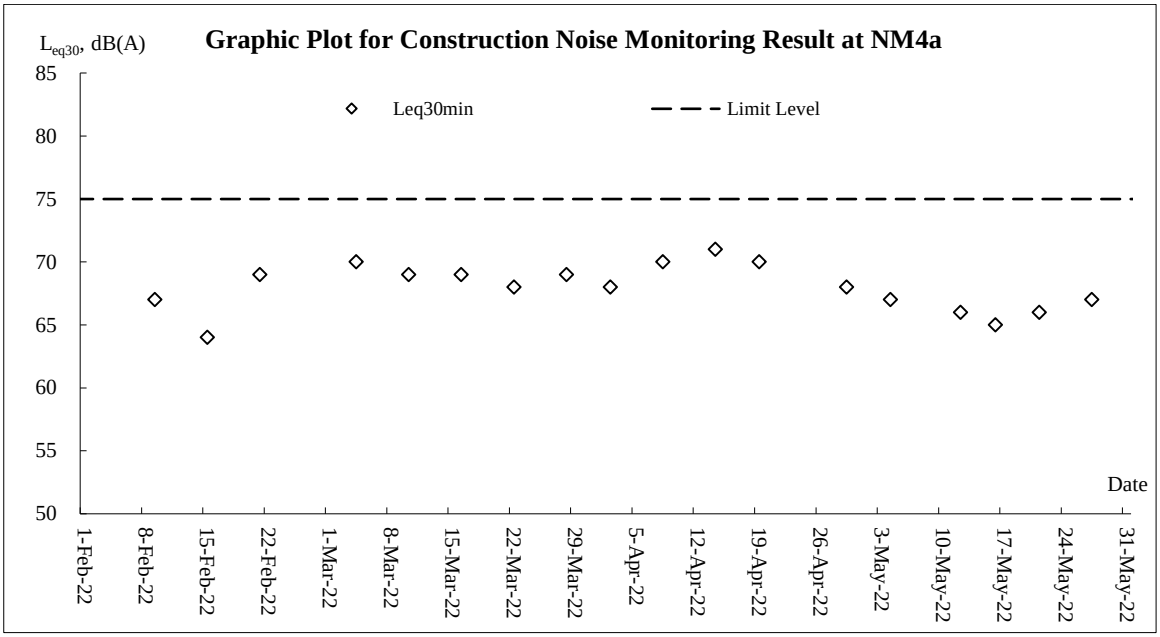
24-May-22
31-May-22


Graphic Plot for Construction Noise Monitoring Result at NM4a
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Feb-22
8-Feb-22
15-Feb-22
22-Feb-22
1-Mar-22
8-Mar-22
15-Mar-22
22-Mar-22
29-Mar-22
5-Apr-22
12-Apr-22
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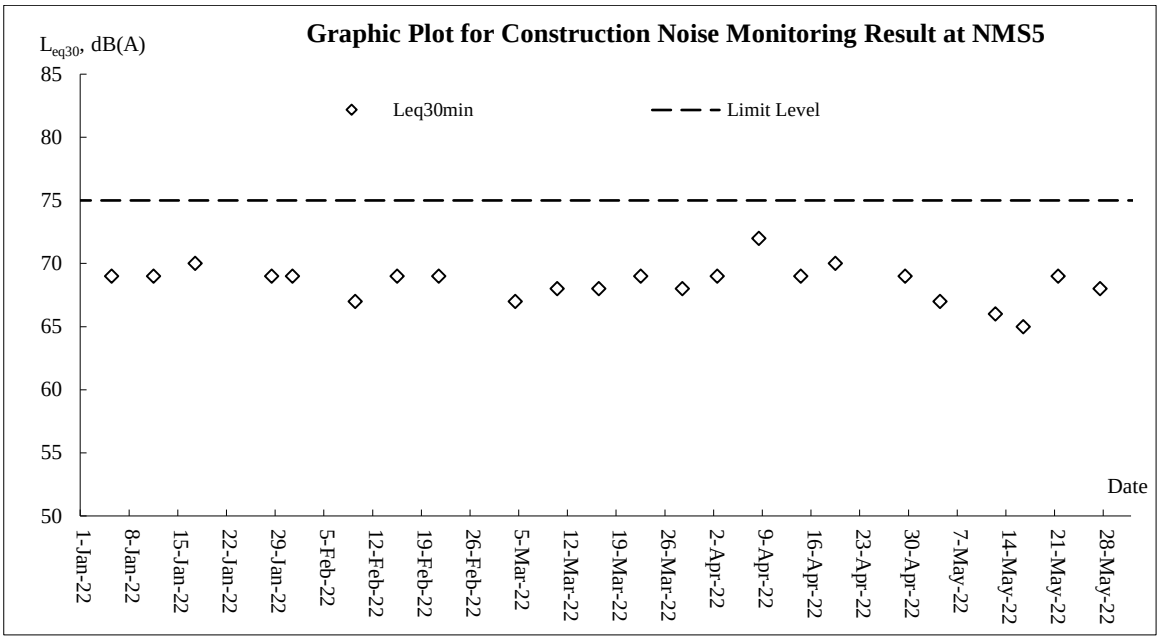
24-May-22
31-May-22


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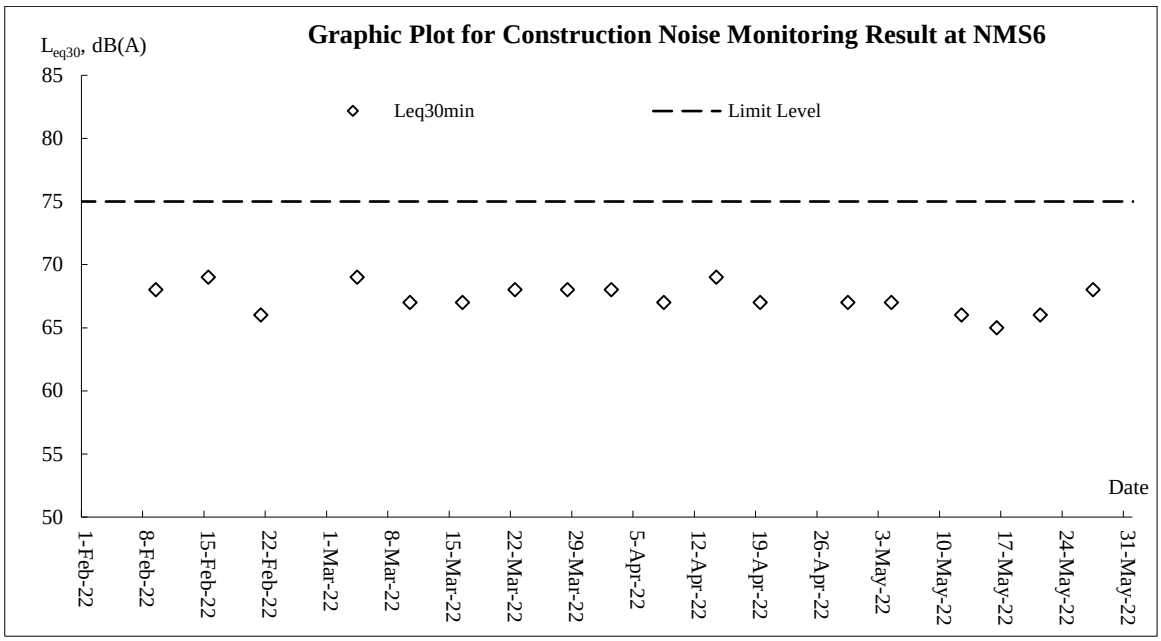
14-May-22
21-May-22
28-May-22


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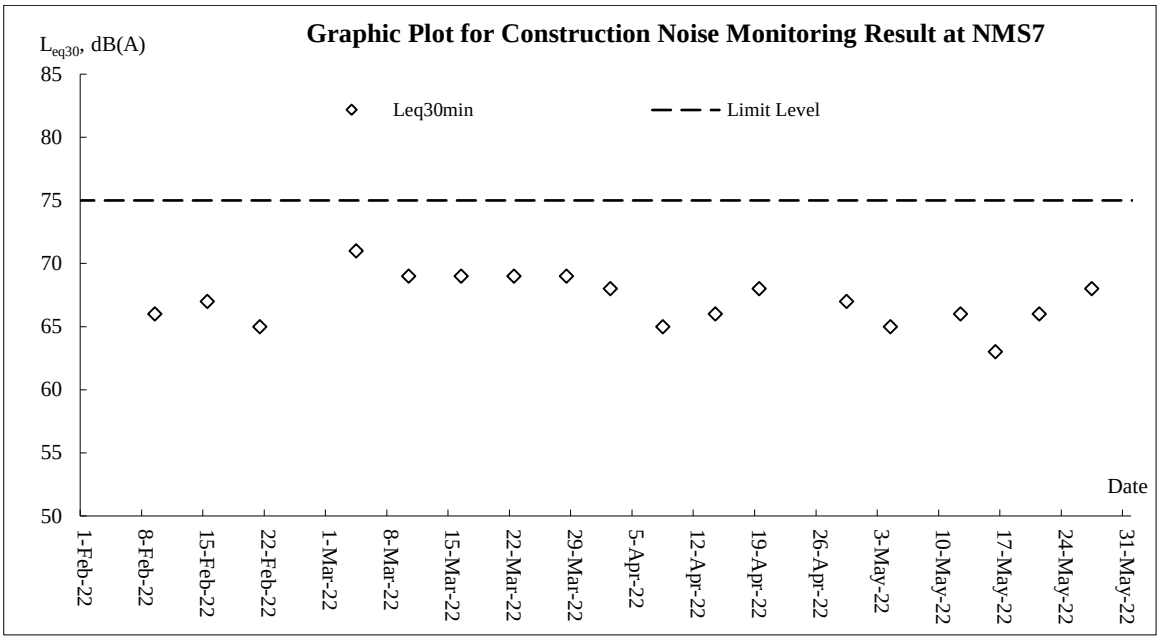
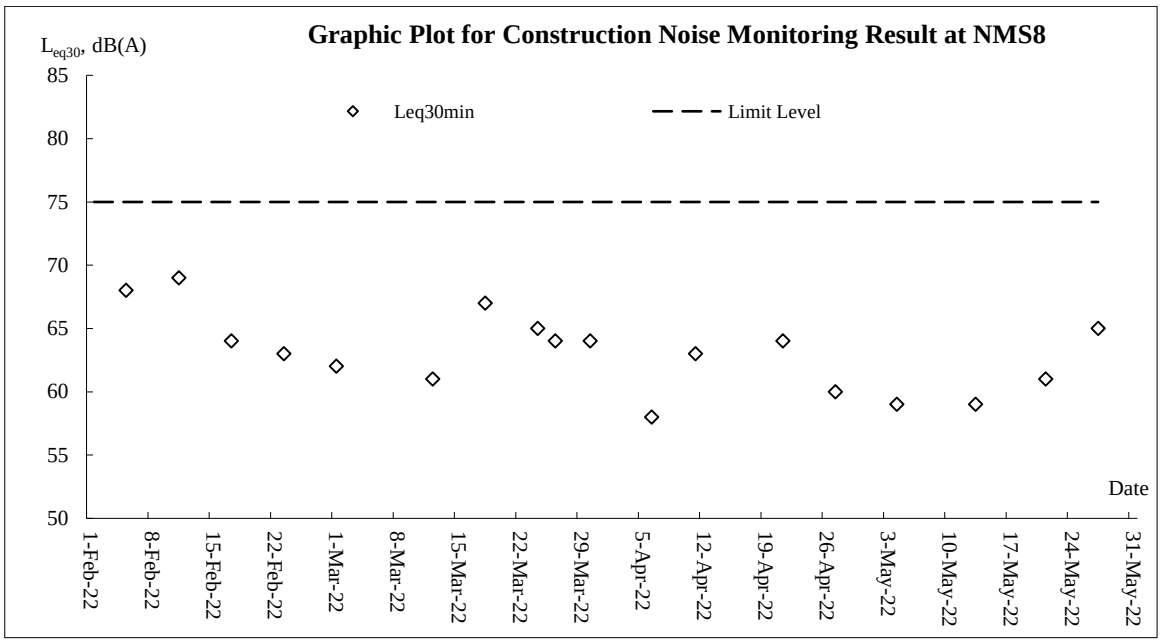
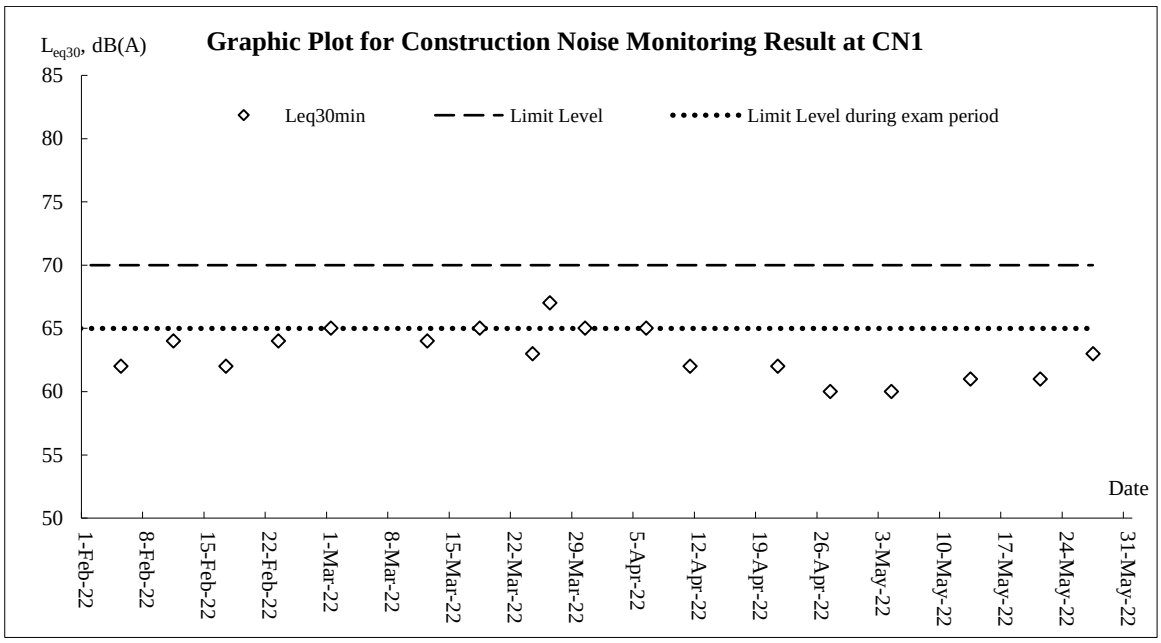
24-May-22
31-May-22


