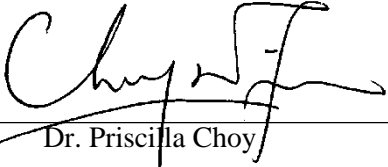


# **Civil Engineering and Development Department**

**Service Contract No. NDO 04/2019  
Environmental Team for Environmental  
Monitoring and Audit Works in  
Construction Phase for the First Phase  
Development of Kwu Tung North and  
Fanling North New Development Areas**

**Monthly Environmental Monitoring and  
Audit Report for July 2022**

**(Version 1.0)**

Certified By	 Dr. Priscilla Choy (Environmental Team Leader)
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**REMARKS:**

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

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

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**Agreement No. CE 33/2019 (EP)**

**Independent Environmental Checker for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas – Investigation**

**Monthly Environmental Monitoring and Audit Report No. 33 (July 2022)**

12 August 2022

**BY EMAIL**

Dear Sir,

We refer to email of 11 August 2022 attaching the Monthly Environmental Monitoring and Audit Report No. 33 prepared by the Environmental Team (ET) of the captioned.

We would like to inform you that we have no adverse comment on the captioned submission. Therefore, we write to verify the captioned submission in accordance with the Condition 3.4 of the Environmental Permit no. EP-466/2013, EP-467/2013/A, EP-468/2013/A, EP-469/2013, EP-470/2013A, EP-473/2013/A, EP-475/2013/A and EP-546/2017.

Should you have any queries, please contact the undersigned or our Ms. Liz Lo at 2828 5751.

Yours faithfully,  
For and on behalf of the  
Mott MacDonald Hong Kong Limited



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**EXECUTIVE SUMMARY****Introduction**

1. This is the 33<sup>rd</sup> monthly Environmental Monitoring and Audit (EM&A) Report for the First Phase Development of Kwu Tung North (KTN) and Fanling North (FLN) New Development Areas (NDAs), comprising the Advance Works and First Stage Works (hereinafter called the “the Project”). This report is prepared by Wellab Limited under “Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of KTN and FLN NDAs” (hereinafter called the “Service Contract”). This report documents the findings of EM&A works conducted in July 2022.
2. During the reporting month, the following Works Contracts under relevant Environmental Permit(s) were undertaken for the Project:

**Table I Works Contracts under relevant Environmental Permit(s) in the Reporting Month**

Works Contracts	Environmental Permit No.	Designated Project (DP)	Commencement date of construction
<b>Contract No. ND/2019/01 –</b> Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Works	EP-466/2013	Castle Peak Road Diversion	12 August 2020
	EP-467/2013/A	Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement	12 August 2020
	EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5	1 June 2020
	EP-470/2013	Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works	23 March 2020
<b>Contract No. ND/2019/02 –</b> Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development Area and Shek Wu Hui	EP-469/2013	Sewage Pumping Stations in Kwu Tung North New Development Area	28 October 2020
<b>Contract No. ND/2019/03 –</b> Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park	EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5	3 July 2020
	EP-473/2013/A	Fanling Bypass Eastern Section (New Road)	6 October 2020
<b>Contract No. ND/2019/04 –</b> Fanling North New Development Area,	EP-473/2013/A	Fanling Bypass Eastern Section (New Road)	23 February 2021

<b>Works Contracts</b>	<b>Environmental Permit No.</b>	<b>Designated Project (DP)</b>	<b>Commencement date of construction</b>
Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)	EP-546/2017	Fanling North Temporary Sewage Pumping Station	16 February 2021
<b>Contract No. ND/2019/05</b> – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)	EP-473/2013/A	Fanling Bypass Eastern Section (New Road)	1 August 2020
<b>Contract No. ND/2019/06</b> – Fanling North New Development Area, Phase 1: Re-provisioning of North District Temporary Wholesale Market for Agricultural Products	EP-475/2013/A	Reprovision of temporary Wholesale Market in Fanling North New Development Area	29 October 2019
<b>Contract No. ND/2019/07</b> – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works	Works area not under relevant Environmental Permit for Phase 1 of the Project.		1 March 2021

**Environmental Monitoring and Audit Progress**

3. A summary of the EM&A activities in this reporting month is listed in **Table II** below:

**Table II Summary Table for EM&A Activities in the Reporting Month**

EM&A Activities	Monitoring Station (s)	Works Contracts							
		ND/2019/01	ND/2019/02	ND/2019/03	ND/2019/04	ND/2019/05	ND/2019/06	ND/2019/07	
1-hr Total Suspended Particulates (TSP) Monitoring	FLN-DMS1	N/A	N/A	6, 12, 18, 22 and 28 July 22	6, 12, 18, 22 and 28 July 22	N/A	N/A	N/A	
	FLN-DMS3			N/A	N/A	6, 12, 18, 22 and 28 July 22			
	FLN-DMS5			5, 11, 15, 21 and 27 July 22	5, 11, 15, 21 and 27 July 22	N/A			
	KTN-DMS4			5, 11, 15, 21 and 27 July 22	5, 11, 15, 21 and 27 July 22				N/A
24-hr TSP Monitoring	FLN-DMS1	N/A	N/A	5, 11, 15, 21 and 27 July 22	5, 11, 15, 21 and 27 July 22	N/A	N/A	N/A	
	FLN-DMS3			N/A	N/A	5, 11, 15, 21 and 27 July 22			
	FLN-DMS5A			5, 11, 15, 21 and 27 July 22	5, 11, 15, 21 and 27 July 22	N/A			
	KTN-DMS4			5, 11, 15, 21 and 27 July 22	5, 11, 15, 21 and 27 July 22				N/A
Noise Monitoring	CP-FLN-NMS1	N/A			6, 12, 18 and 28 July 22			N/A	
	CP-FLN-NMS2	N/A				6, 12, 18 and 28 July 22	N/A		
	CP-KTN-NMS2	5, 11, 21 and 27 July 22	N/A	N/A					
	CP-KTN-NMS3								
	CP-KTN-NMS5								
	CP-KTN-NMS6	N/A	5, 11, 21 and 27 July 22						



Ecological Survey	Monitoring of Measures to Minimise Disturbance to Water Birds on Ng Tung River, Sheung Yue River, and Long Valley	N/A*	N/A*	7, 8, 13, 15, 19, 21, 28 and 29 July 22	7, 13, 21 and 28 July 22	N/A*	N/A*	N/A*
	Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream and Siu Hang San Tsuen Stream	21 July 22	N/A*	21 July 22	21 July 22	N/A*	N/A*	N/A*
	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution	13 and 25 July 22	13 and 25 July 22	13 July 22	13 July 22	13 July 22	N/A*	N/A*
24-hr RSP (Ambient Arsenic) Monitoring for Land Contamination		6, 12, 18, 22 and 28 July 22	N/A	6, 12, 18, 22 and 28 July 22	N/A	N/A	N/A	N/A
Water Quality Monitoring		N/A	4, 6, 8, 11, 13, 15, 18, 20, 22, 25, 27 and 29 July 22	N/A	4, 6, 8, 11, 13, 15, 18, 20, 22, 25, 27 and 29 July 22	N/A	N/A	N/A
Landfill Gas Monitoring		29 July 22	N/A	N/A	N/A	N/A	N/A	N/A
Built Heritage Monitoring		N/A	N/A	N/A	N/A	Daily assessment subject to construction works conducted within assessment area	N/A	N/A
Environmental Site Inspection		5, 13, 19 and 26 July 22	6, 15, 20 and 27 July 22	8, 15, 19 and 29 July 22	7, 14, 21 and 28 July 22	4, 14, 18 and 25 July 22	7, 14, 21 and 28 July 22	8, 15, 22 and 29 July 22

## Remarks:

N/A – No relevant monitoring is required according to the updated EM&amp;A Manual

N/A\* – No relevant monitoring is required according to the Baseline Ecological Monitoring Plan (Table 3.1)

[1] Since the distance between monitoring station CP-KTN-NMS2 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03

[2] Since the distance between monitoring station CP-KTN-NMS3 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03

[3] Since the distance between monitoring station CP-KTN-NMS1 and site boundary of ND/2019/02 under EP-469/2013 exceeds 300m, the monitoring station is not applicable to ND/2019/02

[4] Since the distance between monitoring station FLN-DMS1 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/05

[5] Since the distance between monitoring station FLN-DMS3 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/03 and ND/2019/04

[6] Since the distance between monitoring station FLN-DMS5 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/05

[7] Since the distance between monitoring station CP-FLN-NMS2 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03 and ND/2019/04

[8] Since the distance between monitoring station CP-FLN-NMS1 and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03

[9] Typhoon Signal No. 8 was hoisted the whole day on 2 July 2022. Due to safety reason, water monitoring on 2 July 2022 was cancelled.

**Breaches of Action and Limit Levels**

4. Summary of the environmental exceedances of the reporting month is tabulated in **Table III**.

**Table III Summary Table for Events Recorded in the Reporting Month**

Environmental Monitoring	Parameter	No. of non-project related Exceedances		Total No. of non-project related Exceedances	No. of Exceedance related to the Construction Works of the Contract		Total No. of Exceedance related to the Construction Works of the Contract
		Action Level	Limit Level		Action Level	Limit Level	
Air Quality	1-hr TSP	0	0	0	0	0	0
	24-hr TSP	0	0	0	0	0	0
	24-hr RSP (Ambient Arsenic)	0	0	0	0	0	0
Noise	L <sub>eq</sub> (30min)	0	0	0	0	0	0
Water Quality <sup>[1]</sup>	DO	2	6	8	0	0	0
	Turbidity	0	9	9	0	0	0
	SS	0	9	9	0	0	0
	Arsenic	0	0	0	0	0	0
Landfill Gas	O <sub>2</sub>	0	0	0	0	0	0
	CH <sub>4</sub>						
	CO <sub>2</sub>						
Cultural heritage	Built Heritage Monitoring	0	0	0	0	0	0

**Air Quality**

5. All construction air quality monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

**Construction Noise**

6. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

**Water Quality**

7. All additional water quality monitoring was conducted as scheduled in the reporting month. Two (2) Action Level and Six (6) Limit Level for DO, Nine (9) Limit Level for turbidity, and Nine (9) Limit Level for Suspended Solid of impact water quality monitoring were recorded. After

investigation, all exceedances were considered non-project related. No construction of channel for alternation of natural streams was carried out in the reporting month. Therefore, no water quality monitoring was conducted according to the Updated EM&A Manual and Baseline Water Quality Monitoring Report (KTN & FLN NDA). Relevant details are given in Section 5.

#### **Land Contamination**

8. All ambient arsenic monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

#### **Landfill Gas Monitoring**

9. Monitoring of landfill gas in the reporting month was carried out by the Contractor under ND/2019/01 at excavation location Portion 6b. No Limit Level exceedance was recorded.

#### **Built Heritage Monitoring**

10. Built heritage monitoring was carried out in the reporting month by the Contractor under ND/2019/05 for surveyed cultural heritage. No Limit Level exceedance was recorded.

#### **Ecological Monitoring**

11. All ecological monitoring was conducted as scheduled in the reporting month. The monitoring result is shown in **Appendix L** and will be compared with the Action/Limit level after the issuance of Final Baseline Ecological Report.

#### **Complaint Log**

12. Five environmental complaints were received in the reporting month. One for ND/2019/01, Three for ND/2019/04 and One for ND/2019/05.

#### **Notification of Summons and Successful Prosecutions**

13. No notification of summons or successful prosecutions was received in the reporting month.

#### **Reporting Changes**

14. This report has been prepared in compliance with the reporting requirements for the subsequent monthly EM&A Report as required by the “Updated Environmental Monitoring and Audit Manual for Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas” (Updated EM&A Manual).

#### **Future Key Issues**

15. The major site activities for the coming two months are shown in **Table IV**.

**Table IV Summary Table for Site Activities in the coming Three Months**

<b>Contract No.</b>	<b>Site Activities (August 2022 to October 2022)</b>
<b>ND/2019/01</b>	<ul style="list-style-type: none"> <li>(a) Site Clearance, tree felling, remove of existing structures, site formation and G.I. works in Portion 1a</li> <li>(b) Sheet piling, excavation, backfilling and drainage works in Portion 1b</li> <li>(c) Site clearance, removal of existing structures and site formation in Portion 1c</li> <li>(d) Site clearance and site formation in Portion 1e</li> <li>(e) Site clearance, tree felling, site formation work and construction of subway in Portion 2</li> <li>(f) Site clearance, excavation, backfilling and drainage works in Portion 3</li> <li>(g) Drainage works, watermain, excavation, backfilling and road works in Portion 5</li> <li>(h) Construction of retaining wall, drainage works and backfilling in Portion 6a</li> <li>(i) Operation of HAC treatment facility in Portion 6b</li> <li>(j) Site formation, sheet piling, excavation and drainage works in Portion 7</li> <li>(k) Construction of retaining wall, slope cutting, slope drainage and maintenance access construction, RC construction of flushing water service reservoir and fresh water reservoir, pipe pile wall of WSD's maintenance access, backfilling works and site formation in Portion 8a</li> <li>(l) ELS for jacking pit at LWSC's car park, excavation for receiving pit and trenchless work in Portion 8b</li> <li>(m) Sheet piling, excavation, drainage works and construction of retaining wall in Portion 9b</li> <li>(n) Stockpile of soil and excavation in Portion 9c</li> <li>(o) Excavation, sheet piling for ELS, drainage works, road construction, utilities works in Portion 10a</li> <li>(p) Sheet piling, excavation and drainage works in Portion 10b</li> <li>(q) Construction of MBR in Portion 11b</li> </ul>
<b>ND/2019/02</b>	<ul style="list-style-type: none"> <li>(a) Pipe Jacking</li> <li>(b) Backfilling</li> <li>(c) Concreting</li> <li>(d) Bedding &amp; Pipe Laying</li> <li>(e) ELS</li> <li>(f) Sheet Pile Installation</li> <li>(g) Cut and Fill of Slope</li> </ul>
<b>ND/2019/03</b>	<ul style="list-style-type: none"> <li>(a) Portion 1 &amp; Portion 1A <ul style="list-style-type: none"> <li>- Drainage works at Yin Kong Road</li> <li>- Construction of Pai Lau</li> </ul> </li> <li>(b) Long Valley <ul style="list-style-type: none"> <li>- Erection of Permanent Boundary Structure</li> <li>- Construction of Irrigation Channel</li> <li>- Construction works of Type 1 Storage House</li> <li>- Construction works of Type 2 Storage House</li> <li>- Construction of Tea House</li> <li>- Construction of Decking &amp; Sluices</li> <li>- Construction of Composting Facility</li> <li>- Construction works of Bird Hide</li> <li>- Construction works of Outdoor Classroom</li> <li>- Wetland Creation &amp; Restoration works</li> </ul> </li> </ul>

Contract No.	Site Activities (August 2022 to October 2022)
	<ul style="list-style-type: none"> <li>- Construction of Compacted Earth Path/ Walkway</li> <li>- Construction of Wetland Boardwalk</li> </ul>
ND/2019/04	<ul style="list-style-type: none"> <li>(a) Tree felling</li> <li>(b) Predrill</li> <li>(c) Bored piling</li> <li>(d) Excavation</li> <li>(e) Sheet piling and ELS</li> </ul>
ND/2019/05	<ul style="list-style-type: none"> <li>(a) <u>North Team Works</u> <ul style="list-style-type: none"> <li>- Pre-drilling for bored piles at B2-03-P3, P5, P6</li> <li>- Bored piling at B1, B2 &amp; C1(Portion II).</li> <li>- ELS works and Pile cap construction at, C2-03a, C2-04a, C3-01a, C3-02 &amp; D1-02</li> <li>- C3-03 &amp; C3-04 Portal Beam</li> <li>- Pier construction at C1-01b, C1-02b, C1-03, C1-04, C2-01, C2-02, C3-03a, C3-04ab, C4-02, D1-02, D1-03, D1-04, E1-04 &amp; E2-01.</li> </ul> </li> <li>(b) <u>Viaduct Works</u> <ul style="list-style-type: none"> <li>- Segment fabrication for bridge C2 &amp; C3 &amp; D1 &amp; E1.</li> <li>- Remaining components of Launching Girder (LG) delivery to site.</li> <li>- Erection of 1st pair non match cast segments at pier C4-03.</li> <li>- LG assembly works.</li> <li>- Cast in-situ SOP construction at Pier E2-02, E3-03.</li> <li>- 2nd set FT delivery. To be used in August-2022.</li> <li>- 3rd set FT design and fabrication. To be used in Feb-2023.</li> <li>- 4th set FT design and fabrication. To be used in May-2023.</li> <li>- Complete construction of pile caps E2-01 and D2-01 and installation of cast-in rotation bridge components.</li> <li>- Bridge rotation system fabrication completion and delivery to site</li> </ul> </li> <li>(c) <u>South Team Works</u> <ul style="list-style-type: none"> <li>- Venton Area – Construct new road (section from Venton to Kei Kee).</li> <li>- Portion 13 – Fw52 bay 1 to 4a, backfilling to formation level.</li> <li>- Portion 17 and 18 – Backfilling for new TWSRW.</li> <li>- Portion 18 – 132kv ducts laying and Gas main laying.</li> <li>- TWSR (West) – Backfilling and form new road behind FW06 and FS04 slope works.</li> <li>- TWSR (East) – Form new road</li> <li>- HKY FB (East) – construction of P01</li> <li>- Portion 11 – DN600 watermain laying work.</li> <li>- E2-03 – Pile cap and Pier construction.</li> <li>- E3-01 – Pier construction.</li> <li>- E3-02 – Cap and Pier construction</li> <li>- D2-02 – Pier construction.</li> <li>- D2-03 – Cap and Pier construction.</li> <li>- E3-04a – Piling works.</li> <li>- E3-04b, E3-05M and E4-01 – predrilling and piling.</li> <li>- NB109 – base slab construction.</li> </ul> </li> </ul>
ND/2019/06	The construction phase has been completed and handed over to AFCD since 4 April 2022.

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Contract No.	Site Activities (August 2022 to October 2022)
ND/2019/07	(a) Site clearance at Portion 4 (b) Erection of site hoarding at Portion 4 (c) C&D waste disposal at Portion 1, 2, 4 and 5 (d) Construction of box culvert at Portion 2 (e) Filling works at Portion 1, 2 and 4 (f) Construction of site haul road at Portion 4 (g) Drainage works, Sewerage works at Portion 1, 3, 4 and 5 (h) Mini piling works at Portion 4 (i) Construction of noise barrier at Portion 4 and 5 (j) Waterworks at Portion 1

## 1 INTRODUCTION

- 1.1 Wellab Limited was commissioned by Civil Engineering and Development Department (CEDD) as the Environmental Team to undertake the Environmental Monitoring and Audit (EM&A) services for the Works Contracts involved in the implementation of the First Phase Development of Kwu Tung North (KTN) and Fanling North (FLN) New Development Areas (NDAs) Project to ensure that the environmental performance of the Works Contracts complies with the requirements specified in the Environmental Permits (EPs), Updated EM&A Manual, Environmental Impact Assessment (EIA) Report of the KTN FLN NDAs project and other relevant statutory requirements.

### Purpose of the report

- 1.2 This is the 33<sup>rd</sup> EM&A Report which summarises the key findings of the EM&A programme in July 2022.

### Structure of the report

- 1.3 The structure of the report is as follows:

- Section 1: **Introduction** - purpose and structure of the report.
- Section 2: **Project Information** - summarises background and scope of the Project, site description, project organisation and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licences during the reporting month.
- Section 3: **Air Quality Monitoring** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.
- Section 4: **Noise Monitoring** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.
- Section 5: **Water Quality Monitoring** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels and Event / Action Plans.
- Section 6: **Land Contamination (Ambient Arsenic Monitoring)** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.
- Section 7: **Landfill Gas Monitoring** - summarises the monitoring requirement, monitoring parameters and frequency, monitoring locations, Action and Limit Levels, monitoring results and observation, and Event / Action Plans.
- Section 8: **Built Heritage Monitoring** – summarises the monitoring requirement, monitoring parameters and frequency, monitoring locations, Action and Limit Levels, monitoring results and observation.
- Section 9: **Ecological Monitoring** – summarises the details of monitoring of measures to minimise disturbance to waterbirds in Ng Tung River,

Sheung Yue River, Shek Sheung River and Long Valley, monitoring of measures to minimise impacts on ecological sensitive habitats from disturbance and pollution during the reporting month.

Section 10: **Environmental Site Inspection** - summarises the audit findings of the weekly site inspections undertaken within the reporting month.

Section 11: **Environmental Non-conformance** - summarises any monitoring exceedance, environmental complaints, environmental summons and successful prosecutions within the reporting month.

Section 12: **Future Key Issues** - summarises the impact forecast, proposed mitigation measures and monitoring schedule for the upcoming months.