Graphic Plot for Construction Noise Monitoring Result at NMS7
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Feb-22
8-Feb-22
15-Feb-22
22-Feb-22
1-Mar-22
8-Mar-22
15-Mar-22
22-Mar-22
29-Mar-22
5-Apr-22
12-Apr-22
19-Apr-22
26-Apr-22
3-May-22
10-May-22
17-May-22
24-May-22
31-May-22


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


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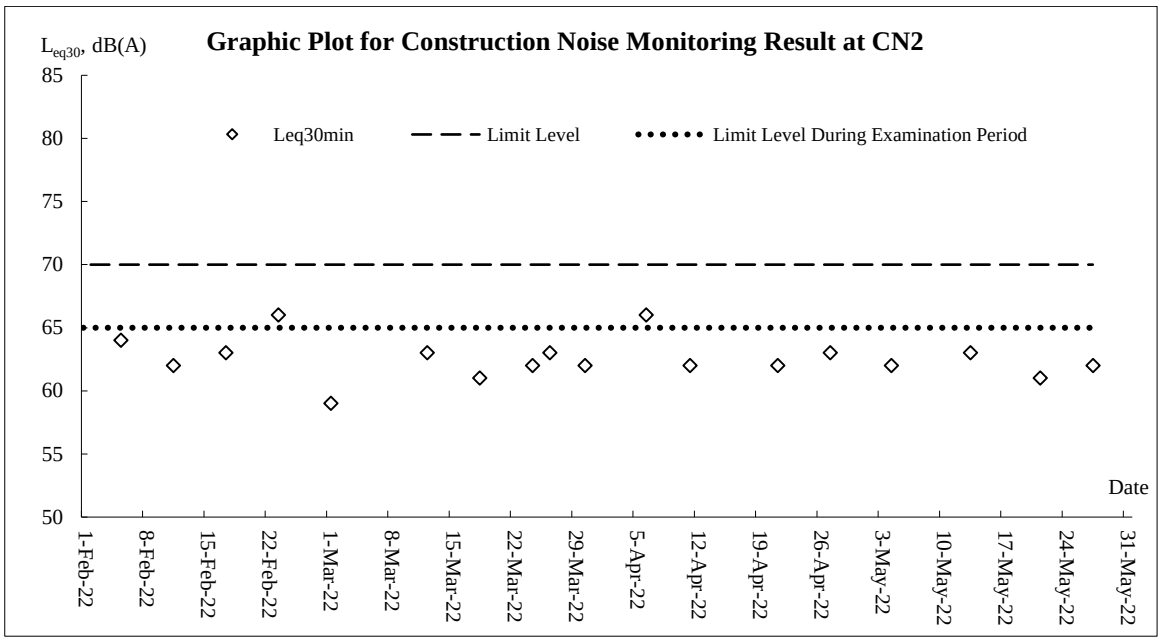
3-May-22
10-May-22
17-May-22
24-May-22
31-May-22


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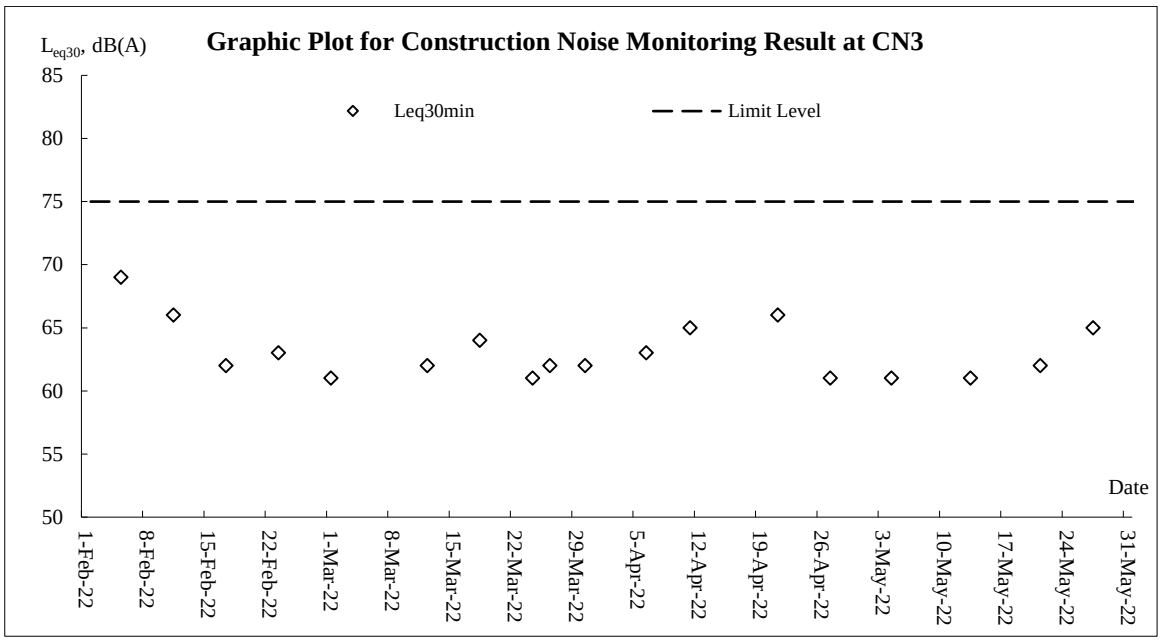
17-May-22
24-May-22
31-May-22


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

Appendix J

Meteorological Data

Date		Weather	Total Rainfall (mm)	Kwun Tong Station	Kai Tak Station		King's Park Station
				Mean Air Temp. (°C)	Wind Speed (km/h)	Wind Direction	Mean Relative Humidity (%)
1-May-22	Sun	Mainly fine. Hot during the day.	32.4	19.7	11.2	E	89.2
2-May-22	Mon	Moderate south to southeasterly winds.	23.4	18.4	7.5	N/NE	78
3-May-22	Tue	Moderate easterly winds.	0	21.5	9.5	E/SE	58.5
4-May-22	Wed	Mainly fine. Hot during the day.	0	23.8	13.2	E/SE	58.7
5-May-22	Thu	Hot during the day. Moderate easterly winds.	0	24.3	11.7	E/SE	58.7
6-May-22	Fri	Mainly fine. Hot during the day.	0	24.5	13.5	SE	70.7
7-May-22	Sat	Becoming cloudy.Moderate easterly winds	0.8	25.4	12.5	E/SE	76.2
8-May-22	Sun	Bright periods tomorrow with one or two showers later.	Trace	24.1	10.7	E	72
9-May-22	Mon	Mainly cloudy with a few showers.	Trace	25.4	15.7	E	73
10-May-22	Tue	Showers will be more frequent with a few thunderstorms in the afternoon.	1.4	24.7	7	E/SE	87
11-May-22	Wed	Moderate to fresh south to southwesterly winds	61.4	23.6	10	E/SE	95
12-May-22	Thu	Cloudy to overcast with showers and squally thunderstorms.	123.5	24.6	11.2	S/SW	93.2
13-May-22	Fri	Mainly cloudy with occasional showers.	107.1	25.6	6.2	W/NW	90.5
14-May-22	Sat	A few squally thunderstorms.	5	24.1	8.7	E/SE	92.5
15-May-22	Sun	Moderate to fresh southwesterly winds.	26.4	22	11	E/SE	87.2
16-May-22	Mon	Mainly cloudy with occasional showers.	4.7	26.6	7.5	N/NE	86.2
17-May-22	Tue	Moderate to fresh easterly winds	0	22.1	11.2	N/NE	68.2
18-May-22	Wed	Mainly fine. Very dry during the day.	0	23.6	16.7	E/SE	46
19-May-22	Thu	Mainly fine. Hot during the day.	0	25.7	13.5	E/SE	58.2
20-May-22	Fri	Moderate south to southeasterly winds.	0	26.6	10.7	SE	74
21-May-22	Sat	Moderate to fresh easterly winds	0	26.9	11.5	E/SE	69
22-May-22	Sun	Cloudy with a few showers.	0.6	24.3	17.2	E	80.7
23-May-22	Mon	occasionally strong offshore and on high ground	11.2	23.3	16.5	E	90.5
24-May-22	Tue	Cloudy with occasional showers and isolated thunderstorms.	10.3	25.3	10.7	E/SE	96
25-May-22	Wed	Moderate to fresh easterly winds.	1.3	25.3	10	E/SE	90
26-May-22	Thu	Sunny periods and a few showers.	2.4	26.6	8.7	SE	87.5
27-May-22	Fri	Mist patches at first. Hot during the day.	24.7	26.5	6.2	S	90.7
28-May-22	Sat	Light to moderate southeasterly winds.	Trace	28.7	8.1	S	81
29-May-22	Sun	Hot with sunny intervals during the day tomorrow	Trace	29.8	8.7	E/SE	78.5
30-May-22	Mon	Moderate to fresh southwesterly winds	Trace	28.9	11.2	E/SE	76.7
31-May-22	Tue	Mainly cloudy with a few showers and thunderstorms.	0.1	28.6	8.7	E/SE	80.7

Appendix K

Waste Flow Table

Monthly Summary Waste Flow Table for 2022 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract (see Note 6)	Reused in other Projects (see Note 8)	Disposed as Public Fill	Imported Fill	Metals (see Note 9)	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	2.871	0.000	2.517	0.000	0.354	0.000	0.000	0.000	0.015	0.000	0.082
Feb	1.372	0.000	1.187	0.000	0.185	0.000	0.000	0.000	0.000	0.000	0.102
Mar	2.226	0.000	1.128	0.000	1.099	0.000	0.000	0.000	0.000	0.000	0.075
Apr	8.798	0.000	3.728	4.288	0.782	0.000	0.000	0.791	0.000	0.000	0.160
May	3.665	0.000	0.000	3.081	0.584	0.000	0.000	0.813	0.000	0.000	0.123
Jun	0.000										
Sub-total	18.932	0.000	8.560	7.369	3.003	0.000	0.000	1.604	0.015	0.000	0.542
Jul	0.000										
Aug	0.000										
Sep	0.000										
Oct	0.000										
Nov	0.000										
Dec	0.000										
Total	18.932	0.000	8.560	7.369	3.003	0.000	0.000	1.604	0.015	0.000	0.542

Notes:

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

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and waste will be collected by recycler for recycling.

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

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

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

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

(8) The Inert C&D materials of reused in other Projects including glass materials.

(9) The C&D waste generation of metal including rechargable battery recycling.

Remarks: refer to Rock and AHM Record (Z:\04 SUPPORT WORK FOLDERS\F. ENVIRONMENTAL\4 - Implementation and Operation\4.4 - Documentation and its Control\11 - WFT, ULSD & Timber\Waste Flow Table\2017-07)

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

Monthly Summary Waste Flow Table for 2022 (year)

[PS Clause 1.129]

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemicals Waste	Others, e.g. general refuse
	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 m^3)
Jan	0.02	0	0	0	0.02	0	0	0	0	0	0.05
Feb	0.01	0	0	0	0.01	0	0	0	0	0	0.05
Mar	0.02	0	0	0	0.02	0	0	0	0	0	0.01
Apr	0.02	0	0	0	0.02	0	0	0	0	0	0.01
May	0.04	0	0	0	0.04	0	0	0	0	0	0.03
June											
Sub-total	0. 11	0	0	0	0.11	0	0	0	0	0	0.15
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total											

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

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

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

(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works. Together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m^3.

Monthly Summary Waste Flow Table for 2022 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract (see Note 6)	Reused in other Projects (see Note 6)	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	1.587	0.000	0.441	0.000	1.146	0.000	0.003	0.000	0.003	0.000	0.052
Feb	1.039	0.000	0.200	0.000	0.839	0.000	0.000	0.000	1.694	0.000	0.016
Mar	1.261	0.000	0.090	0.000	1.171	0.000	0.000	0.000	0.434	0.000	0.041
Apr	1.200	0.000	0.460	0.000	0.740	0.000	0.002	0.099	0.523	0.000	0.008
May	2.080	0.000	0.094	0.000	1.986	0.000	0.000	0.000	1.456	0.000	0.016
Jun											
Sub-total	7.166	0.000	1.285	0.000	5.882	0.000	0.005	0.099	4.110	0.000	0.133
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	7.166	0.000	1.285	0.000	5.882	0.000	0.005	0.099	4.110	0.000	0.133

Notes:

(1) The performance targets are given in PS Clause 1.129 (4).

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and waste will be collected by recycler for recycling.

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

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

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

Contract No.: ED/2020/02

Monthly Summary Waste Flow Table

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity of Materials Generated	Hard Rock, Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 m^3)*
2021 Total	**608.254**	**394.831**	**0.000**	**0.000**	**213.423**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.044**
2022											
Jan	25.019	0.000	0.000	0.000	25.019	0.000	0.000	0.000	0.000	0.000	0.019
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.031
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
June	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
July	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Accumulated Total (2021-2022)	**633.273**	**394.831**	**0.000**	**0.000**	**238.442**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.125**

*Remarks: Conversion factor for general refuse, 1 tonne = 2m^3

Name of Department : CEDD Contract No. : ED/2019/02

Monthly Summary Waste Flow Table for 2022 (year)

Month	Annual Quantities of Inert C&D Materials Generated Monthly						Annual Quantities of C&D Materials Generated Monthly				
	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemicals Waste	Others, e.g. general refuse
	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 m^3)
Jan	0.18	0.18	0	0	0.18	0	0	0	0	0	0.02
Feb	0.02	0.02	0	0	0.02	0	0	0	0	0	0
Mar	0.31	0.31	0	0	0.31	0	0	0	0	0	0.01
Apr	0.162	0.162	0	0	0.162	0	0	0	0	0	0.009
May	0.279	0.279	0	0	0.279	0	0	0	0	0	0.008
June	---	---	---	---	---	---	---	---	---	---	---
Sub-total	0.951	0.951	0	0	0.951	0	0	0	0	0	0.047
July	---	---	---	---	---	---	---	---	---	---	---
Aug	---	---	---	---	---	---	---	---	---	---	---
Sept	---	---	---	---	---	---	---	---	---	---	---
Oct	---	---	---	---	---	---	---	---	---	---	---
Nov	---	---	---	---	---	---	---	---	---	---	---
Dec	---	---	---	---	---	---	---	---	---	---	---
Total	0.951	0.951	0	0	0.951	0	0	0	0	0	0.047

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

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

Appendix L

Implementation Schedule for Environmental Mitigation Measures

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
Dust Impact (Contraction Phase)									
S4.7.2 to S4.7.5	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road is proposed to achieve dust removal efficiency of 91.7%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.75 L/m^2 to achieve the respective dust removal efficiencies.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	V	V	V	V	V
S4.7.6	The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction ion Dust) Regulation.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	V	V	V	V	V
S4.7.6	Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction phase: • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wet ted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; • The load of dusty materials on a vehicle leaving a construction ion site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road sect ion between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	@	@	@	@	@

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction ion period. • The port ion of any road leading only to construction ion site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet ; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fit ted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; and • Exposed earth should be properly treated by compact ion, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen,								

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.								
S4.7.7	Implement regular dust monitoring under EM&A programme during the Construction phase.	Control construction airborne noise	Selected Representative dust monitoring station	All construction sites where practicable	V	N/A	V	N/A	N/A
Noise Impact (Contraction Phase)									
S5.6.9	Implement the following good site management practices: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction ion programme; • machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direct ion, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction ion equipment should be properly fit ted and maintained during the construction ion works; • mobile plant should be sited as far away from NSRs as possible and practicable; and • material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	Control construction ion airborne noise	Contractor	All construction sites where practicable	@	V	V	@	@
S5.6.11 to S5.6.13	Use of " Quiet " Plant and Working Methods.	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	V	N/A	N/A	N/A	N/A
S5.6.14	Install temporary site hoarding (approx 2.5m high) located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction ion noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	V	V	V	V	V
S5.6.15 to S5.6.18	Install movable noise barriers, full enclosure and acoustic mat, screen the noisy plants including air compressor and generator.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction ion sites where practicable	V	V	N/A	V	N/A
S5.6.19	Sequencing operation of construction plants equipment.	Operate sequentially	Contractor	All construction	V	V	N/A	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
		within the same work site to reduce the construction airborne noise		ion sites where practicable					
S5.6.34	Implement temporary noise barrier along Road L4.	Further reduce the construction ion airborne noise	Contractor	Road L4 of ARQ	N/A	N/A	N/A	N/A	N/A
S5.6.35	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected Representative Noise monitoring stations	V	N/A	V	N/A	N/A
B	**Water Quality Impact (Contraction Phase)**								
S6.6.3	Construction Runoff In accordance with the Practice Note for Professional Persons on Construction ion Site Drainage, Environmental Protect ion Department , 1994 (ProPECC PN 1/94), best management practices should be implemented as far as practicable as below: • At the start of site establishment , perimeter cut -off drains to direct off-site water around the site should be constructed with internal drainage works. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. • Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipment in order to avoid or minimize polluted runoff. Sediment at ion tanks with sufficient capacity, constructed from preformed individual cells of approximately 6 to 8 m^3 capacities, are recommended as a general mitigation measure which can be used for set t ling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped.	Control construction runoff	Contractor	All construction sites	@	@	@	@	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	• The dikes or embankments for flood protect ion should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt /sediment t rap. The silt /sediment t raps should be incorporated in the permanent drainage channels to enhance deposit ion rates. • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction ion. • Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. • Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, it should be dug and backfilled in short sect ions wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • All open stockpiles of construction ion materials (for example, aggregates, sand and fill material) of should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to								

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	prevent the washing away of construction ion materials, soil, silt or debris into any drainage system. • Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction ion materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. • Precautions to be taken at any time of year when rainstorms are likely, act ions to be taken when a rainstorm is imminent or forecasted, and act ions to be taken during or after rainstorms are summarized in Appendix A2 of ***ProPECC PN 1/94***. Particular attention should be paid to the control of silty surface runoff during storm events. • All vehicles and plant should be cleaned before leaving a construction ion site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction ion site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The sect ion of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient back all toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and rains. • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. • Construction ion solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.								

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	• All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bun ds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. • Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Not ices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the rivers.								
S6.6.6 and 6.6.7	<u>Sewage from Workforce</u> • Portable chemical toilets should be provided for handling the construction sewage generated by the workforce. Assume that the capacity of the chemical toilets would be 0.4m3 and suck up twice a day under normal practices, around 45 chemical toilets would be required for the whole site at peak hour. And it should be noted that under normal construction periods, less chemical toilets would be needed. In addition, the total number of the chemical toilets would be subject to later detailed design, the capacity of the chemical toilets, and contractor's site practices. Nevertheless, a licensed contractor should be employed to provide appropriate and adequate portable toilets to cater around 37.5 m3/day sewage and be responsible for appropriate disposal and maintenance. Since portable chemical toilets will be provided, no adverse water quality impact from the workforce sewage is anticipated. • Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction ion phase of the Project . Regular environmental audit on the construction ion site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause	Handling of site sewage	Contractor	All construction sites	V	V	V	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	water quality impact after undertaking all required measure								
S6.6.8 and 6.6.9	Accidental Spillage To prevent accidental spillage of chemicals, proper storage and handling facilities should be provided. All the tanks, containers and storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and storm drains. The Contractor is required to register as a chemical waste producer if chemical wastes would be generated from the construction ion activities. Storage of chemical waste arising from the construction ion activities should be well managed with suitable labels an d warnings while disposal of those chemical wastes should be comply with the requirement states in Waste Disposal Ordinance (Cap 354) as well as Waste Disposal (Chemical Waste) (General) Regulations.	Prevention of accidental spillage	Contractor	All construction sites	@	V	V	V	V
S6.6.11-S6.6.14	Groundwater from Contaminated Area The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater discharge. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed during the process of discharge license application. The compliancy to the TM-DSS and the existence of prohibited substance should be confirmed after further SI. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated in compliance with TMDSS or properly recharged into the ground. If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. Petroleum Carbon Ranges (PCRs)). All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be	Minimize contaminated groundwater impacts	Contractor	All construction sites	N/A	N/A	N/A	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	discharged into the foul sewers. If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Sect ion 2.3 of TM-DSS. The baseline groundwater quality shall be determined prior to the select ion of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement . Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as PCRs should be removed as necessary by installing the petrol interceptor.								
	Waste Management (Contraction Phase)								
S8.5.2	<u>Good Site Practice</u> The following good site practices are recommended throughout the construction ion activities: • nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collect ion and effective disposal to an appropriate facility, of all wastes generated at the site; • training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling; • provision of sufficient waste disposal points and regular collect ion for disposal; • appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;	Minimize waste generation during construction	Contractor	All construction sites	V	@	V	@	V
S8.5.2 (6)	The contractor should submit a Waste Management Plan	Minimize waste	Contractor	All construction	V	V	V	女	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	(WMP) as part of the Environmental Management Plan (EMP) in accordance with the ***ETWB TC(W) No. 19/2005*** for construction ion phase. The EMP should be submit ted to the Engineer for approval. Mitigation measures proposed in the EIA Report and the EM&A Manual should be adopted.	generation during construction		sites					
S8.5.3	<u>Waste Reduction Measures</u> Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction: • segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling o materials and their proper disposal; • proper storage and site practices to minimize the potential for damage and contamination of construction ion materials; • plan and stock construction ion materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; • sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable port ions (i.e. soil, broken concrete, metal etc.); • provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.	Reduce waste generation	Contractor	All construction sites where practicable	V	V	V	V	V
S8.5.5	<u>Storage of Waste</u> The following recommendation should be implemented to minimize the impacts: • waste such as soil should be handled and stored well to ensure secure containment ; • stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; • different locations should be designated to stockpile each material to enhance reuse;	Minimize waste impacts from storage	Contractor Contractor	All construction sites	V	V	V	V	V
S8.5.6	<u>Collection and Transportation of Waste</u> The following recommendation should be implemented to minimize the impacts:	Minimize waste impacts from storage	Contractor	All construction sites	V	@	V	@	@