Section 13: **Conclusions and Recommendations**



## 2 PROJECT INFORMATION

### Background

- 2.1 The Kwu Tung North (KTN) and Fanling North (FLN) New Development Areas (NDAs) are one of the important sources of land and housing supply in the medium and long term. The development of the KTN and FLN NDAs will be implemented in phase for full completion by 2031. The Phase 1 of the NDAs development, comprising the Advance Works and First Stage Works, is targeted to be implemented from the second half of 2019 progressively. The Advance and First Stage Works would include site formation, engineering infrastructure works (including roads, drainage, sewerage, waterworks, landscaping works, pumping stations, and fresh water and flushing water service reservoirs), soil remediation, reprovisioning of North District Temporary Wholesale Market, development of a nature park at Long Valley and implementation of environmental mitigation measures.
- 2.2 The scope of works under the Advance and First Stage Works comprises the following:
- a) The Advance Works (PWP item No. 7747CL-2) consist of:
    - i) site formation of land (including soil remediation) in KTN and FLN NDAs for housing, community facilities and engineering infrastructure;
    - ii) construction of roads including the eastern section of Fanling Bypass (FLBP(E)) connecting the FLN NDA to Fanling Highway and other roads with footpaths and cycle tracks, and associated junction/ road improvements;
    - iii) engineering infrastructure works including drainage. Sewerage (including two sewage pumping stations), waterworks (including a fresh water service reservoir and a flushing water service reservoir in the KTN NDA), landscape works and slopeworks;
    - iv) part expansion and upgrading of Shek Wu Hui Sewage Treatment Works (SWHSTW);
    - v) reprovisioning works; and
    - vi) implementation of environmental mitigation measures and environmental monitoring and audit (EM&A) programme for the works mentioned in (i) to (v) above.
  - b) The First Stage Works (PWP item No. 7759CL) consist of:
    - i) development of a nature park at Long Valley including provision of a visitor centre and a footbridge spanning across Sheung Yue River for connection between these two facilities;
    - ii) reprovisioning of two egret sites in the FLN NDA and enhancement works to an existing egret site in the KTN NDA;
    - iii) site formation of land for a village resite area and a district police station in the KTN NDA;
    - iv) engineering infrastructure works including roads, drainage, sewerage, waterbirds, and landscape works; and
    - v) implementation of environmental mitigation measures and environmental monitoring and audit (EM&A) programme for the works mentioned in (i) to (iv) above.

- 2.3 The Project which covers KTN and FLN NDAs is a designated project (DP) under Schedule 3 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). In October 2013, the EIA Report (AEIAR-175/2013) for the Project was approved by the Director of Environmental Protection pursuant to the EIA Ordinance. The relevant EPs under the Project and the respective Work Contracts are summarised in **Tables 2.1a** and **2.1b**.

**Table 2.1a Summary of EPs under the Project and the Respective Work Contracts**

EP No.	Designated Project	C1	C2	C3	C5 A	C5 B	C6	C7
EP-466/2013	Castle Peak Road Diversion	✓						
EP-467/2013/A	Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement	✓						
EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5	✓		✓				
EP-469/2013	Sewage Pumping Stations in Kwu Tung North New Development Area		✓					
EP-470/2013/A	Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works	✓						
EP-473/2013/A	Fanling Bypass Eastern Section			✓	✓	✓		
EP-475/2013/A	Reprovision of temporary Wholesale Market in Fanling North New Development Area						✓	
EP-546/2017	Fanling North Temporary Sewage Pumping Station				✓			

**Notes:** C1: ND/2019/01 C2: ND/2019/02 C3: ND/2019/03 C5A: ND/2019/04

C5B: ND/2019/05 C6: ND/2019/06 C7: ND/2019/07

**Table 2.1b Summary of Scope of Works under concerned EP**

Environmental Permit (EP) No.	Work Contract(s)	Scope of Works under concerned EP(s)	Site Layout Plan under concerned EP(s)
EP-466/2013(Part)	C1	Realign Castle Peak Road and join with the Pak Shek Au Interchange at the western end	Figure 12
EP-467/2013/A(Part)	C1	Construction of new primary distributor road (P1) within Kwu Tung North New Development Area	Figure 13
EP-468/2013/A(Part)	C1	Construction of new primary distributor roads (D1, D3, D4 and part of D5) within Kwu Tung North New Development Area	Figure 14
	C3	Development of a nature park at Long Valley and ecological mitigation and enhancement works for the nature park (Condition 2.9)	Figure 15

Environmental Permit (EP) No.	Work Contract(s)	Scope of Works under concerned EP(s)	Site Layout Plan under concerned EP(s)
EP-469/2013(Part)	C2	Construction of one sewage pumping station in Kwu Tung North with installed capacity of more than 2,000 m <sup>3</sup> per day	Figure 16
EP-470/2013/A(Part)	C1	Construction of service reservoir and watermain for the reuse of treated sewage effluent for reuse in Kwu Tung North Development Areas	Figure 17
EP-473/2013/A(Part)	C3	Establishment of alternative egret sites and enhance the existing egret site at Ho Sheung Heung and/or its vicinity (Condition 2.7)	Figure 18
EP-473/2013/A(Part)	C5A	Construction of new district distributor inside FLN NDA, which provides a linkage between the Man Kam To Road and the proposed Fanling Bypass Eastern Section	Figure 19
EP-473/2013/A(Part)	C5B		Figure 20
EP-475/2013/A	C6	The re-provisioned wholesale market will have approximately 1,000 market stalls within a site area of around 1.3 ha	Figure 21
EP-546/2017	C5A	Construct and operate a temporary sewage pumping station in Fanling North with installed capacity (average dry weather flow) of about 3,600m <sup>3</sup> /day	Figure 22

Remark: The EP(s) not related to the Project of the First Phase of the Kwu Tung North (KTN) and Fanling North (FLN) New Development Area (NDA) Development Areas are not included in the Table.

- 2.4 The site boundary of the Project and all Works Contracts are shown in **Drawing No. 1**.
- 2.5 The required submissions and submission status under Environmental Permits are shown in **Appendix U**.
- 2.6 The site layout plans under concerned Environmental Permits are shown in Figures 12 - 22.

### Project Organization

- 2.7 Different parties with different levels of involvement in the Project organisation include:
- Project Proponent – Civil Engineering and Development Department (CEDD)
  - *Supervisor / Supervisor's* Representative – AECOM
  - Environmental Team (ET) – Wellab Limited
  - Independent Environmental Checker (IEC) – Mott MacDonald Hong Kong Ltd (MottMac)
- 2.8 The names and contact numbers of key personnel are summarised in **Table 2.2**.

**Table 2.2 Key Contacts of the Project**

<b>Party</b>	<b>Role</b>	<b>Contact Person</b>	<b>Phone No.</b>	<b>Fax No.</b>
Civil Engineering and Development Department, HKSAR (CEDD)	Project Proponent	Mr. Raymond Cheng	3619 3919	3547 1658
<i>Supervisor / Supervisor's Representative (AECOM)</i>	Chief Resident Engineer	Mr. Alan Lee	6398 5982	2645 3900
Environmental Team (Wellab Limited)	Environmental Team Leader	Dr. Priscilla Choy	2898 7388	2898 7076
Independent Environmental Checker (MottMac)	Independent Environmental Checker	Mr. Thomas Chan	2828 5967	2827 1823
<b><u>Contract No. ND/2019/01</u></b> Contractor (Build King – Richwell Engineering Joint Venture)	Site Agent	Mr. Ivan Leung	9640 8340	--
	Environmental Officer	Mr. Edward Tam	9287 8270	
<b><u>Contract No. ND/2019/02</u></b> Contractor (Chun Wo – Kwan Lee Joint Venture.)	Site Agent	Mr. Andy Chan	3485 9780	--
	Environmental Officer	Mr. Kenneth Chan	9300 2182	
<b><u>Contract No. ND/2019/03</u></b> Contractor (Sang Hing Kuly Joint Venture)	Site Agent	Mr. Tang Wing Kai	9300 7037	--
	Environmental Officer	Mr. Vincent Hung	6742 5596	
<b><u>Contract No. ND/2019/04</u></b> Contractor (Daewoo – Chun Wo – Kwan Lee Joint Venture)	Site Agent	Mr. Bear Ding	6483 6198	--
	Environmental Officer	Ms. Donna Tso	9283 7167	
	Environmental Supervisor	Ms. Peggie Hon	9714 3308	
<b><u>Contract No. ND/2019/05</u></b> Contractor (CRCC – Paul Y. Joint Venture)	Site Agent	Mr. Darwin Lo	9467 5891	--
	Environmental Manager	Mr. Pan Fong	9436 9435	
	Environmental Officer	Ms. Louise Poon	5272 5709	
<b><u>Contract No. ND/2019/06</u></b> Contractor (New Concepts Engineering Development Ltd.)	Site Agent	Mr. Anson Chan	9349 1320	2363 2162
	Environmental Officer	Mr. Alex Choy	9409 9608	
	Environmental Coordinator	Ms. Gloria Wong	64398946	
<b><u>Contract No. ND/2019/07</u></b> Contractor (China Road and Bridge Corporation)	Site Agent	Mr. Daniel Wong	5335 9572	--
	Environmental Officer	Mr. K. M. Lui	5113 8223	
	Environmental Supervisor	Mr. Attlee Chau	6386 9018	