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	• remove waste in timely manner; • employ the trucks with cover or enclosed containers for waste • transportation; • obtain relevant waste disposal permits from the appropriate authorities; and • disposal of waste should be done at licensed waste disposal facilities.								
S8.5.8	Excavated and C&D Material Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at public filling areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials: • maintain temporary stockpiles and reuse excavated fill material for backfilling; • carry out on-site sorting; • make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • implement a recording system for the amount of waste generated, recycled and disposed of for checking; The recommended C&D materials handling should include: • On-site sorting of C&D materials • Reuse of C&D materials • Use of Standard Formwork and Planning of Construction Materials purchasing • Provision of wheel wash facilities	Minimize waste impacts from excavated and C&D materials	Contractor	All construction sites	V	V	V	V	V
S8.5.15	Contaminated Soil As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to minimize any potential exposure to contaminated soils or groundwater. The details of mitigation measures to minimize the potential environmental implications arising from the handling of contaminated materials refer to Land Contamination Section.	Remediate contaminated soil	Contractor	All construction sites where applicable	V	V	N/A	N/A	N/A
S8.5.17	Chemical Waste	Control the chemical	Contractor	All construction	V	V	V	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	• If chemical wastes are produced at the construction ion site, the Contractors should register with EPD as chemical waste producer. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste Contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Cent re, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	waste and ensure proper storage, handling and disposal.		sites					
S8.5.18	<u>General Waste</u> • General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. • Preferably enclosed and covered areas should be provided for general refuse collect ion and routine cleaning for these areas should also be implemented to keep areas clean. • A reputable waste collector should be employed to remove general refuse on a daily basis.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	@	V	V	V	@
S8.5.19	<u>Sewage</u> • The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities. • Regularly collect ion by licensed collectors should be arranged to minimize potential environmental impacts.	Minimize production of sewage impacts	Contractor	All construction sites	V	V	V	V	V
Ecology (Contraction Phase)									
S. 10.7.2 to 10.7.6	Re-provision of Wooded Area for ecological function at the future Quarry Park.	Compensate for the loss of three woodland patches of a total area of about 1.13ha.	Contractor/ Detailed Design Consultant (qualified botanist / horticulturist / Certified Arborist to supervise the planting).	Northern part of the proposed Quarry Park.	N/A	N/A	N/A	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
.10.7.10	Construction phase in situ mitigation measures to minimize impacts on hydrological condition and water quality of hillside watercourses include: • Temporary sewerage and drainage will be designed and installed to collect wastewater and prevent it from entering nearby watercourses; • Proper locations well away from nearby watercourses will be used for temporary storage of materials (i.e. equipment , fill materials, chemicals and fuel) and temporary stockpile of construction debris and spoil, and these will be identified before commencement of works; • To prevent muddy water entering nearby watercourses, work sites close to nearby watercourses will be isolated, using such items as sandbags or silt curtains with lead edge at bot tom and properly supported props. Other protective measures will also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the works site; • Stockpiling of construction materials, if necessary, will be properly covered and located away from nearby watercourses; • Erection of temporary geotextile silt fences will be carried out around earth-moving works to trap any sediments and prevent them from entering watercourses; • Construction debris and spoil will be covered and/or properly disposed as soon as possible to avoid being washed into nearby watercourses; • Exposed soil will be covered as quickly as possible following format ion works, followed, where appropriate, by covering with biodegradable geotextile blanket for erosion control purposes; • Where appropriate, earth-bunding will be carried out of areas where soils have been disturbed or where vegetation has been cleared, to ensure that surface runoff will not move soils off-site; • Construction ion effluent, site run-off and sewage will be probably collected and/or treated. Wastewater from any construction ion site will be	Minimize impacts on Hydrological condition and water quality of hillside watercourses.	Contractor	All construction sites	V	N/A	V	V	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	minimised via the following in descending order: reuse, recycling and treatment ; • Proper locations for discharge out lets of wastewater treatment facilities well away from sensitive receivers will be identified and used; • Silt traps will be installed at points where drainage from the site enters local watercourses; • Appropriate sanitary facilities for on-site workers will be provided; • The site boundary will be clearly marked and any works beyond the boundary strictly prohibited, and • Regular water monitoring and site audit will be carried out at suitable points. If the monitoring and audit results show that pollution occurs, adequate measures including temporary cessation of works will be considered.								
S.10.7.11	Implement an emergency contingency plan during the construction phase and the plan will include, but not be limited to, the following: • Potential emergency situations; • Chemicals or hazardous materials used on-site (and their location); • Emergency response team; • Emergency response procedures; • List of emergency telephone hot lines; • Locations and types of emergency response equipment , and • Training plan and testing for effectiveness.	Minimize impacts on Hydrological condition and water quality of hillside watercourses.	Contractor	All construction sites	N/A	N/A	N/A	N/A	N/A
Landscape and visual (Contraction Phase)									
S11.14.23, Table 11.9, CM1 [4]	All existing trees to be retained shall be carefully protected during construction.	Avoid disturbance and protection of the existing trees	Detailed Design Consultant /	The whole project area where applicable	V	V	@	V	@
S11.14.23, Table 11.9, CM2 [3]	Tree Transplantation - Should removal of trees be unavoidable due to construction impacts, trees will be transplanted or felled. Detailed transplanting proposal will be submit ted to relevant government departments for approval in accordance with **LAO GN No. 7/2007**, ***ETWB TCW No. 29/2004*** and ***10/2013***. Final locations of transplanted trees shall be agreed prior to commencement of the work.	Minimize landscape impact and retention of landscape resources	Detailed Design Consultant /	Onsite where possible. Otherwise consider offsite locations	*	N/A	N/A	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
S11.14.23, Table 11.9, CM3 [4]	Control of operation night -time glare with well-planned lighting operation system to minimize potential glare impact to adjacent VSRs	Minimize glare impact to adjacent VSRs	Contractor/ CEDD	The whole project area where applicable	V	V	@	V	N/A
S11.14.23, Table 11.9, CM [4]	Erection of decorative screen hoarding.	Minimize visual impact	Contractor/ CEDD	The whole project area where applicable	N/A	N/A	N/A	N/A	N/A
S11.14.23, Table 11.9, CM5 [2]	Minimise disturbance and limitation of run-off – temporary structures and construction works should be planned with care to minimize disturbance to adjacent landscape, vegetation, natural stream habitats.	Minimize visual impact	Contractor/ CEDD	The whole project area where applicable	V	V	V	V	N/A

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

Appendix M

Complaint Log

Appendix M1 Cumulative Complaint and Summons/ prosecution

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/ Prosecution in Reporting Month
March 2017	**1**	0
April 2017	0	0
May 2017	0	0
June 2017	**2**	0
July 2017	**3**	0
August 2017	**3**	0
September 2017	**4**	0
October 2017	**2**	0
November 2017	**3**	0
December 2017	**3**	0
January 2018	**1**	0
February 2018	**4**	0
March 2018	0	0
April 2018	**2**	0
May 2018	**1**	0
June 2018	**1**	0
July 2018	0	0
August 2018	**1**	0
September 2018	**1**	0
October 2018	**1**	0
November 2018	**3**	0
December 2018	**2**	0
January 2019	**2**	0
February 2019	**3**	0
March 2019	**1**	0
April 2019	0	0
May 2019	0	0
June 2019	**1**	0
July 2019	**1**	0
August 2019	**1**	0
September 2019	0	0
October 2019	**1**	0
November 2019	**4**	0
December 2019	0	0
January 2020	0	0
February 2020	0	0
March 2020	**4**	0
April 2020	**1**	0
May 2020	**1**	0
June 2020	**1**	0
July 2020	0	0
August 2020	0	0
September 2020	0	0
October 2020	0	0
November 2020	**1**	0
December 2020	**2**	0
January 2021	**1**	0
February 2021	0	0
March 2021	**2**	0

April 2021	**1**	0
May 2021	0	0
June 2021	**1**	0
July 2021	**1**	0
August 2021	0	0
September 2021	**2**	0
October 2021	**0**	0
November 2021	**0**	0
December 2021	**0**	0
January 2022	**0**	0
February 2022	**0**	0
March 2022	**1**	0
April 2022	**1**	0
May 2022	**3**	0
Overall Total	**75**	**0**

Appendix M2 Complaint Log

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
1	23-Mar-17	8-Jun-17	On Tat Estate	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	A resident living in On Tat House reported that some night works with noise and flashing caused nuisance to nearby resident after 11:00 pm on 23 March 2017.	According the incident report conducted by the CWSTVJV, demobilization of crawler crane was undertaken on 23 March 2017 11pm and it is TD requirement to carry out demobilization of heavy machine at nighttime. It is considered this complaint was a single incident and would not be happened again in future.	no comment by IEC on 11 Oct 2017	TCS00864/16/300/F0087
2	28-Jul-17	28-Jul-17	38/F of Yin Tat House (賢達樓), On Tat Estate	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu received a complaint from a resident living in the flat on 38/F of Yin Tat House (賢達樓), On Tat Estate. The resident complained about the noise level of our works during daytime.	Noise monitoring by Contractor was conducted in Yin Tat House, On Tat Estate, at around 2 pm on 28-Jul-2017. Another noise monitoring was carried out by ET (AUES) and representatives of AECOM and JV in the presence of the complainant in her flat at 10 am on 1-Aug-2017 and was witnessed by Mr. Hsu. No exceedance of noise was recorded. The complainant was satisfied about the monitoring results.	no comment by IEC on 9 Aug 2017	TCS00864/16/300/F0060
3	29-Aug-17	29-Aug-17	Shing Tat House 24/F	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu Yau Wai (Tel no.9519 5663) reported that he received complaint from a resident (Ms Cheng) living at Shing Tat House 24/F Room 22 about the noise generated from our site	Noise monitoring was carried out by ET (AUES) and representatives of AECOM and JV in the presence of the complainant in her flat at 3pm on 30-Aug-2017. No exceedance of noise was recorded. The complainant was satisfied about the monitoring results.	no comment by IEC on 8 Sep 2017	TCS00864/16/300/F0081

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								this week. The noise heard was mainly rock breaking noise from our site.			
4	21-Jun-17	29-Aug-17	Tat Yan House, Po Tat Estate	Resident of Po Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00019373-17)	day time construciton noise of breakers (8am to 6pm)	Since these two complaints were forwarded by CEDD to ET on 31 August 2017 which way after the complaint dates. Investigation would be conducted based on the site information by the Contractor of Contract 1 - NE/2016/01 (CWSTVJV) as well as the observation during weekly site inspection carried out ET during June 2017. In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident and the working hour 08:00 to 18:00 did not breach any legal requirement. To eliminate the inconvenience caused to the nearby resident CWSTVJV was advised to further enhance the noise mitigation measures as appropriately.	no comment by IEC on 3 Nov 2017	TCS00864/16/300/F0093
5	22-Jun-17	29-Aug-17	Tat Yan House, Po Tat Estate	Resident of Po Tat Estate	Dust & Construction noise	EPD	EPD (ref. N08/RE/0001942 8-17)	Day time construction noise of breakers (8AM to 6PM). Requested to delay the operating hour of breakers to 10AM or 11AM			TCS00864/16/300/F0093

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
6	15-Jul-17	29-Aug-17	Tat Yi House, Po Tat Estate	Resident of Po Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00022479-17)	Construction noise	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident and the working hour 08:00 to 18:00 did not breach any legal requirement. To eliminate the inconvenience caused to the nearby resident, CWSTVJV was advised to further enhance the noise mitigation measures as appropriately.	no comment by IEC on 3 Nov 2017	TCS00864/16/300/F0094
7	28-Jul-17	29-Aug-17	Anderson Road	unknown	Dust	EPD	EPD (ref.N08/RE/00023986-17)	Poor control on dust emission at Anderson Road Construction Site	CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident and status of the implementation of dust mitigation measures was considered effective based on the site observation.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0097
8	2-Aug-17	29-Aug-17	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00024557-17)	Day time construction noise of breakers (8AM to 6PM)	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in August 2017, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should further enhance the noise mitigation measures as appropriately. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0098

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
9	19-Sep-17	19-Sep-17	Sau Mau Ping Estate Sau Nga House	Resident of Sau Mau Ping Estate	Construction noise	SPRO hotline	NA	The complainant is living at Sau Mau Ping Estate Sau Nga House (秀雅樓) 38/F. He complained about the noise nuisance recently from August to September especially during night time after 12:00 am, even in Saturdays and Sundays. The noise nuisance caused a great disturbance to him. He made a request to conduct investigation about the source of the noise during night time.	ET has conducted an ad-hoc noise measurement for Leq (30min) on the rooftop of 秀雅樓 and 秀義樓 in the afternoon of 22 September 2017. (Photo 1 & 2) During the course of noise measurement, construction activities such as excavation and breaking were conducted in the Quarry Site. The measurement results taken at both 秀雅樓 and 秀義樓 were 63dB(A) which below the Limit Level under the EM&A Programme.	no comment by IEC on 18 Oct 2017	TCS00864/16/300/F0088
10	21-Sep-17	13-Oct-17	Sau Mau Ping Estate Sau Nga House and Sau Yee House	Resident of Sau Mau Ping Estate	Construction noise	EPD	EPD (ref.N08/RE/00031074-17)	On 21 September 2017, the same complaint further reported that the noise can be heard at both Sau Yee House and Sau Nga House even in daytime and he strongly requested the Contractor to follow up the case immediately.	ET has conducted an ad-hoc noise measurement for Leq (30min) on the rooftop of 秀雅樓 and 秀義樓 in the afternoon of 22 September 2017. (Photo 1 & 2) During the course of noise measurement, construction activities such as excavation and breaking were conducted in the Quarry Site. The measurement results taken at both 秀雅樓 and 秀義樓 were 63dB(A) which below the Limit Level under the EM&A Programme.		TCS00864/16/300/F0088

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11	27-Sep-17	13-Oct-17	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00029489-17)	The complainant questioned why there were 6 to 7 breakers operating in the monring but only 1 operating in the afternoon. He requested to shift the operation of the breakers to afternoon.	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in September and October 2017, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 30 Nov 2017	TCS00864/16/300/F01106
12	3-Oct-17	13-Oct-17	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction noise	EPD	EPD (ref. N08/RE/00032407-17)	Day time construction noise, the complainant requested using less breaker at one time, erecting taller noise barrier to cover the equipment. In addition, the complainant would like to know the construction schedule whether there will be more breaking activities in near future			TCS00864/16/300/F01106
13	25-Oct-17	26-Oct-17	Tat Kwai House, Po Tat Estate	Resident of Po Tat Estate	Dust	EPD	NA	投訴安達臣道地盤的泥車落泥，令他達貴樓的住所受到大塵影響，要求跟進及回覆	Investigation revealed that CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. Nevertheless, based on the observation during site inspection on 31 October 2017, CWSTVJV was advised to enhance the dust mitigation measures particularly during dry	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0100

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									season.		
14	6-Nov-17	7-Nov-17	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Noise	EPD	NA	安達邨俊達樓居民投訴石礦場地盤又再於早上 07:45 開始傳出機器不停掘石的噪音(幾乎每日在 08:00-19:00 進行工程)，已持續一年，他全家人受到滋擾。	Ad-hoc noise measurement was conducted by ET at rooftop of Chun Tat House in the morning of 20 November 2017 and measurement result was below the Limit Level under the EM&A Programme. CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 30 Nov 2017	TCS00864/16/300/F0109
15	13-Nov-17	14-Nov-17	Chi Tai House, On Tai Estate	Mr. Lam Wai	light pollution and noise	SPRO hotline	NA	1. 智泰樓面向安達臣地盤方向，有照射燈深夜時分仍然常開，影響居民正常睡眠質素，照成一定的精神壓力。 2. 隔音布未固定，大風吹過發出極大的聲浪	To ease the concern by the complaint, CWSTVJV has adjusted the lights to the orientation pointing the ground and that to minimise the nuisance. For the maintenance of noise barrier, CWSTVJV has immediately fixed the noise barrier nearest to On Tai Estate and prolonged the cover area of the noise barrier to reduce the noise impact to the public.	no comment by IEC on 24 Nov 2017	TCS00864/16/300/F0104

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16	1-Nov-17	14-Nov-17	Shing Tat House, On Tat Estate	Resident of Po Tat Estate	Noise	EPD	NA	居住於安達邨誠達樓高層的投訴人投訴由早上八時半至下午六時聽到搽鐵噪音。	As advised by the Contractor, the works that most likely induced the iron hammering noise to Shing Tat House shall be the rock breaking works to the hard rock of the Southeastern side of the Underground Stormwater Retention Tank. CWSTVJV had already deployed the acoustic mat as noise barrier at the site boundary near Shing Tat House. To enhance the noise mitigation measures, CWSTVJV deployed an acoustic mat as noise barrier for the breaking work in order to reduce construction noise affecting the upper floor of On Tat Estate Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 13 Dec 2017	TCS00864/16/300/F0110
17	25-Aug-17	26-Oct-17	Sau Yee House, Sau Mau Ping Estate	Resident of Sau Mau Ping Estate	Construction Noise	EPD	EPD (ref.N08/RE/00027738-17)	Night time construction noise of hammering (around 12AM)	As advised by CWSTVJV, there was a CNP (GW-RE0763-17) in force for the subject site for operation of generator and electric submersible water pump for the wastewater treatment plant and it is considered that abovementioned PMEs should not generate significant noise. Moreover, it is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out after 19:00 at the	no comment by IEC on 14 Dec 2017	TCS00864/16/300/F0114

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
									subject site. Therefore, the complaint about noise nuisance during night time should not be related to the Project.		
18	12-Sep-17	26-Oct-17	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction Noise	EPD	EPD (ref. N08/RE/0002948 9-17)	Day time construction noise of breakers (8AM to 5PM)	Noise mitigation measures were implemented to reduce the noise impact to the nearby resident. According to the impact noise monitoring result in September 2017, there were no breaches of EM&A requirement. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 10 Jan 2018	TCS00864/ 16/300/F01 17
19	15-Dec-17	21-Dec-17	Sau Yee House	Resident of Sau Mau Ping Estate	Construction Noise	EPD	NA	Resident of Sau Yee House complained suspected construction noise from Anderson Construction Site at restricted hour (7pm to 7am).	It is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out after 19:00 at the subject site. Therefore, the complaint about noise nuisance during night time should not be related to the Project.	no comment by IEC on 10 Jan 2018	TCS00864/ 16/300/F01 18
20	20-Dec-17	21-Dec-17	On Tat Estate	Resident of On Tat Estate	Dust	EPD	NA	Resident of On Tat Estate complained that the traffic of construction vehicles generated dust problem and arouse air pollution to On Tat Estate. 投訴安達臣道信和地盤水車已經壞了十多天，一直無灑水，四周非常大	CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. It is considered that the complaint was an isolated case due to malfunction of water tanker and CWSTVJV has promptly rectified the deficiency. As advised by CWSTVJV, another water tanker will be deployed in mid-January 2018 to enhance the	no comment by IEC on 25 Jan 2018	TCS00864/ 16/300/F01 21

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								塵。 投訴人住於安達邨，投訴安達臣道石礦場有大地盤，地盤大車工作時間不停出入揚起沙塵，吹到安達邨，影響空氣環境，要求部門到場視察。	dust suppression measures throughout the construction site.		
21	28-Dec-17	10-Jan-18	Sau Yee House	Resident of Sau Mau Ping Estate	Construction Noise	CE's office	NA	日間及凌晨均聽到轟隆聲的噪音及震動，懷疑是由附近工程引起 * Thomas 先生表示居於秀茂坪邨秀義樓，指附近的安達臣道一個由土木工程拓展署管轄的石礦場不時於非允許時段(即晚上七時後至翌日早上)發出疑似打地基的轟轟聲巨響，最近一次就是今早(28/12)凌晨五時多再次聽到石礦場傳來聲響，將 Thomas 先生吵醒，懷疑有人刻意在無人監管下施工，更表示曾向環保署及土木工程署作出投訴，但環保署表示巡查後無發現在非允許時段有工程進行，而土木工程署則	ET has conducted an ad-hoc noise measurement for Leq (30min) in the complainant's flat in the monitoring of 17 January 2018.It was noted that the complainant's flat is not in direct line of sight to the Anderson Road Quarry Site. The measurement noise result was below the Limit Level under the EM&A Programme. Moroever, it is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out during restricted hour at the subject site. Therefore, the complaint about noise nuisance during restricted hour should not be related to the Project.	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0129

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								表示晚上七時後不會再進行工程。Thomas 指石礦場經常在晚上八至十二時，或凌晨時份發出巨響，對附近居民已造成很大的滋擾，要求相關部門儘快作出跟進及回覆。			
22	15-Jan-18	15-Jan-18	Chun Tat House	Resident of Chun Tat House of On Tat Estate, 40/F	Construction Noise	SPRO mobile	NA	She is irritated by the construction noise of breaking rock for a long time and strongly requested to know exactly when will be the completion date of the breaking rock part of works opposite to Chun Tat House. She said we should do more on the mitigation measures because our site is very close to the residents nearby.	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in January 2018, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0130

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23	1-Feb-18	2-Feb-18	Chi Tai House On Tai Estate	Resident of On Tai Estate (referred by Mr. Lam Wai)	Construction Noise	SPRO hotline	NA	"智泰對出，白天噪音過大，可否加裝隔音板?高層受影響"	the Environmental Team has conducted an ad-hoc noise measurement for Leq(30min) at the corridor of 22/F of Chi Tai House on 2 February 2018 facing the construction site. The measurement noise result was 65dB(A) which below the Limit Level under the EM&A Programme. In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in January 2018, there were no breaches of EM&A requirement.	no comment by IEC on 22 Feb 2018	TCS00864/16/300/F0137
24	1-Feb-18	2-Feb-18	Shing Tat House On Tat Estate	Resident of Shing Tat House (referred by Mr. Hsu Yau Wai)	Construction Noise	SPRO hotline	NA	Mr. Hsu reported that some disturbing noise was heard after 6:00 pm from the site near Shing Tat House of On Tat Estate.	AECOM has liaised with Mr. Hsu on 2 February 2018 for the complaint matter and he reported to AECOM that the noise was generated until 7:00 pm on 1 February 2018. 3. As advised by Contractor of Contract 1, breaking works at USRT area which opposite to Shing Tat House was only carried out from 8:00 to 18:00. However, rock breaking at System A was extended to 19:00 on 1 February 2018. As noise mitigation measures, noise barriers were erected for the works area. Further to the complaint case, CWSTVJV would seek for other quiet work method such as using drilling	no comment by IEC on 28 Feb 2018	TCS00864/16/300/F0140

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									machine to reduce noise level and speed up the rock breaking process, so that to reduce the noise intensity level and the duration of exposure.		
25	28-Feb-18	28-Feb-18	Shing Tat House On Tat Estate	Resident of Shing Tat House	Construction Noise	EPD	NA	安達邨誠達樓居民, 投訴人是返夜班, 一年半以來長期受對出地盤日間掾石仔噪音滋擾, 由於單位與地盤太近, 堅持環保署跟進及回覆如何處理及減低噪音, 他亦要求知道何日完工.	Breaking works at Underground Stormwater Retention Tank area which opposite to Shing Tat House was carried out from 8:00 to 18:00. The Contractor has implemented noise mitigation measures to reduce the noise impact to the nearby resident. It was advised that the rock breaking works shall tentatively be completed by end of April and it is believe that the noise impact should be minimized. Since the works were carried out within the non-restricted hours and noise monitoring noise were within acceptable level, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 19 Mar 2018	TCS00864/16/300/F0143
26	11-Apr-18	12-Apr-18	Him Tat House On Tat Estate	Resident of Him Tat House	Construction Noise	SPRO mobile	NA	Mr. Hui Yau Wai reported that the noise irritation was becoming more severe recently and asked about the completion date of the works close to Him Tat House. The resident suspected that the noise comes from piling works	In our investigation, since construction noise was generating from other construction site next to Him Tat House, it is considered that the complaint is due to cumulative noise generated by both construction sites. However, CWSTVJV should properly provide the noise mitigation measures at works area in System B to minimize the noise impact to the resident nearby.	no comment by IEC on 7 May 2018	TCS00864/16/300/F0160b

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								nearby.	As advised by CWSTVJV on 20 April 2018, noise barrier was being erected at works area in System B as noise mitigation measures. According to the site photo, it is considered that the coverage of noise barrier is not sufficient and CWSTVJV should enhance the measure as far as practicable. The implementation of noise mitigation measures will be kept in view in subsequent site inspection.		
27	25-Apr-18	7-May-18	Junction of Hiu Kwong Street and Hiu Ming Street	A school but name of school not disclosed	Construction Noise	EPD	NA	This case is considered as an enquiry and no investigation is required under the EM&A Programme.			
28	18-May-18	24-May-18	Anderson Road Quarry Site	Undisclosed	Construction Noise	EPD	NA	投訴人指安達臣道石礦場地盤(NE/2016/01)在入夜 19:00 後仍見到有長臂喉工程車在運作,及持續產生大噪音及閃燈, 非常擾民。	As advised by CWSTVJV and confirmed by RE/AECOM, there were no construction activities carried out after 19:00 and concreting was completed before 19:00. It is concluded that the retracting process is not a general construction work using Powered Mechanical Equipment and complaint was an isolated case due to misunderstanding of the site operation. To prevent similar incidents in future,	no comment by IEC on 30 July 2018	TCS00864/16/300/F0174b