**Summary of Construction Works Undertaken During Reporting Month**

2.9 The major site activities undertaken in the reporting month are shown in **Table 2.3**.

**Table 2.3 Summary Table for Major Site Activities in the Reporting Month**

<b>Contract No.</b>	<b>Site Activities (July 2022)</b>
<b>ND/2019/01</b>	<ul style="list-style-type: none"> <li>(a) Site clearance, tree felling, removal of existing structures, site formation and G.I works at Portion 1a</li> <li>(b) Sheet piling, excavation, backfilling and drainage works at Portion 1b</li> <li>(c) Site clearance, removal of existing structures and site formation at Portion 1c and 1e</li> <li>(d) Site clearance, tree felling and site formation at Portion 2</li> <li>(e) Site clearance, excavation, backfilling and drainage works at Portion 3</li> <li>(f) Drainage works, watermain, excavation, backfilling and road work at Portion 5</li> <li>(g) Construction of retaining wall, drainage works, and backfilling at Portion 6a</li> <li>(h) Operation of HAC soil treatment facility at Portion 6b</li> <li>(i) Site formations, sheet piling, excavation and drainage works at Portion 7</li> <li>(j) Construction of retaining wall, slope drainage and maintenance access construction, RC construction of flushing water service reservoir and fresh water service reservoir, GI works and backfilling works at Portion 8a</li> <li>(k) ELS for jacking pit at LWSC's car park and excavation for receiving pit and trenchless work at Portion 8b</li> <li>(l) Sheet piling, excavation, drainage works and construction of retaining wall at Portion 9b</li> <li>(m) Stockpile of soil and excavation. at Portion 9c</li> <li>(n) Excavation, sheet piling for ELS, drainage works, road works and utilities works at Portion 10a</li> <li>(o) Sheet piling and excavation at Portion 10b</li> <li>(p) Construction of MBR at Portion 11b</li> <li>(q) Construction of CLC at Portion 16</li> </ul>
<b>ND/2019/02</b>	<ul style="list-style-type: none"> <li>(a) Pipe Jacking</li> <li>(b) Backfilling</li> <li>(c) Concreting</li> <li>(d) Bedding and pipe laying</li> <li>(e) ELS</li> <li>(f) Sheet Pile Installation</li> <li>(g) Cut and Fill of Slope</li> </ul>
<b>ND/2019/03</b>	<ul style="list-style-type: none"> <li>(a) Portion 1 &amp; Portion 1A <ul style="list-style-type: none"> <li>- Drainage works at Yin Kong Road</li> <li>- Construction of Pai Lau</li> </ul> </li> <li>(b) Long Valley <ul style="list-style-type: none"> <li>- Erection of Permanent Boundary Structure</li> <li>- Construction of Compacted Earth Bund / Walkway</li> <li>- Construction of Ditches</li> <li>- Construction of Irrigation Channel</li> <li>- Construction of Decking &amp; Sluices</li> <li>- Construction of Wetland Boardwalk</li> <li>- Construction of Type 1 Storage House</li> <li>- Construction of Type 2 Storage House</li> <li>- Construction of Tea House</li> <li>- Construction of Composting Facility</li> </ul> </li> </ul>

Contract No.	Site Activities (July 2022)
	<ul style="list-style-type: none"> <li>- Construction of Bird Hide</li> <li>- Construction of Outdoor Classroom</li> <li>- Construction of Storage Sheds</li> <li>- Wetland Creation &amp; Restoration works</li> </ul>
ND/2019/04	<ul style="list-style-type: none"> <li>(a) Tree felling</li> <li>(b) Predrill</li> <li>(c) Bored piling</li> <li>(d) Excavation</li> <li>(e) Sheet piling and ELS</li> </ul>
ND/2019/05	<ul style="list-style-type: none"> <li>(a) The rotary drilling rigs, one is located at C2-02 and C2-03. The second is located at B2-02. The third one is located at E3-04. The RCD rig located at D2-01.</li> <li>(b) C4-01 Portal Beam, C4-03 cross head, E2-02 SOP cast in-situ and E3-03 SOP cast in-situ are in progress.</li> <li>(c) TWSR-East drainage and watermain from Ch100 to Ch450 install works are in progress.</li> </ul>
ND/2019/06	The construction phase was completed and handed over to AFCD since 4 April 2022.
ND/2019/07	<ul style="list-style-type: none"> <li>(a) Site clearance at Portion 4</li> <li>(b) Erection of site hoarding at Portion 4</li> <li>(c) C&amp;D waste disposal in Portion 1, 2, 4 and 5</li> <li>(d) Drainage works and Sewerage works at Portion 1, 3 and 4</li> <li>(e) Construction of box culvert in Portion 2</li> <li>(f) Filling works in Portion 1, 2 and 4</li> <li>(g) Construction of site haul road in Portion 4</li> <li>(h) Waterworks at Portion 1</li> </ul>

### Construction Programme

2.10 Copies of Contractors' construction programmes are provided in **Appendix A**.

### Status of Environmental Licences, Notifications and Permits

2.11 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project is presented in **Table 2.4**.

**Table 2.4 Status of Environmental Licences, Notifications and Permits**

Contract No.	Permit / Licence No.	Valid Period		Status
		From	To	
Environmental Permit (EP)				
ND/2019/01	EP-466/2013	21/11/2013	N/A	Valid
	EP-467/2013/A	27/01/2017	N/A	Valid
	EP-468/2013/A	27/01/2017	N/A	Valid
	EP-470/2013	21/11/2013	N/A	Valid
ND/2019/02	EP-469/2013	21/11/2013	N/A	Valid
ND/2019/03	EP-468/2013/A	27/01/2017	N/A	Valid
	EP-473/2013/A	27/01/2017	N/A	Valid
ND/2019/04	EP/473/2013/A	27/01/2017	N/A	Valid
	EP/546/2017	16/11/2017	N/A	Valid
ND/2019/05	EP-473/2013/A	27/01/2017	N/A	Valid
ND/2019/06	EP-475/2013/A	13/01/2017	N/A	Valid
Construction Noise Permit (CNP)				
ND/2019/01	GW-RN0036-22	23/01/2022	16/07/2022	Expired in reporting month
	GW-RN0619-22	17/07/2022	16/01/2023	Valid
	GW-RN0388-22	11/05/2022	10/11/2022	Valid
	GW-RN0172-22	25/03/2022	24/09/2022	Valid
	GW-RN0173-22	08/03/2022	07/09/2022	Valid
	GW-RN0285-22	08/04/2022	07/10/2022	Valid
	GW-RN0480-22	14/06/2022	13/07/2022	Expired in reporting month
ND/2019/02	GW-RN0047-22	01/02/2022	31/07/2022	Expired in reporting month
	GW-RN0660-22	01/08/2022	31/01/2023	Valid
ND/2019/03	GW-RN0055-22	01/03/2022	31/08/2022	Valid
ND/2019/05	GW-RN0316-22	28/04/2022	27/07/2022	Expired in reporting month
	GW-RN0551-22	11/07/2022	10/10/2022	Valid
	GW-RN0570-22	05/07/2022	31/08/2022	Valid
ND/2019/06	GW-RN0054-22	13/02/2022	12/08/2022	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation				
ND/2019/01	451792	11/12/2019	N/A	Valid
ND/2019/02	454012	05/03/2020	N/A	Valid
ND/2019/03	452216	24/12/2019	N/A	Valid
	452332	31/12/2019	N/A	Valid
	452333	31/12/2019	N/A	Valid
ND/2019/04	461184	23/10/2020	N/A	Valid
ND/2019/05	454323	13/03/2020	N/A	Valid
ND/2019/06	449369	24/09/2019	N/A	Valid
ND/2019/07	459393	28/08/2020	N/A	Valid
Billing Account for Disposal of Construction Waste				
ND/2019/01	7036265	17/01/2020	N/A	Valid
ND/2019/02	7036898	01/04/2020	N/A	Valid
ND/2019/03	7036378	22/01/2020	N/A	Valid
ND/2019/04	7038391	22/09/2020	N/A	Valid
ND/2019/05	7036901	01/04/2020	N/A	Valid
ND/2019/06	7035473	17/10/2019	N/A	Valid
ND/2019/07	7038309	14/09/2020	N/A	Valid
Registration of Chemical Waste Producer				
ND/2019/01	5213-545-B2578-01	10/01/2020	N/A	Valid

Contract No.	Permit / Licence No.	Valid Period		Status
		From	To	
ND/2019/02	5213-548-C4439-01	06/05/2020	N/A	Valid
ND/2019/03	5213-623-S4231-01	14/04/2020	N/A	Valid
ND/2019/04	5211-624-D2709-01	26/11/2020	N/A	Valid
ND/2019/05	5213-625-C4464-01	20/05/2020	N/A	Valid
ND/2019/06	5213-625-N2716-01	02/10/2019	N/A	Valid
ND/2019/07	5213-625-C4498-01	21/09/2020	N/A	Valid
<b>Effluent Discharge License under Water Pollution Control Ordinance</b>				
ND/2019/01	WT00036071-2020	22/06/2020	30/06/2025	Valid
	WT00036073-2020	22/06/2020	30/06/2025	Valid
	WT00036067-2020	22/06/2020	30/06/2025	Valid
	WT00036075-2020	22/06/2020	30/06/2025	Valid
	WT00036076-2020	22/06/2020	30/06/2025	Valid
	WT00037191-2020	21/04/2022	28/02/2026	Valid
	WT00037204-2020	02/02/2021	28/02/2025	Valid
	WT00037412-2021	15/04/2021	30/04/2026	Valid
	WT00037564-2021	19/04/2021	30/04/2026	Valid
ND/2019/02	WT00037886-2021	28/06/2021	30/06/2026	Valid
	WT00036584-2020	21/10/2020	31/10/2025	Valid
ND/2019/03	WT00036952-2020	17/12/2020	31/12/2025	Valid
	WT00035847-2020	12/08/2020	31/08/2025	Valid
	WT00036414-2020	25/02/2021	28/02/2026	Valid
	WT00037771-2021	08/07/2021	31/07/2026	Valid
	WT00035984-2020	25/02/2021	28/02/2026	Valid
ND/2019/04	WT00037539-2021	16/04/2021	30/04/2026	Valid
ND/2019/05	WT00036996-2020	22/12/2020	31/12/2025	Valid
ND/2019/06	WT00035415-2019	20/03/2020	31/03/2025	Valid
ND/2019/07	WT00037526-2021	21/04/2022	31/05/2026	Valid



### 3 AIR QUALITY MONITORING

#### Monitoring Requirements

- 3.1 In accordance with the Updated EM&A Manual, impact 1-hour TSP and 24-hr TSP monitoring shall be conducted to monitor the air quality for the Works Contracts. **Appendix B** shows the established Action/Limit Level for the air quality monitoring works.
- 3.2 Impact 1-hour TSP monitoring was conducted for at least three times every 6 days, while the impact 24-hour TSP monitoring was conducted for at least once every 6 days at the designated air quality monitoring stations.

#### Monitoring Location

- 3.3 Impact air quality monitoring was conducted at the monitoring stations under the Works Contracts, as shown in **Figure 1 and Figure 2** according to Table 1.1 of Updated EM&A Manual and Baseline Air Quality Monitoring Report (KTN & FLN NDA). **Table 3.1** describes the location of the air quality monitoring stations.

**Table 3.1 Location for Air Quality Monitoring Locations**

EP No.	Contract No.	Monitoring Station	Location
EP-473/2013/A	ND/2019/03	FLN-DMS1 <sup>[2]</sup>	Scattered Village Houses North of Proposed Potential Ecopark
	ND/2019/04		
	ND/2019/05	FLN-DMS3 <sup>[3]</sup>	House near Tong Hang
	ND/2019/03	FLN-DMS5 <sup>[4]</sup>	Noble Hill
	ND/2019/04	FLN-DMS5A	Good View New Village
EP-466/2013 EP-467/2013/A EP-468/2013/A	ND/2019/01	KTN-DMS4	Temporary Structure near Fanling Highway (near Pak Shek Au)
EP-468/2013/A	ND/2019/03		

Remarks:

[1]: Noting that construction phase air quality monitoring at the other proposed monitoring stations (e.g. planned), where access is permitted, will be conducted during construction phase of relevant works contract(s).

[2]: Since the distance between monitoring station and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/05.

[3]: Since the distance between monitoring station and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/03 and ND/2019/04.

[4]: Since the distance between monitoring station and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/05

#### Monitoring Equipment

- 3.4 As the power supply for High Volume Sampler (HVS) for TSP monitoring at FLN-DMS 5A and KTN-DMS 4 were rejected, direct reading dust meter was used to measure both 1-hour and 24-hour TSP levels:-
- The proposal for alternative monitoring equipment (i.e. direct reading dust meter) for TSP monitoring was approved by EPD according to the approved Baseline Air Quality Monitoring Report (KTN & FLN NDA); and
  - Same measurement methodology (i.e. direct reading dust meter) was adopted as baseline monitoring for a reliable comparison.

- 3.5 The proposed use of portable direct reading dust meters was also submitted to IEC and agreement was obtained from the IEC in accordance with Section 2.4.5 of the Updated EM&A Manual.
- 3.6 HVS for 24-hour TSP monitoring will be adopted once secured supply of electricity become available at FLN-DMS 5A and KTN-DMS 4.
- 3.7 **Table 3.2** summarises the equipment used in the impact air monitoring programme. Copies of calibration certificates are attached in **Appendix C**.

**Table 3.2 Air Quality Monitoring Equipment**

Monitoring Station	Equipment	Manufacturer	Model and Make	Quantity
FLN-DMS5 FLN-DMS5A KTN-DMS4	Dust Monitor (1-hour and 24-hour TSP)	Met One Instruments	AEROCET-831	6
FLN-DMS1 FLN-DMS3	Dust Monitor (1-hour TSP)			
	HVS Sampler (TSP) (24-hour TSP)	Tisch	TISCH Model: TE-5170	3

- 3.8 Meteorological information extracted from “Hong Kong Observatory - Ta Kwu Ling Weather Station” was proposed as the alternative method to obtain representative wind data. For Ta Kwu Ling Weather Station, it is located nearby the Project site and situated at approximately 15m above mean sea level. The station’s wind data monitoring equipment is set above the existing ground 10 meters in compliance with the general setting up requirements. Furthermore, this station also provides other meteorological information, such as humidity, rainfall, air pressure and temperature etc.
- 3.9 The general weather conditions (i.e. sunny, cloudy or rainy) were recorded by the field staffs during the monitoring days.

**Monitoring Parameters, Frequency and Duration**

- 3.10 **Table 3.3** summarises the monitoring parameters and frequencies of impact dust monitoring during the Works Contracts activities. The air quality monitoring schedule for the reporting month is shown in **Appendix D**.

**Table 3.3 Impact Dust Monitoring Parameters, Frequency and Duration**

Parameters	Frequency
1-hour TSP	Three times/ 6 days
24-hour TSP	Once / 6 days

## **Monitoring Methodology and QA/QC Procedure**

### **1-hour and 24-hour TSP Air Quality Monitoring**

#### ***Instrumentation***

- 3.11 Direct reading dust meter was deployed for the air quality monitoring as shown in **Table 3.2**.
- 3.12 The measuring procedures of the dust meters were in accordance with the Manufacturer's Instruction Manual as follows:

#### **(AEROCET-831)**

- Place the 1-hour dust meter at least 1.3 meters above ground.
- Press and hold the Power key momentarily to power on the unit and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 second to display the Sample Screen minutes.
- Press the START / STOP key to run the internal vacuum pump for 1 minute and be ready to use.
- Use the select dial to select the PM range and press the START / STOP key to start a measurement.
- Finally, push the START/STOP key to stop the measurement after 1 hour sampling.
- Information such as sampling date, time, value and site condition were recorded during the monitoring period.
- All data were recorded in the data logger for further data processing.

#### ***Maintenance/Calibration***

- 3.13 The following maintenance/calibration was required for the direct dust meters:
- Check and calibrate the meters by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

### **24-hour TSP Air Quality Monitoring**

#### ***Instrumentation***

#### **(TISCH Model: TE-5170)**

- 3.14 High volume Samplers (HVS) completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. Each sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

***HVS Installation***

3.15 The following guidelines were adopted during the installation of HVS:

- A horizontal platform with appropriate support was provided to secure the samplers against gusty wind.
- No two samplers were placed less than 2 meters apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
- No furnaces or incineration flues were nearby.
- Airflow around the sampler was unrestricted.
- The samplers were more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.
- Permission and access to the monitoring stations have been obtained to set up the samplers.
- A secured supply of electricity was provided to operate the samplers.

***Filters Preparation***

- 3.16 Wellab Limited (HOKLAS Registration No. HOKLAS083) is a HOKLAS accredited laboratory and responsible for the preparation of 24-hour conditioned and pre-weighed filter papers for the monitoring team.
- 3.17 All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25°C and not variable by more than  $\pm 3^\circ\text{C}$ ; the relative humidity (RH) was  $< 50\%$  and not variable by more than  $\pm 5\%$ . A convenient working RH was 40%.

***Operating/Analytical Procedures***

- 3.18 Operating/analytical procedures for the air quality monitoring were highlighted as follows:
- Prior to the commencement of dust sampling, the flow rate of the HVS was properly set (between 1.1 m<sup>3</sup>/min. and 1.4 m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50;
  - The power supply was checked to ensure the sampler worked properly;
  - On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air quality monitoring station;
  - The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen;
  - The filter was aligned on the screen so that the gasket formed an airtight seal on the

outer edges of the filter. The filter holding frame was then tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges;

- The shelter lid was closed and secured with the aluminum strip;
- The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number);
- After sampling, the filter was removed and kept in a clean and tightly sealed plastic bag. The filter paper was then returned to the HOKLAS accredited laboratory (Wellab Ltd.) for reconditioning in the humidity-controlled chamber followed by accurate weighting by an electronic balance with a readout down to 0.1mg. The elapsed time was also recorded; and
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and did not vary by more than  $\pm 3^\circ\text{C}$ ; the RH should be  $< 50\%$  and did not vary by more than  $\pm 5\%$ . A convenient working RH is 40%. Weighing results were returned for further analysis of TSP concentrations collected by each filter.

### ***Maintenance/Calibration***

3.19 The following maintenance/calibration was required for the HVS:

- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working conditions; and
- All HVS were calibrated (five point calibration) using Calibration Kit prior to the commencement of baseline monitoring and thereafter at bi-monthly intervals.

### **Results and Observations**

3.20 The monitoring results for 1-hour TSP and 24-hour TSP are summarised in **Tables 3.4** and **3.5** respectively. Detailed monitoring results and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix E**.

**Table 3.4 Summary Table of 1-hour TSP Monitoring Results during the Reporting Month**

Monitoring Station	Concentration ( $\mu\text{g}/\text{m}^3$ )		Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
	Average	Range		
FLN-DMS1	64.9	42.1 – 92.9	303	500
FLN-DMS3	59.0	42.6 – 85.2	301	500
FLN-DMS5	30.5	22.7 – 46.2	279	500
KTN-DMS4	38.3	22.2 – 62.6	297	500

**Table 3.5 Summary Table of 24-hour TSP Monitoring Results during the Reporting Month**

Monitoring Station	Concentration ( $\mu\text{g}/\text{m}^3$ )		Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
	Average	Range		
FLN-DMS1	51.0	35.6 – 66.6	150	260
FLN-DMS3	51.9	24.1 – 111.1	165	260
FLN-DMS5A	57.2	27.0 – 147.8	153	260
KTN-DMS4	65.3	27.1 – 138.8	192	260

- 3.21 All 1-hour and 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedances were recorded.
- 3.22 According to our field observations, the major dust sources identified at the designated air quality monitoring stations in the reporting month are shown in **Table 3.6**:

**Table 3.6 Observation at Dust Monitoring Stations**

Monitoring Station	Major Dust Sources
FLN DMS1	Mobile crane, Excavator, piling, road traffic
FLN-DMS3	Excavator, piling, mobile crane, road traffic
FLN-DMS5	Road traffic
KTN-DMS4	Excavator, piling, mobile crane, dump truck, road traffic

**Event and Action Plan**

- 3.23 Should any non-compliance of the criteria occur, actions in accordance with the Event/Action Plan in **Appendix N** shall be carried out.

## 4 NOISE MONITORING

### Monitoring Requirements

- 4.1 In accordance with the Updated EM&A Manual, construction noise monitoring shall be conducted in terms of the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ) to monitor the construction noise arising from the construction activities. The regular monitoring frequency for each monitoring station was on a weekly basis and one set of measurements between 0700 and 1900 hours on normal weekdays was conducted. **Appendix B** shows the established Action and Limit Levels for the environmental monitoring works.

### Monitoring Location

- 4.2 Impact noise monitoring was conducted at the monitoring stations, as shown in **Figures 3** and **4** according to Table 1.1 of the Updated EM&A Manual. **Table 4.1** describes the locations of the noise monitoring stations.

**Table 4.1 Location of Noise Monitoring Stations**

Contract No.	Monitoring Station(s)	Location(s)
ND/2019/06	CP-FLN-NMS1 <sup>[2]</sup>	Belair Monte
ND/2019/04		
ND/2019/05	CP-FLN-NMS2 <sup>[3]</sup>	Scattered Village Houses in Tong Hang
ND/2019/01	CP-KTN-NMS2 <sup>[4]</sup>	Residential Buildings at Ma Tso Lung
	CP-KTN-NMS3 <sup>[5]</sup>	Fung Kong Garden
ND/2019/01	CP-KTN-NMS5	N/A
ND/2019/02	CP-KTN-NMS6	Ho Sheung Heung, Hau Ku Shek Ancestral Hall, Hung Shing Temple & Pai Fung Temple and Sin Wai Nunnery

Remarks:

[1]: Noting that construction phase noise monitoring at the other proposed monitoring stations (e.g. planned), where access is permitted, will be conducted during construction phase of relevant works contract(s).