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									CWSTVJV has recommended several mitigation measures.		
29	25-Jun-18	19-Jul-18	Pedestrian Connectively E8 under Contract 3	Kwun Tong DC member Ms. So Lai-chun	Waste Management	CEDD	NA	A public complaint was referred from CEDD on 4 July 2018 regarding accumulation of dead leaves and branches found at slope (GLA-TNK 2458) near Hiu Yuk Path on 25 June 2018. The complainant requested the relevant department to clear the leaves and branch asap	CW-CMGC-JV has immediately clear the dead leaves and maintain the site cleanliness. Since the construction work has not yet commenced and the dead leaves and overgrown branches were not related project works, it is considered that the complaint is not valid the project.	no comment by IEC on 24 Sep 2018	TCS00864/16/300/F0189b
30	22-Aug-18	29-Aug-18	Hong Wah Court	Resident of Hong Wah Court	Construction Noise	1823 Hotline	NA	吳先生於 2018 年 8 月 22 日致電 1823 熱線投訴，指馬游塘區堆填區往將軍澳方向行車入口因配合項目需要而進行移除山坡工程，但其鑽地鑿石的噪音嚴重影響藍田康雅苑*居民，要求有關部門跟進。 *註: 投訴人於 2018 年 8 月 27 日更正指受影響屋苑應為藍田康華苑。	to reduce the inconvenience caused to the nearby resident, Kwan On should properly maintain the noise mitigation measures as appropriate, such as maintain good site practice including intermittent use of machine and plant and Sequencing operation of construction plant equipment. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 7 Sep 2018	TCS00864/16/300/F0196a

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31	28-Aug-18	31-Jul-18	Anderson Road Quarry Site	Undisclosed	Construction Noise	EPD	NA	安達邨誠達樓後面地盤，2 月 26 日晚，晚上 7 時後，還在落石屎，相片拍攝時間大概晚上 9 時半，一直至晚上十一時五十分還有工程車在地盤行駛。影響居民休息。	According to the site diary which countersigned by RE, there was no concreting work carried out after 18:00 and the construction activities conducted during restricted hours with valid CNP were completed at 23:00. It is considered that the complaint was not valid to the Project. Nevertheless, CWSTVJV was reminded that in case of any work activities need to be carried out during restricted hours, CWSTVJV should strictly follow the requirements specified in the valid CNP.	no comment by IEC on 10 Oct 2018	TCS00864/16/300/F0197a
32	6-Sep-18	7-Sep-18	Tsui Yeung House	Resident of Tsui Yeung House	Construction Noise	Verbal	NA	Mr. CHENG Keung-fung complained that the contractor has conducted the noisy works such as rock excavation beyond the normal hours.	Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. As advised by Kwan On, the rock breaking works shall tentatively be completed by end of December 2018 and the mitigation measures will implemented continuously during slope construction work and the slope construction will be carried out within the working hours at Portion 2. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 22 Oct 2018	TCS00864/16/300/F0201

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33	24-Oct-18	25-Oct-18	E3	Kwun Tong DC member Ms. So Lai-chun	Construction Noise	Whatsapp Message	NA	KTDC member, Ms. Ann So, complaining the noise of the breaker at E3	As advised by the Contractor, the acoustic material wrapped on the breaker was worn-out on 24 October 2018 and replacement of new acoustic materials has been installed on the breaker immediately on 25 October 2018. The rock breaking works shall tentatively be completed to the road level in the middle of November 2018 and the mitigation measures will implemented continuously during slope construction work and the slope construction will be carried out within the working hours at Portion 2. It is considered the complaint was an isolate case.	no comment by IEC on 23 Nov 2018	TCS00864/16/300/F0209a
34	12-Nov-18	13-Nov-18	Anderson Road Quarry Site	Resident of Ching Tat House(referredby Mr. Hui Yau Wai)	Construction Noise	SPRO Hotline	NA	Mr. Hui reported that he received complaint from a resident living in Ching Tat House about noise nuisance recently. Mr. Hui asked if project team can arrange some noise monitoring to check the noise level at the concerned flat or the same level at Ching Tat House.	The SPRO contacted Mr. Hiu and explained to him about the purpose and benefits of the tunnel to the residents nearby and the expected date of completion of the tunnel will be earlier than 2020. Moreover, the noise mitigation measures had implemented to reduce the noise level effectively and the work progress will be closely updated to nearby stakeholders to enhance communication. Mr. Hiu satisfied with the reply from SPRO and he agreed that the proposed noise monitoring in Ching Tat House was not needed. Since the works were	no comment by IEC on 12 Dec 2018	TCS00864/16/300/F0222a

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									conducted within approved normal hours with implementation of noise mitigation measures, there were no breaches of legislative requirement.		
35	14-Nov-18	14-Nov-18	Anderson Road Quarry Site	Undisclosed	Light and Noise	EPD	NA	凌晨 1 時，地盤仍有大光燈正射民居和機器移動聲音，影響附近居民睡眠及違反環保條例。	CWSTVJV immediately adjusted the angle and brightness of the lighting to minimize the nuisance to the resident nearby. In response to the complaint, CWSTVJV immediate carried out remedial action to minimize the nuisance to the public. It was considered that complaint for noise generated by machine moving was an isolated case. CWSTVJV was reminded to closely monitor the plant use and sequence of night work and do not to violate CNP conditions.	no comment by IEC on 3 Jan 2019	TCS00864/16/300/F0223a
36	13-Nov-18	14-Nov-18	Anderson Road Quarry Site	Undisclosed	Noise and dust	1823	NA	Complainant requested to postpone the starting time of construction work at project site and also to solve the problem of construction noise and dust.	In our investigation, acoustic barrier and site hoarding were in place along the works area. No noticeable noise and dust impact was observed during the site inspection. As advised by CWSTVJV, the normal working hour of the construction site is 8am to 6pm and there were no violation of the relevant regulations. The senior public relation officer contacted the complainant Ms. Ma on 26 November 2018 to explain the site situation and she was satisfied with the reply. Investigation Report has been	no comment by IEC on 18 Feb 2019	TCS00864/16/300/F0224

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									completed by ET without comment from IEC.		
37	9-Dec-18	12-Dec-18	Anderson Road Quarry Site	Undisclosed	Construction noise	1823	2-492790730 5	1823 has referred a case to CEDD on 10 December 2018, which the complainant complained that construction noise was generated from project site on Sunday and was affecting the resident at Hau Tat House, On Tat Estate. The complainant requested follow up action from related department as soon as possible.	In our investigation based on the information provided by CWSTVJV, there was no site activities undertaken at site access road as concerned by the complainant. The construction work carried out on Sunday was fully compliance with the CNP requirement. In response to the complaint, CWSTVJV was reminded to closely monitor the plant use and sequence of night work and do not to violate CNP conditions.	no comment by IEC on 10 Jan 2019	TCS00864/16/300/F0230a
38	19-Dec-18	27-Dec-18	Anderson Road Quarry Site	Undisclosed	Construction noise	1823	2-494807412 7	1823 has referred a case to CEDD on 27 December 2018, which the complainant complained that noise barriers near the round-about at On Sau Road were not enough, and construction noise generated from the project site was affecting the resident at Ming Tai House, On Tai Estate. The complainant	Joint site inspection was carried out on 3 January 2019 the status of implemented mitigation measures provided by CWSTVJV was inspected. It was observed that noise mitigation measures including temporary noise barrier, acoustic mat and wrapped by acoustic materials are implemented on site. However, CWSTVJV was advised to extend the coverage of noise barrier as far as practicable and fully enclose the concerned works area which has been completed on 15 January 2019. Since the works were	no comment by IEC on 31 Jan 2019	TCS00864/16/300/F0237a

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								requested follow up actions from related department as soon as possible.	carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.		
39	24-Jan-19	29-Jan-19	Anderson Road Quarry Site	Undisclosed	wastewater	Referred from DSD	NA	DSD has referred a case to CEDD on 24 January 2019 regarding suspended illegal discharge of cementitious slurry from construction site of Development of ARQ Site to nearby Public Stormwater Drainage System.	In our investigation, the concerned catchpit and U-channel mainly received the runoff from Po Lam Road as well as the discharge from the Anderson Road Quarry Site. It is suspected that the mud and silt found on the downstream has been accumulated over time particularly by rainstorm as well as routine discharge from construction site. As remedial action, CWSTVJV immediately clean the affected area where accessible. Nevertheless, in order to protection the watercourse at downstream of the construction site, CWSTVJV has some enhancement measures.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0248a
40	30-Jan-19	30-Jan-19	Anderson Road Quarry Site	Undisclosed	noise	SPRO hotline	NA	A public complaint was received by SPRO hotline on 30 January 2019 regarding the construction noise near Ma Yau Tong Village and requested to add noise barrier as soon as possible.	In our investigation, CWSTVJV had provided the noise mitigation measures to minimize the noise impact to the resident nearby. The impact monitoring result obtained at Ma Yau Tong Village revealed that the construction noise were within acceptable level. Since the works were conducted within approved normal hours with implementation of noise and dust mitigation measures,	no comment by IEC on 15 Mar 2019	TCS00864/16/300/F0249a

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									there were no breaches of legislative requirement.		
41	15-Feb-19	25-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	1823	2-49480 74127	1823 has referred a case to CEDD on 15 February 2019, which the complainant complained about the construction noise generated from the CEDD site near 法源寺 (Ma Yau Tong Village). The complainant requested for the details of works and the completion date, the complainant also requested CEDD to use other construction methods in order to re	In response to the complainant, CWSTVJV has proposed alterative quiet work method to alleviate the noise impact to the public. They will schedule the noisy activities to be carried out after 10am as far as practicable to minimize the impact to resident nearby, given that not affecting the site progress. Moreover, the coverage of acoustic barriers will be extended in view of the works programme.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0251a
42	21-Feb-19	25-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	EPD	NA	The resident from Sau Hong House complained that the noise from the Anderson Road Quarry construction site has gotten worse. In addition, sometimes even after midnight there are noise coming from the site. With the echo produces from the environment, this is not	In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate, such as maintain good site practices such as intermittent use of machine and plant and Sequencing operation of construction plant equipment. Since	no comment by IEC on 28 Mar 2019	TCS00864/16/300/F0250

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								helping at all. Really a big disturbance to the residence in the area. The complainant suspecting the sound proof measure has lessen as time goes. Follow action is requested.	the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.erway by ET.		
43	21-Feb-19	26-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	received by DEVB and referred to CEDD	NA	A public complaint was received by DEVB and referred to CEDD on 25 February 2019 regarding on the noise generated from the construction works of the Anderson Road Quarry Site affecting a local resident residing at the Anderson Road Squatter Area	Additional acoustic mat has been erected in front of the Squatter Area to minimize the noise impact. Noise mitigation measures such as acoustic barriers erected along the works area and breaker head wrapped with acoustic material were implemented continually. Alterative quiet work method was adopted such as drilling the hard rock before the breaking work to reduce the breaking duration. In our investigation, CWSTVJV had enhanced the noise mitigation measures to ease the complainant's concerns. CWSTVJV will continually implement the noise mitigation measures to reduce to noise impact to the public.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0252a

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44	1-Mar-19	26-Feb-19	E3 of Contract 2	Undisclosed	noise	CEDD	NA	A complaint is forwarded by CEDD which was received by KTDC member Mr CHENG Keung Fung from the residents of Tsui Yeung House(翠楊樓) about the noise nuisance generated and the working time up to 7:00 pm from the rock excavation of E3 lift tower. Follow up action is requested.	The representative of the engineering team explained to Mr. Cheng about the project's details and concerned site was being constructed for the future pedestrian connection facilities. The related stone drilling process is expected to be completed in mid-April to end of April 2019. Mr. Cheng was satisfied with the rapid response from CEDD and the engineering team. In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 6 May 2019	TCS00864/16/300/F0264
45	16-Jun-19	18-Jun-19	Anderson Road Quarry Site	Undisclosed	noise	EPD	NA	EPD referred a case to CEDD on 17 June 2019 regarding the construction noise heard at On Tat Estate on Sunday.	The Contractor explained that general cleaning by water jet was carried out in the construction site on the concerned day. Since the work did not involve the use of Powered Mechanical Equipment (PME), it would not violate the noise control ordinance. The Investigation report is underway by ET.	no comment by IEC on 21 August 2019	TCS00864/16/300/F0301a