[2]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[3]: Since the distance between monitoring station and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03 and ND/2019/04.

[4],[5]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

### Monitoring Equipment

- 4.3 Integrating Sound Level Meters were used for impact noise monitoring. The meters were Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level ( $L_{eq}$ ) and percentile sound pressure level ( $L_x$ ) that complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 4.2** summarises the noise monitoring equipment used. Copies of calibration certificates are attached in **Appendix C**.

**Table 4.2 Noise Monitoring Equipment**

Equipment	Manufacturer	Model	Quantity
Sound Level Meter	BSWA	BSWA 308	3
Acoustical Calibrator	Brüel & Kjær	4231	1
	SVANTEK	SV30A	1

**Monitoring Parameters, Frequency and Duration**

- 4.4 **Table 4.3** summarises the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix D**.

**Table 4.3 Noise Monitoring Parameters, Duration and Frequency**

Contract No.	Monitoring Stations	Parameters <sup>[2]</sup>	Duration	Frequency	Measurement
ND/2019/06	CP-FLN-NMS1 <sup>[3]</sup>	$L_{10(30 \text{ min.})}$ dB(A) $L_{90(30 \text{ min.})}$ dB(A) $L_{eq(30 \text{ min.})}$ dB(A) (as six consecutive $L_{eq, 5 \text{ min}}$ readings)	0700-1900 hours on normal weekdays	Once per week	Façade
ND/2019/04					
ND/2019/05	CP-FLN-NMS2 <sup>[4]</sup>				
ND/2019/01	CP-KTN NMS2 <sup>[5]</sup>				Free-field <sup>[1]</sup>
	CP-KTN NMS3 <sup>[6]</sup>				
ND/2019/01	CP-KTN NMS5				
ND/2019/02	CP-KTN-NMS6				Façade

Remarks:

[1]: Correction of +3dB (A) for free-field measurement.

[2]: A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ). It is the constant noise level which, under a given situation and time period, contains the same acoustic energy as the actual time-varying noise level.

$L_{10}$  is the level exceeded for 10% of the time. For 10% of the time, the sound or noise has a sound pressure level above  $L_{10}$ .

$L_{90}$  is the level exceeded for 90% of the time. For 90% of the time, the noise level is above this level.

[3]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[4]: Since the distance between monitoring station and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03 and ND/2019/04.

[5],[6]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.



**Monitoring Methodology and QA/QC Procedures**

- The microphone head of the sound level meter was positioned at 1m from the exterior of the noise sensitive I and lowered sufficiently so that the building's external wall acted as a reflecting surface;
- The battery condition was checked to ensure the correct functioning of the meter;
- Parameters such as frequency weighting, time weighting and measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement :  $L_{eq}(30 \text{ min.}) \text{ dB(A)}$   
(as six consecutive  $L_{eq, 5\text{min}}$  readings) during non-restricted hours (i.e. 0700-1900 hours on normal weekdays)
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment;
- During the monitoring period, the values of  $L_{eq}$ ,  $L_{90}$  and  $L_{10}$  were recorded. In addition, site conditions and noise sources were also recorded on a standard record sheet;
- Noise measurement was paused temporarily during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible and observation records during measurement period should be provided; and
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. The wind speed should be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

**Maintenance and Calibration**

- 4.5 The microphone heads of the sound level meters and calibrators were cleaned with a soft cloth at quarterly intervals.
- 4.6 The sound level meters and calibrators were checked and calibrated at yearly intervals.
- 4.7 Immediately prior to and following each noise measurement, the accuracy of the sound level meter should be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements would be accepted as valid only if the calibration levels before and after the noise measurement agreed to within 1.0 dB.

**Results and Observations**

- 4.8 The noise monitoring results are summarised in **Table 4.4**. Detailed monitoring results and graphical presentations of noise monitoring are shown in **Appendix F**. The weather information for the reporting month is summarised in **Appendix M**.

**Table 4.4 Summary Table of Noise Monitoring Results during the Reporting Month**

Contract No.	Monitoring Station	Noise Level Leq (30 min), dB(A)	Baseline Level, dB(A)	Limit Level, dB(A)
ND/2019/06	CP-FLN-NMS1 <sup>[1]</sup>	67.4 – 69.6	69.9	75
ND/2019/04				
ND/2019/05	CP-FLN-NMS2 <sup>[2]</sup>	64.7 – 68.3	59.6	
ND/2019/01	CP-KTN-NMS2 <sup>[3]</sup>	53.7 – 56.7	58.6	
	CP-KTN-NMS3 <sup>[4]</sup>	54.7 – 60.5	51.6	
ND/2019/01	CP-KTN-NMS5	55.2 – 64.1	57.2	
ND/2019/02	CP-KTN-NMS6	56.1 – 64.2	55.1	

Remarks:

[1]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[2]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[3],[4]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

- 4.9 All noise monitoring was conducted as scheduled in the reporting month. No Action / Limit Level exceedance was recorded.
- 4.10 Two complaints about construction noise were received during the reporting month, therefore Two Action Level exceedances were recorded. The summary of exceedance record in reporting month is shown in **Appendix O**.

- 4.11 According to our field observations, the major noise sources identified at the designated noise monitoring stations in the reporting month are as follows:

**Table 4.5 Observation at Noise Monitoring Stations**

Contract No.	Monitoring Station	Location	Major Noise Source
ND/2019/06	CP-FLN-NMS1 <sup>[1]</sup>	Belair Monte (Existing)	Excavator, dump truck, mobile crane, piling, road traffic
ND/2019/04			
ND/2019/05	CP-FLN-NMS2 <sup>[2]</sup>	Scattered Village House in Tong Hang (Existing)	Excavator, piling, dump truck, road traffic
ND/2019/01	CP-KTN-NMS2 <sup>[3]</sup>	Residential Buildings at Ma Tso Lung (Existing)	Dump truck, excavator, road traffic
ND/2019/01	CP-KTN-NMS3 <sup>[4]</sup>	Fung Kong Garden (Existing)	Road traffic
ND/2019/01	CP-KTN-NMS5	N/A	Road traffic
ND/2019/02	CP-KTN-NMS6	Ho Sheung Heung, Hau Ku Shek Ancestral Hall, Hung Shing Temple & Pai Fung Temple and Sin Wai Nunnery (Existing)	Road traffic

Remarks:

[1]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[2]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[3],[4]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03.

### Event and Action Plan

- 4.12 Should any non-compliance of the criteria occur, actions in accordance with the Event/Action Plan in **Appendix N** shall be carried out.

## 5 WATER QUALITY MONITORING

### Monitoring Requirements

- 5.1 In accordance with the Updated EM&A Manual, impact water quality monitoring shall be carried out three days per week at all the designated monitoring stations during the construction period. The measurement periods are during the construction of channel specified in Table 4.1 of the Updated EM&A Manual. The interval between two sets of monitoring shall not be less than 36 hours.
- 5.2 Replicate in-situ measurements of Dissolved Oxygen (DO), temperature, turbidity, pH, Suspended Solids (SS) and samples for Suspended Solids (SS), ammonia nitrogen, unionized ammonia, nitrate nitrogen and orthophosphate from each independent sampling event were collected to ensure a robust statistically interpretable database.
- 5.3 **Appendix B** shows the established Action and Limit Levels for the water quality monitoring work according to the Updated EM&A Manual and Baseline Water Quality Monitoring Report (KTN & FLN NDA).

### Monitoring Parameters, Frequency

- 5.4 **Table 5.1** summarises the monitoring parameters, monitoring periods and frequencies of the water quality monitoring.

**Table 5.1 Water Quality Monitoring Parameters and Frequency**

Parameters, unit	Depth	Frequency
<ul style="list-style-type: none"> <li>Temperature(°C)</li> <li>pH(pH unit)</li> <li>turbidity (NTU)</li> <li>water depth (m)</li> <li>salinity (ppt)</li> <li>DO (mg/L and % of saturation)</li> <li>SS (mg/L)</li> <li>Ammonia Nitrogen (NH<sub>3</sub>-N) (mg NH<sub>3</sub>-N/L)</li> <li>Unionized Ammonia (UIA) (mg/L)</li> <li>Nitrate-nitrogen (NO<sub>3</sub>-N) (mg NO<sub>3</sub><sup>-</sup>-N/L)</li> <li>Ortho-phosphate (PO<sub>4</sub>) (mg PO<sub>4</sub><sup>3-</sup>-P/L)</li> </ul>	<ul style="list-style-type: none"> <li>3 water depths: 1m below water surface, mid-depth and 1m above river bed.</li> <li>If the water depth was less than 3m, mid-depth sampling only.</li> <li>If water depth was less than 6m, mid-depth may be omitted.</li> </ul>	3 days per week during construction of channel

**Results and Observations**

- 5.5 According to Section 5.6.1.2 of the approved EIA Report, the potential water quality impact during construction is due to the alternation of natural streams (i.e. channelization of Ma Tso Lung Stream and Siu Hang San Tsuen Stream) as these two streams are the ecologically important streams.
- 5.6 No construction of channel was carried out at Ma Tso Lung Stream and Siu Hang San Tsuen Stream during the reporting month. Therefore, no water quality monitoring was conducted.

**Additional Water Quality Monitoring****Monitoring Requirements**

- 5.7 Additional Water Quality Monitoring shall be carried out at River Beas, River Indus and near Siu Hang San Tsuen Stream three days per week at all designated monitoring stations during the construction period. The measurement period are during the construction site drainage along River Beas, construction of footbridge across River Beas and during construction of bridge across River Indus.
- 5.8 Replicate in-situ measurement and samples from each independent sampling event were collected to ensure a robust statistically interpretable database. DO, temperature, turbidity and pH were measured in-situ whereas SS and arsenic were determined by an accredited laboratory. Other relevant data, including monitoring location / position, time, water depth, weather conditions and any special phenomena or work underway at the construction site were recorded.
- 5.9 For all the monitoring stations, sampling were taken at 3 water depths, namely 1m below the water surface, mid depth and 1m above the river bed. For stations that were less than 3m in depth, only the mid depth sample was taken. Should the water depth was less than 6m, in which case the mid-depth station may have been omitted. The interval between two sampling surveys was not less than 36 hours.
- 5.10 **Appendix B** shows the established Action and Limit Levels for the environmental monitoring works.

**Monitoring Locations**

- 5.11 Additional impact water quality monitoring was conducted at 6 monitoring stations (SYR-CS1, SYR-IS1, NTR-CS1, NTR-IS1, SHST-IS2, MWR-IS3) which are summarised in **Table 5.2**. The location of monitoring stations is shown in **Figures 5 and 6**.

**Table 5.2 Additional Water Quality Monitoring Stations**

Station	Description	Locations	Measurement Periods
River Beas			
SYR-CS1	Control Station	Upstream of river	During the construction site drainage along River Beas and construction of the footbridge across River Beas
SYR-IS1	Impact Station	Downstream of river	
River Indus and near Siu Hang San Tsuen Stream			
NTR-CS1	Control Station	Upstream of river	During construction of the bridge across River Indus
NTR-IS1	Impact Station	Downstream of river	
SHST-IS2	Impact Station	Water sensitive receiver at near Siu Hang San Tsuen Stream	
MWR-IS3	Impact Station	Water sensitive receiver at near Ma Wat River	

**Monitoring Equipment**Instrumentation

- 5.12 Multi-parameter meters (Model YSI EXO) were used to measure DO, turbidity, salinity, pH and temperature.

Dissolved Oxygen (DO) and Temperature Measuring Equipment

- 5.13 The instrument for measuring dissolved oxygen and temperature should be portable and weatherproof complete with cable, sensor, and use DC power source. The equipment was capable of measuring:
- A dissolved oxygen level in the range of 0-20mg/L and 0-200% saturation; and
  - The temperature within 0-45 degree Celsius.
- 5.14 The equipment had a membrane electrode with automatic temperature compensation complete with a cable.
- 5.15 Sufficient stocks of spare electrodes and cables were available for replacement where necessary.
- 5.16 Salinity compensation was built-in in the DO equipment. *In-situ* salinity was measured to calibrate the DO equipment prior to each DO measurement.

Turbidity

- 5.17 Turbidity was measured *in situ* by using the nephelometric method. The instrument was portable and weatherproof using a DC power sources complete with cable, sensor and comprehensive operation manuals. The equipment was capable of measuring turbidity between 0-1000 NTU. The probe cable was not less than 25m in length. The meter was calibrated in order to establish the relationship between NTU units and the levels of suspended Solids.

### Salinity

- 5.18 A portable salinometer capable of recording salinity within the range of 0-40 parts per thousand (ppt) was used for salinity measurement.

### Water Depth Detector

- 5.19 A portable, battery-operated and hand held echo sounder was used for the determination of water depth at each designated monitoring station.

### pH

- 5.20 The instrument consisted of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It was readable to 0.1pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 were used for calibration of the instrument before and after use.

### Water Sampling for Laboratory Analysis

- 5.21 A water sampler, consisting of a transparent Polyvinyl Chloride (PVC) of a capacity of not less than two litres which can be effectively sealed with cups at both ends was used. The water sampler had a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler was at the selected water depth. In addition, a sampling cup attached to a fixed or extendable rod was also used for sampling at the monitoring stations with swallow water.

### Sample Container and Storage

- 5.22 Following collection, water samples for laboratory analysis were stored in high density polyethylene bottles with appropriate preservatives added, packed in the ice (cooled to 4°C without being frozen). The samples were delivered to WELLAB Limited (HOKLAS Registration No. HOKLAS083) and analysed as soon as possible after collection of the water samples. Sufficient volume of samples was collected to achieve the detection limit.

### Calibration of In Situ Instruments

- 5.23 The pH meter, DO meter and turbidimeter were checked and calibrated before use. DO meter and turbidimeter were certified by WELLAB Limited before use and subsequently re-calibrated at quarterly basis throughout all stage of water quality monitoring programme. Response of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter was carried out before measurement at each monitoring station.
- 5.24 For on-site calibration of field equipment (Multi-parameter Water Quality System), the standard BS 1427:2009 “Guide to on-site test methods for analysis of waters” was observed.

### Back-up Equipment

- 5.25 Sufficient stocks of spare parts were maintained for replacements when necessary. Backup monitoring equipment was also be made available so that monitoring could proceed uninterrupted even when some equipment was under maintenance, calibration, etc.

5.26 **Table 5.3** summarises the equipment used in the water quality monitoring programme. Copies of the calibration certificates of the multi-parameter water quality systems are shown in **Appendix C**.

**Table 5.3 Water Quality Monitoring Equipment**

Equipment	Model and Make	Qty.
Water sampler and sampling cup	A 2-Litre transparent PVC cylinder with latex cups at both ends and sampling cup for monitoring stations with swallow water	1
Sonar Water Depth Detector	Garmin Striker plus 4	1
Multi-parameter Water Quality System	YSI EXO 1	2

#### Monitoring Parameters and Frequency

5.27 **Table 5.4** summarises the monitoring parameters and frequencies of the additional water quality monitoring. The water quality monitoring schedule for the reporting month is shown in **Appendix D**.

**Table 5.4 Additional Water Quality Monitoring Parameters and Frequency**

Monitoring Station(s)	Parameters, unit	Depth	Frequency
River Beas	SYR-CS1 SYR-IS1 <ul style="list-style-type: none"> <li>Temperature (°C)</li> <li>pH (pH unit)</li> <li>Turbidity (NTU)</li> <li>Water depth (m)</li> <li>Salinity (ppt)</li> <li>Dissolved Oxygen (DO) (mg/L and % of saturation)</li> <li>Suspended Solids (SS) (mg/L)</li> <li>Arsenic (As) (µg/L)</li> </ul>	<ul style="list-style-type: none"> <li>3 water depths: 1m below water surface, mid-depth and 1m above river bed.</li> <li>If the water depth was less than 3m, mid-depth sampling only.</li> <li>If water depth was less than 6m, mid-depth might be omitted.</li> </ul>	3 days per week
River Indus and near Siu Hang San Tsuen Stream	NTR-CS1 NTR-IS1 SHST-IS2 MWR-IS3 <ul style="list-style-type: none"> <li>Temperature (°C)</li> <li>pH (pH unit)</li> <li>Turbidity (NTU)</li> <li>Water depth (m)</li> <li>Salinity (ppt)</li> <li>Dissolved Oxygen (DO) (mg/L and % of saturation)</li> <li>Suspended Solids (SS) (mg/L)</li> </ul>		

5.28 Monitoring location and position, time, sampling depth, weather conditions and any special phenomena or work underway nearby was also recorded.



## Monitoring Methodology

### Instrumentation

- 5.29 Multi-parameter meters (Model YSI EXO) were used to measure DO, turbidity, salinity, pH and temperature.

### Operating/Analytical Procedures

- 5.30 At each measurement, two consecutive measurements of DO concentration, DO saturation, salinity, turbidity, pH and temperature were taken. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement. Where the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded and further readings were taken.

### Laboratory Analytical Methods

- 5.31 Duplicate samples from each independent sampling event were required for all parameters. Analysis of suspended solids and arsenic were carried out by WELLAB Ltd. and comprehensive quality assurance and control procedures were in place in order to ensure the quality and consistency in results. The analysis methods and limits of reporting are provided in **Table 5.5**.

**Table 5.5 Method for Laboratory Analysis for Water Samples**

Determinant	Proposed Method	Limit of Reporting
Total Suspend Solids (SS)	APHA 17ed 2540 D	2.5 mg/L
Arsenic (As)	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

## QA/QC Requirements

### Decontamination Procedures

- 5.32 Water sampling equipment used during the course of the monitoring process was decontaminated by manual washing and rinsed with distilled water after each sampling event. All of the disposal equipment was discarded after the sampling.

### Sampling Management and Supervision

- 5.33 All sampling bottles were labelled with the sample I.D. (including sampling station), laboratory number and sampling date. Water samples were dispatched to the testing laboratory for analysis as soon as possible. All the collected samples were stored in a cool box to keep the temperature less than 4°C but without frozen. All water samples were handled under chain of custody protocols and relinquished to the laboratory representatives at locations specified by the laboratory.

Quality Control Measures for Sample Testing

5.34 The samples testing and following QC programmes were performed by WELLAB Ltd. for every batch of 20 samples:

- One method blank; and
- One set of QC sample.

**Results and Observations**

5.35 All additional water quality monitoring was conducted as scheduled in the reporting month except 2 July 2022. According to Hong Kong Observatory, Typhoon Signal No.8 was hoisted whole day on 2 July 2022. Due to safety reason, water quality monitoring scheduled for the day was cancelled. The water quality monitoring schedule for this reporting month is shown in **Appendix D**.

5.36 The monitoring results and graphical presentation of additional water quality monitoring are shown in **Appendix G**.

5.37 The summary of exceedance recorded in the reporting month is shown in **Appendix O** and summarised in the **Table 5.6**.

**Table 5.6 Summary of Water Quality Exceedances**

Station	Exceedance Level	DO	Turbidity	SS	Total Number of Non-project Related Exceedances	Total Number of project Related Exceedances
SYR-IS1	Action Level	0	0	0	0	0
	Limit Level	2	0	0	2	0
NTR-IS1	Action Level	0	0	0	0	0
	Limit Level	0	3	3	6	0
SHST-IS2	Action Level	2	0	0	2	0
	Limit Level	0	4	3	7	0
MWR-IS3	Action Level	0	0	0	0	0
	Limit Level	4	2	3	9	0
Total	Action Level	2	0	0	2	0
	Limit Level	6	9	9	24	0

\* Exceedances record date: 04/07, 06/07, 08/07 and 29/07/2022

5.38 Two (2) Action Level and Six (6) Limit Level for DO, Nine (9) Limit Level for turbidity, and Nine (9) Limit Level for Suspended Solids of impact water quality monitoring were recorded. Exceedances were recorded on 4, 6, 8 and 29 July 2022. After investigation, all exceedances were considered due to the other external factors rather than the contract works due to the following reasons:

1. No pollution discharge from site area was observed.
2. Water from upstream of Ng Tung River, Siu Hang San Tsuen River and Ma Wat River which outside the project site boundary were observed muddy and may led to the increase of turbidity and SS level in the water body. Organic material is anticipated in adverse water quality causing reduction in DO levels due to decomposition of organic matter by microorganisms.

3. Water quality mitigation measures at the nearby construction site (i.e., Contract No. ND/2019/02 and ND/2019/04) were observed properly maintained including silt curtain, green barriers with impervious sheeting to direct site runoff to water pump to the treatment facilities and hydro-seeding surrounding the works etc.
4. Typhoon Chaba reached Hong Kong in the first few days of July, rainfall in Northern District was recorded before the water quality monitoring which led to increased surface runoff and hence adverse water quality. Heavy rainfall in Northern District was recorded on sampling date 29/07/2022 also.