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46	12-Jul-19	15-Jul-19	Anderson Road Quarry Site	Undisclosed	dust	EPD	NA	On 12 July 2019, a complaint was received by EPD regarding the dust impact to the residents at Po Tat Estate and On Tat Estate due to the dust emission at Anderson Road Quarry site.	In our investigation, CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident and status of implementation of dust mitigation measures was considered effective based on the site observation. Moreover, there was mostly rainy day throughout June and July 2019 in typical rainy season in Hong Kong and the dust impact was considered not significant in addition to the dust mitigation measures implemented provided by the Contractor. Nevertheless, the ET will closely monitor the environmental performance and dust mitigation measures in subsequent site inspection. The IR is under reviewed by IEC.	no comment by IEC on 12 August 2019	TCS00864/16/300/F0292b
47	6-Aug-19	14-Aug-19	Work Area Portion 2 E3 (Slope of Hiu Ming Street opposite of Tsui Yeung House)	翠屏(北)邨物業服務辦事處	Noise	1823	NA	A public complaint was received by 1823 on 6 August 2019 relating to the noise generated from construction work at the lift tower site (Slope E3) at Hui Ming Street from the residents of Tsui Yeung House. The complainant expressed that the construction works has been	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. It is concluded that the complaint was valid to the contract. As the works were carried out within the non-restricted hours, it is	no comment by IEC on 16 Sep 2019	TCS00864/16/300/F0310a

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								undertaken for 2 years and generated construction noise from 8am every day, which causing serious nuisance to the nearby residents.	considered that the works under the contract did not breach the Noise Control Ordinance.		
48	15-Oct-19	18-Oct-19	Work Area Portion 6 (Tseung Kwan O Tunnel Bus-Bus Interchange Pedestrian Connectivity Facilities E12)	Mr. Ng	Noise	1823	NA	A public complaint was received by 1823 on 15 October 2019 relating to the noise generated from construction work at Tseung Kwan O Tunnel Bus to Bus Interchange Pedestrian Connectivity Facilities E12. The complainant expressed that the construction noise was generated from breaking work at 8:20 am without noise mitigation measure, which causing nuisance to the nearby residents.	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 13 Nov 2019	TCS00864/16/300/F0326a

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49	5-Nov-19	11-Nov-19	Work Area Portion 2&3 (lift tower construction work at Hiu Kwong Street)	NA	Noise	EPD	NA	A public complaint was received by EPD relating to the noise generated from breaking work of lift tower construction work at Hiu Kwong Street (Portion 2&3).	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 27 Dec 2019	TCS00864/16/300/F0332a
50	7-Nov-19	11-Nov-19	Work Area Portion 6	Mr. Cheng	Noise	EPD	NA	寶達邨居民鄭先生，表示將軍澳隧道出口工程，日間噪音嚴重，8:30-17:00，幾部幾同時開動，而且無防音欄，之前是有，現要求環保署向對方反映改善	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation	no comment by IEC on 27 Dec 2019	TCS00864/16/300/F0333a

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									measures as far as practicable as recommended in the EM&A Programme.		
51	10-Nov-19	12-Nov-19	Underpass	Undisclosed	Noise	EPD	NA	On 10 November 2019 投訴人為馬游塘村居民，自本年初寶林路開展掘隧道工程，每天噪音不斷，由 8 至 6，由於欠缺遮擋，聲音直向 4 至 22 號村屋，將來通車，相信噪音不只 8-6，現懇請環保署為本村居民正式評估，並向政府提出村民困擾，考慮盡快設置隔音屏。 On 11 November 2019 寶琳路近馬游塘村開掘隧道的工程地盤每日 8am-6pm 發出噪音，欠缺遮擋，聲音影響馬游塘村 4-22 號村屋。希望政府部門 1.調查地盤有否違規 2.實施減音措施以減低對附近居民的滋擾	In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement. For the complainant's concern on the operation noise after commencement of the project, it is out of the scope of the EM&A programme and the relevant department will follow up the concern.	no comment by IEC on 30 Dec 2019	TCS00864/16/300/F0337

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52	11-Nov-19	20-Nov-19	Construction site near on Tai Estate Ancillary Facilities Building on On Sau Road	Mr. Wong (resident of Yung Tai House of On Tai Estate)	Noise	1823	ref. 2-59763 03183	黃先生投訴安秀道安泰邨服務設施大樓附近掘路工程已持續數年還未完成，並投訴其經常發出噪音滋擾，要求部門跟進。 On 22 November 2019, the project hotline received a call from the same complainant reported on the noise nuisance near On Sau Road and On Yan Street. He suggested to speed up the noise making works by intensely concentrate the excavation works during day time. No intermittence is suggested in order to speed up the works and to avoid waste of manpower.	In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. However, in response to the complaint, the Contractor was advised to enhance the performance of the temporary noise barriers such as increase the coverage of the noise barrier. Since the works were conducted within normal working hours with implementation of noise mitigation measures, there were no breaches of legislative requirement.	no comment by IEC on 27 Dec 2019	TCS00864/16/300/F0338a
53	5-Mar-20	6-Mar-20	Tunnel work of Anderson Road Quarry Site (the Underpass)	Resident of On Tat Estate	Noise	EPD	NA	本人是安達邨居民，隧道工程在安達臣的工程，施工至今嘈音間中改善，最近又有嘈音出現，仲係重低音，希望能加裝隔音設備，工程不知何時將嘈音減至最	In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. In response to the complaint, CWSTVJV had immediately installed a layer of acoustic mat at boundary of System A. Since the works were conducted within	no comment by IEC on 1 Apr 2020	TCS00864/16/300/F0357a

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								低 。1. A public complaint was received by EPD on 5 March 2020 regarding the construction noise generated from the tunnel work of the subject site. The complainant mentioned that the noise from construction was improved before but it became serious recently.	approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement.		
54	4-Mar-20	17-Mar-20	Near Hiu Ming Street Playground (E8)	Undisclosed	Noise	1823	ref. 3-6283237171	投訴人投訴有關秀茂坪邨秀安樓附近有兩個地盤 ， 地盤由星期一至五，每天早上約 9AM-5 PM 持續不斷發出強烈的嘈音， 投訴人表示地盤是在曉明街藍球場旁邊的位置(投訴人未能告知確實街號) ，因此要求部門盡快回覆及告知有關情況。 A public complaint was received by 1823 on 4 March 2020 regarding the construction noise. The complainant mentioned that there	In our investigation, CW-CMGCJV had implemented the noise mitigation measures for the works at upper section of E8 near Hiu Yuk Path and no noise impact was observed and anticipated in Hiu Ming Street based on the site activities and our inspection record. It is considered that the complaint is likely related to another construction site located near Hiu Ming Street Playground and not caused by the works under the Project. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement.	no comment by IEC on 15 Apr 2020	TCS00864/16/300/F0359a

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								were two construction sites near Hiu Ming Street Playground generated construction noise continuously during 9AM to 5PM on weekdays.			
55	23-Mar-20	23-Mar-20	Near Lin Tak Road (E11)	Undisclosed	Water Quality	Project hotline	NA	藍田居民梁先生反映在將軍澳道往連德道天橋的大彎位，其中有一個車輛出入口每日早上八時左右不時有泥水從地盤流出路面，估計泥水是清洗工程車輛所致，令梁先生的車輛每次駛經時被濺濕及弄污，請問有何措施改善問題？ A public complaint was received by project hotline on 23 March 2020 regarding overflow of muddy water from the construction site. The complainant mentioned that muddy water came out from site entrance, which spotted on his car, at 8am every morning.	In our investigation, the wheel washing facilities at site exit of E11 is one of the dust quality mitigation measures conducted by CW-CMGCJV and corresponding measure was implemented to prevent overflow of wastewater out of the site. In our recent site inspection, no outflow of muddy water from the site was observed and the condition of concerned Lin Tak Road was satisfactory. It is considered that the complaint was unlikely due to the project.	no comment by IEC on 15 Apr 2020	TCS00864/16/300/F0360a

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56	17-Mar-20	19-Mar-20	Anderson Road Quarry Site	Resident of Yan Tat House	Noise	Project hotline	NA	許有為區議員接獲安達邨仁達樓 2613 室居民反映，安達臣道石礦場發展用地工程噪音持續兩年，要求工程團隊下周派員到有關單位視察，並採取可行的噪音緩解措施。許有為區議員要求陪同視察。 A public complaint was received by hotline on 17 March 2020 regarding the construction noise generated from the Anderson Road Quarry Site. The complainant mentioned that the construction noise generated from the Anderson Road Quarry Site had been continued for two years.	In our investigation, CW-CMGCJV has implemented noise mitigation measures to reduce the noise impact and nuisance to the public. However, to eliminate the inconvenience caused to the nearby residents, CW-CMGCJV was advised to further adopt good practices on mitigating construction noise to reduce the noise impact to the nearby residents. 5. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, CW-CMGCJV was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 11 May 2020	TCS00864/16/300/F0361a
57	1-Apr-20	20-Apr-20	Work Area Portion 2	Undisclosed	Noise	1823	NA	觀塘秀茂坪紀念公園傍及曉明街的地盤，共兩個地盤，是地政總署管轄的。投訴人表示已被工程噪音滋擾了兩年多；另外投訴人得知完	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided	no comment by IEC on 7 May 2020	TCS00864/16/300/F0366a

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								工時間要到2021年, 投訴人不明白為何工程頭尾要 3 年多時間. 要求地政總署直接以電郵回覆工程長的原因及有沒有措施解決地盤發出的噪音。 A public complaint was received by 1823 on 1 April 2020 and subsequently transmitted to Environmental Team (ET) on 20 April 2020, regarding the noise nuisance generated from the construction site in Hui Ming Street. The complainant concerned about the slow progress and implementation of noise mitigation measures to alleviate the noise impact arising from the construction work.	to reduce to noise nuisance to the public. It is concluded that the complaint was valid to the contract. However, as the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.		

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58	11-May-20	12-May-20	Work Area Portion 2	Undisclosed	Noise	Project hotline	NA	陳先生住於翠楊樓 17 樓，投訴對面鑽石工程產生噪音對母親健康構成影響，現查詢完工日期、噪音監控標準及措施。 A public complaint was received by Project Hotline on 11 May 2020 regarding the noise generated from rock breaking work from a construction site opposite to Tsui Yeung House, which affecting his mother's health. The complainant enquired about the completion date of construction work, construction noise level standard and implementation of noise mitigation measures on site.	In our investigation, Kwan On has enhanced the noise mitigation measures to reduce the noise impact to the nearby resident. Based on the noise measurement result, the construction noise was reduced to acceptable level after the additional noise mitigation measures in place. Nevertheless, Kwan On was reminded to continually implement the noise mitigation measures as far as practicable in the remaining work. The performance of noise mitigation measures will keep in view by ET in subsequent site inspection	no comment by IEC on 28 May 2020	TCS00864/16/300/F0370a

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59	18-Jun-20	23-Jun-20	Anderson Road Quarry Site, System B	Undisclosed	Noise	EPD	NA	A public complaint was received by EPD on 18 June 2020 regarding the noise generated from rock breaking by machinery before 7pm from construction site near Hau Tat House. The complainant understood that the Contractor could carry out construction works, other than percussive piling, before 7pm under the CNP and hoped that the Contractor could arrange the noisy construction works to be carried out before 6pm. According to the information provided by the complainant, it is suspected complaint location would be Anderson Road Quarry Site, System B.	In our investigation, the Contractor has implemented noise mitigation measures to reduce the noise impact and nuisance to the public. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, the Contractor was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme	no comment by IEC on 17 July 2020	TCS00864/16/300/F0391a

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59#	23-Jul-20	24-Jul-20	Anderson Road Quarry Site near On Tat Estate	Undisclosed	Noise	EPD	NA	A public complaint was received by EPD on 23 July 2020 regarding the construction noise generated from the use of PME at Anderson Road Quarry Site near On Tat Estate at 6:30am (restricted hours). He/ she requested relevant department to follow up.	In our investigation, CWSTVJV had restricted the use of PME before 7am. There was no construction work and use of PME during the restricted hours. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement. Nevertheless, as the construction site is close to the residential area, CWSTVJV was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme	no comment by IEC on 25 August 2020	TCS00864/ 16/300/F04 01
60	14-Nov-20	18-Nov-20	Near Hiu Ming Street Playground (E8)	Undisclosed	Noise	1823	NA	A public complaint was received by 1823 on 14 November 2020 regarding the construction noise. The complainant mentioned that there was piling works at Hiu Ming Street Playground, generating huge noise during 9AM to 10AM on 14 November 2020. He/she requested relevant department to follow up	In our investigation, there was no noise impact was observed and anticipated in Hiu Ming Street based on the site activities and our inspection record. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement	no comment by IEC on 4 January 2021	TCS00864/ 16/300/F04 24

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61	4-Dec-20	7-Dec-20	Opposite to On Tai Estate – lower portion of Road L4	Undisclosed	Dust	EPD	NA	A public complaint was received by EPD on 4 December 2020 regarding the dust impact. The complainant mentioned that the construction site opposite to On Tai Estate had dust emission problem due to lack of water spraying. He/she requested relevant department to follow up	In our investigation, CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. In view of the potential traffic dust impact and implementation of dust mitigation measures, it is considered that the complaint was not valid to the Project	no comment by IEC on 4 January 2021	TCS00864/16/300/F0434
62	3-Dec-20	7-Dec-20	Ma Yau Tong Village (East Portal)	Undisclosed	Noise and dust	1823 & EPD	3-6574141017	A public complaint was received by 1823 and EPD on 14 November 2020 regarding the construction dust and noise impact arising from the project. There were acoustic mats erected on the slope of East Portal, however, the complainant enquired about effectiveness of the noise barriers with dozens of 15 cm "X"-shaped cuts. Moreover, there was lack of water sprinkling on the site and fugitive	In our investigation, CWSTVJV had provided the dust and noise mitigation measures to minimize the dust and noise impact to the resident nearby. To response the concern from the complainant, as enhancement noise measure, the Contractor extended the noise barrier to encircle noisy activity. Since the works were conducted within approved normal hours with implementation of noise and dust mitigation measures, there were no breaches of legislative requirement	no comment by IEC on 4 January 2021	TCS00864/16/300/F0435

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								dust was blowing to the village			
63	7-Jan-21	7-Jan-21	System B	Resident of Yan Tat House	Noise	Project hotline	NA	A public complaint was referred by district Councillor Mr. HSU Yau-wai and received by project hotline on 7 January 2021 regarding the construction noise. The complainant mentioned that the construction site next to SKH St. John's Tsang Shiu Tim Primary School generated noise problem and she requested relevant department to follow up.	In our investigation, the Contractor has implemented noise mitigation measures to reduce the noise impact and nuisance to the public.6. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, the Contractor was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 19 July 2021	TCS00864/16/300/F0441
64	18-Mar-21	18-Mar-21	Anderson Road Quarry Site (between On Tat Estate and On Tai Estate)	Undisclosed	Noise	1823 & EPD	NA	A public complaint was received by 1823 and referred by EPD on 18 March 2021 regarding the construction noise generated from construction works at Anderson Road Quarry Site between On Tat Estate and On Tai Estate. The complainant expressed that construction works	In our investigation, CWSTVJV had restricted the use of PME before 7am. There was no construction work and use of PME during the restricted hours and there should not be any non-compliance of Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, CWSTVJV was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme	no comment by IEC on 1 April 2021	TCS00864/16/300/F0454

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								of the site started from 6:45am everyday which causing noise disturbance to the nearby resident and he/ she requested relevant department to follow up			
65	1-Apr-21	1-Apr-21	Construction site near SKH St. John's Tsang Shiu Tim Primary School (System B under Contract 3)	Undisclosed	Noise	EPD	NA	A complaint was received by EPD and referred to CEDD on 1 April 2021 regarding the construction noise. The complainant mentioned that piling work was conducted at construction site near SKH St. John's Tsang Shiu Tim Primary School in recent week which generated noise problem. Moreover, there were no noise mitigation measures provided in the construction site	In our investigation, the Contractor has implemented noise mitigation measures to reduce the noise impact and nuisance to the public. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Moreover, the Contractor has adopted noise mitigation measures to minimise noise impact to the public. Since the construction site is close to the residential area, the Contractor was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme	no comment by IEC on 19 July 2021	TCS00864/ 16/300/F0458a
66	28-Mar-21	30-Mar-21	Anderson Road Quarry Site (between On Tat Estate and	Resident of Tai Fung House of On	Noise	EPD	K13/RE/ 00007086-21	A public complaint was received by EPD on 28 March 2021 regarding the construction noise generated from construction works at	In our investigation, CWSTVJV had followed that CNP for work during restricted hour and there should not be any non-compliance of Noise Control Ordinance. Nevertheless, some site areas had been handed over to other	no comment by IEC on 22 April 2021	TCS00864/ 16/300/F0459

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
			On Tai Estate)	Tai Estate				Anderson Road Quarry Site until 9pm on Monday to Saturday. Moreover, the complaint concerned about the construction noise heard on 28 March 2021 which was a Sunday.	contract and construction noise generated from others is not controlled by the project. As a reminder, CWSTVJV should implement the mitigation measures as far as practicable as recommended in the EM&A Programme.		
67	11-Jun-21	11-Jun-21	Anderson Road Quarry Site	Resident of Chi Tat House, On Tai Estate	Noise	EPD	EPD Ref.: 13208-21	A public complaint was received by EPD on 11 June 2021 and complained about noise nuisance from multiple construction sites on Anderson Road Quarry Site. The complainant stated that there were noise nuisances from different construction sites from 0800 am to 1800 pm from Monday to Saturday without adequate noise mitigation measures. On 17 June 2021, the complainant added that the noise was generated from rock breaking works in front of Chi Tai House (not from the housing sites near the	6. In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. In response to the complaint, CWSTVJV had immediately installed a layer of acoustic barrier at boundary of concern works area. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement.	no comment by IEC on 19 July 2021	TCS00864/16/300/F0478a

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								Tai Sheung Tok slope) and no mitigation measure was implemented for the rock breaking works.			
68	20&21/June/21	23-Jul-21	Anderson Road Quarry Site	DSD	Water Quality	EPD	EPD Ref.: 13208-21	EPD received complaints from DSD on 20 and 21 July 2021 concerning about discharge of muddy water as found on Po Lam Road and at the drainage facility near Tin Hau temple.	In our investigation, CWSTVJV had implemented the water quality mitigation measures to minimise the impact arising from the construction site. In view of the site condition and inclement weather condition on the complaint days, it is considered that the complaints raised by DSD were unlikely due to the C1 Project. Nevertheless, CWSTVJV was advised to closely monitor the discharge quality to avoid non-compliance of water quality happened in the construction site. Moreover, to cope with the adverse weather condition in wet season, CWSTVJV should regularly review the drainage plan as needed.	no comment by IEC on 6 August 2021	TCS00864/16/300/F0485b
69	14&16/Sep/21	15-Sep-21	Anderson Road Quarry Site	DSD	Water Quality	EPD	NA	EPD received complaints from DSD on 14 Sep 2021 and 16 Sep 2021 concerning about discharge of muddy water as found at the catchpit SCH4003250 near Po	In our investigation, CWSTVJV had implemented the water quality mitigation measures to minimise the impact arising from the construction site. However, there were incidents of seepage of silty water at Q2 and Q3 and rectified actions were undertaken immediately. Having investigated, the incidents were considered very short	no comment by IEC on 6 October 2021	

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								Lam Road and catchpit SSH4001400 near Po Tat Tin Hau Temple.	term and would not generate large amount of muddy water. In view of the inclement weather condition and there were other major sources, it is considered that the complaints raised by DSD were not fully contributed byC1 Project. Nevertheless, CWSTVJV was advised to closely monitor the discharge quality to avoid non-compliance of water quality happened in the construction site. Moreover, to cope with the adverse weather condition in wet season, CWSTVJV should regularly review the drainage plan as needed.		
70	23/Sep/21	29-Sep-21	Anderson Road Quarry Site	CEDD & EPD	Noise	CEDD &EPD		A public complaint was referred by 1823 to both CEDD and EPD on 23 September 2021. The complainant stated that the construction works at Anderson Road Quarry Site started before 7am, which generated construction noise and affecting the upper floor resident of On Tat Estate. EPD have contacted the	Our investigation revealed that there was no construction works under the Project undertaken during the concerned period by the complainant, and there were other concurrent contracts on Anderson Road Quarry Site and the contribution noise may be related to others. Therefore, it is considered that the noise complaint was unlikely to be related to the works under the Project. Nevertheless, CWSTVJV was reminded to properly maintain the noise mitigation measures as far as	No comment by IEC on 15 November 2021	

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								complainant and clarify that the concerned about construction dust and daytime construction noise after 7am.	practicable considering the construction site is relatively close to residential area.		
71	30/Mar/22	12/Apr/22	Anderson Road Quarry Site	DSD	Water Quality	DSD		EPD received complaint from DSD on 28 March 2022 concerning about siltation and discharge of muddy water observed at the public drainage system at catchpit SSH4001400 near Tin Hau Temple and the site discharge points at Po Lam Road on 28 March 2022	In our investigation, the Contractor had implemented the water quality mitigation measures to minimise the impact arising from the construction site. Based on the investigation findings, it is considered that the complaint was likely caused by the interfacing contractors under rainy days and not due to the works under the Project.	No comment by IEC on 19 April 2022	TCS00864/16/300/F05 40
72	14/Apr/22	25/Apr/22	Anderson Road Quarry Site	DSD	Water Quality	DSD		DSD carried out site inspection at site discharge point at Po Lam Road on 12 April 2022 and observed discharge of muddy water at public drainage system. The case was then referred to CEDD and EPD to investigate the source of the muddy water discharge.	In our investigation, the Contractor had implemented the water quality mitigation measures to minimise the impact arising from the construction site. Based on the investigation findings, it is considered that the complaint was likely caused by the interfacing contractors and not due to the works under the Project.	No comment by IEC on 16 May 2022	TCS00864/16/300/F05 41
73	11/May/	25/May/	Anderson	DSD	Water	DSD		EPD received complaint	Based on the above findings and	No	TCS00864/

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
	2022	2022	Road Quarry Site		Quality			from DSD on 11 May 2022 concerning about muddy water observed entering Tsui Ping River, with similar situation observed at Tin Hau Temple and Po Lam Road.	successive heavy rainstorm on 11 to 13 May 2022, it is considered the muddy water found in the concerned catchpit SSH4001400 near Tin Hau Temple and Po Lam Road on 11 to 13 May 2022 were likely caused by impact of rainstorm and partially contributed by the interfacing contractors at Sites R2-9 & R2-10.	comment by IEC on 13 June 2022	16/300/F559
74	17/May/2022	30/May/2022	Anderson Road Quarry Site	DSD	Water Quality	DSD		EPD received complaint from DSD on 14 and 16 May 2022 concerning about muddy water observed entering Tsui Ping River.	Heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. Besides, there were several construction sites at upstream of Tsui Ping River. It is considered that complaint mainly related to the interfacing contractor(s) and unlikely to have been caused by the project.	No comment by IEC on 13 June 2022	TCS00864/16/300/F562a
75	27/May/2022	9/Jun/2022	Anderson Road Quarry Site	DSD	Water Quality	DSD		EPD received complaint from DSD on 27 May 2022 concerning about muddy water observed entering Tsui Ping River, with similar situation observed at Tin Hau Temple and Po Lam Road.	Heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. Besides, there were several construction sites at upstream of Tsui Ping River. It is considered that complaint mainly related to the interfacing contractor(s) and unlikely to have been caused by the project.	No comment by IEC on 13 June 2022	TCS00864/16/300/F563

Appendix N

Implementation Status for Water Quality Mitigation Measures

Water Quality Mitigation Measure

Paving for exposed slope to reduce dust dispersion & mitigate the silty runoff generation at Q1.

Impermeable cover for slope at System A.

Q1. Wastewater treatment facility 30 cu.m Sedimentation Tank + AquaSed of 15 cu.m per hour + WETSEP

Q4. Wastewater treatment facility Temporary Water Reservoir 150 cu.m + AquaSed of 60 cu.m per hour

Q6: Wastewater treatment facility 24 cu. m.

Q7. Wastewater treatment facility 30 cu.m Sedimentation Tank + AquaSed of 60 cu.m per hour

Q9. Two nos. of 30 cu.m Sedimentation Tank + AquaSed of 60 cu.m per hour