### **Event and Action Plan**

- 5.39 Should any non-compliance of the criteria occur, actions in accordance with the Event/Action Plan in **Appendix N** shall be carried out.

## 6 LAND CONTAMINATION (AMBIENT ARSENIC MONITORING)

### Monitoring Requirements

- 6.1 According to Section 7.5 of the updated EM&A Manual, an ambient arsenic monitoring is required to be conducted in KTN during the clean-up processes of arsenic containing soil and the construction phase.
- 6.2 The Respirable Suspended Particulate (RSP, or PM10) was measured by High Volume Sampler (HVS) equipped with PM10 selector following the "Reference Method for the Determination of Particulate Matter as PM10 in the Atmosphere" Part 50 Chapter 1 Appendix J, Title 40 of the Code of Federal Regulations of the USEPA.
- 6.3 The Dust-laden air was drawn through PM10 HVS fitted with a conditioned pre-weighting filter paper, at a controlled rate. After sampling for 24-hour (details on measurement period are provided in Section 9.5.5), the filter paper with retained PM10 particulates was collected and returned to the laboratory for drying in a desiccators followed by accurate weighting. 24-hour average RSP levels were calculated from the ratio of the mass of PM10 particulates retained on the filter paper to the total volume of air sampled.
- 6.4 The weighted filter paper was prepared for arsenic testing through a "Hot Acid Extraction Procedure". The extracted material was tested for arsenic by using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). The extraction and testing was referenced to the following methods:
- Compendium Method 10-3.1 Selection, Preparation and Extraction of Filter Material, Center for Environmental Research Information, Office of Research and Development, USEPA, June 1999; and
  - Compendium Method 10-3.5 determination of Metals in Ambient Particulate Matter using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS), Center for Environmental Research Information, Office of Research and Development, USEPA, June 1999.

### Monitoring Location

- 6.5 Ambient arsenic monitoring was conducted at the monitoring station(s) under the Work Contract(s), as shown in **Figure 5**. **Table 6.1** describes the location of the ambient arsenic monitoring station.

**Table 6.1 Location of Ambient Arsenic Monitoring station**

EP. No	Contract No.	Monitoring Stations	Location
EP-466/2013 EP-467/2013/A EP-468/2013/A	ND/2019/01	KTN-DMS-4A <sup>[1]</sup>	Temporary Structure at Pak Shek Au
EP-468/2013/A	ND/2019/03		

Remark:

[1]: Monitoring at the original location of KTN-DMS-4 (originally proposed in the approved EM&A Manual) was denied as there was no electricity supply. An alternative location (KTN-DMS-4A) was proposed.

**Monitoring Equipment**

- 6.6 **Table 6.2** summarises the equipment used in the ambient arsenic monitoring. Copies of calibration certificates are attached in **Appendix C**.

**Table 6.2 Ambient Arsenic Monitoring Equipment**

Monitoring Stations	Equipment	Model and Make	Quantity
KTN-DMS-4A	Calibrator	TISCH Model: TE-5025A	1
	HVS Sampler (RSP)	TISCH Model: TE-6070X	1

**Monitoring Parameters, Frequency and Duration**

- 6.7 **Table 6.3** summarises the monitoring parameters and frequencies of ambient arsenic during the clean-up processes of arsenic-containing soil and construction. The ambient arsenic monitoring schedule for the reporting month is shown in **Appendix D**.

**Table 6.3 Impact Ambient Arsenic Monitoring Parameters, Frequency and Duration**

Parameters	Frequency
24-hr RSP (Ambient Arsenic)	Once/ 6 days

**Monitoring Methodology and QA/QC Procedure****24-hour RSP Monitoring**Instrumentation

- 6.8 High volume samplers (HVS) (GMW PM10 (TE6070X)) complete with appropriate sampling inlets was employed for 24-hour RSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).
- 6.9 The following guidelines were adopted during the installation of HVS:
- a horizontal platform with appropriate support to secure the samplers against gusty wind was provided;
  - no two samplers was placed less than 2 meters apart;
  - the distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler;
  - a minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samplers;
  - a minimum of 2 meters separation from any supporting structure, measured horizontally was required;
  - no furnace or incinerator flue was nearby;
  - airflow around the sampler was unrestricted;
  - the sampler was more than 20 meters from the dripline;
  - any wire fence and gate, to protect the sampler, were not cause any obstruction during monitoring;
  - permission was obtained to set up the samplers and to obtain access to the monitoring stations; and
  - a secured supply of electricity was needed to operate the samplers.

### Operating/analytical procedures for the operation of HVS

- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m<sup>3</sup>/min. and 1.4 m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. The filter holding frame was then tightened to the filter holder with swing bolts. The applied pressure was sufficient to avoid air leakage at the edges.
- The shelter lid was closed and secured with the aluminum strip.
- The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- After sampling, the filter was removed and sent to the Wellab Ltd. for weighing. The elapsed time was also recorded.
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature was between 25°C and 30°C and did not vary by more than  $\pm 3^{\circ}\text{C}$ ; the relative humidity (RH) was  $< 50\%$  and did not vary by more than  $\pm 5\%$ . A convenient working RH was 40%. Weighing results were further analysis of RSP concentrations collected by each filter.

### **Maintenance/Calibration**

6.10 The following maintenance/calibration was required for the HVS:

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

### **Laboratory Measurement / Analysis**

- 6.11 Quartz filters of size 8" x 10" were labelled before sampling. A HOKLAS accredited laboratory, Wellab Ltd., was responsible for the preparation of 24-hour conditioned and pre-weighed filter papers for the monitoring team. The balance for weighting filter paper was regularly calibrated against a traceable standard.
- 6.12 All filters, which were prepared by Wellab Ltd., were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than  $\pm 3^{\circ}\text{C}$ ; the relative humidity (RH) was  $< 50\%$  and not variable by more than  $\pm 5\%$ . A convenient working RH was 40%.
- 6.13 Wellab Ltd. (HOKLAS Registration No. HOKLAS083), was responsible for the extraction and testing procedure for Arsenic and comprehensive quality assurance and quality control programmes were conducted.

**Results and Observations**

- 6.14 The ambient arsenic monitoring results are summarised in **Table 6.4**. Detailed monitoring results and test report are shown in **Appendix E**.

**Table 6.4 Summary Table of 24-hour RSP Monitoring Results (Ambient Arsenic) during the Reporting Month**

Monitoring Date	Monitoring Station	Concentration (ng/m <sup>3</sup> )	Action Level (ng/m <sup>3</sup> )	Limit Level, (ng/m <sup>3</sup> )
06/07/2022	KTN-DMS4(A)	0.35	9.36	11.7
12/07/2022		2.86		
18/07/2022		0.40		
22/07/2022		0.79		
28/07/2022		0.58		

- 6.15 All ambient arsenic monitoring was conducted as scheduled in the reporting month. During the reporting month, around 3,541.29m<sup>3</sup> of arsenic soil transported to soil treatment plant and 2,947m<sup>3</sup> treated. No Action/Limit Level exceedances were recorded.

**Event and Action Plan**

- 6.16 Should any non-compliance of the criteria occur, actions in accordance with the Event/Action Plan in **Appendix N** shall be carried out.

## 7 LANDFILL GAS MONITORING

### Monitoring Requirement

- 7.1 In accordance with the updated EM&A Manual, monitoring of landfill gas (LFG) is required for the construction works within the Ma Tso Lung Landfill (MTLL, close to KTN NDA) during the construction phase. This section presents the results of landfill gas measurements performed by the Contractor. **Appendix B** shows the Limit Levels for the monitoring works.
- 7.2 The MTLL is situated in the vicinity of the KTN NDA. A portion of the development falls within the MTLL and its 250m Consultation Zone.

### Monitoring Parameters and Frequency

- 7.3 Monitoring parameters for Landfill gas monitoring include Methane, Carbon dioxide and Oxygen.
- 7.4 According to the mitigation measures of the updated EM&A Manual, measurements of the following frequencies should be carried out according to the monitoring requirements and procedures specified in Paragraphs 8.23 to 8.28 of EPD's Guidance Note, "LANDFILL GAS HAZARD ASSESSMENT GUIDANCE NOTE".
- 7.5 The frequency of monitoring of LFG was made reference to the updated EM&A Manual - Monitoring of any LFG which may be migrated to the site should be undertaken during construction of the infrastructure and the development within the Consultation Zone and within MTLL when the works involve confined spaces. Routine gas monitoring should be undertaken during groundwork construction and in all excavations. Monthly gas monitoring should also be conducted for set up on site such as offices, stores etc.

### Monitoring Locations

- 7.6 Monitoring of oxygen, methane and carbon dioxide was performed for the construction of infrastructure and the development within the Consultation Zone and within MTLL when the works involved confined spaces. In this reporting month, the area required to be monitored for landfill gas are shown below and **Figure 6** shows the landfill gas monitoring locations.

- Excavation Locations: Portion 6b
- Manholes and Chambers: N/A
- Relocation of monitoring wells: N/A
- Any other Confined Spaces: Containers in Portion 6b

### Monitoring Equipment

- 7.7 **Table 7.1** summarises the equipment employed by the Contractor for the landfill gas monitoring.

**Table 7.1 Landfill Gas Monitoring Equipment**

Equipment	Model and Make	Quantity
Portable gas detector	Rasi 700 BIO (Serial No. 330055)	1



### **Results and Observations**

- 7.8 In the reporting month, landfill gas monitoring was carried out by the Contractor on 1 occasion at 6 monitoring stations. No Limit Level exceedance for landfill gas monitoring was recorded in the reporting month. The monitoring results are provided in **Appendix J**. Copies of calibration certificates are attached in **Appendix C**.

### **Event and Action Plan**

- 7.9 Should any non-compliance of the criteria occur, actions in accordance with the Event/Action Plan in **Appendix N** would be carried out.

## 8 BUILT HERITAGE MONITORING

### Monitoring Requirement

- 8.1 In accordance with the updated EM&A Manual, baseline condition survey and baseline vibration impact assessment shall be conducted for identified built heritage prior to the commencement of construction works. Baseline condition survey and baseline vibration impact assessment shall be conducted by a qualified building surveyor or qualified structural engineer to define the vibration limit (a vibration limit at 7.5mm/s and 15mm/s could be adopted for graded historical buildings and historical buildings respectively) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction phase to ensure the construction performance meets the vibration standard stated in the EIA report.
- 8.2 According to the condition survey report from cultural heritage condition survey for Fanling Bypass Eastern Section under EP-473/2013/A, a vibration monitoring plan was proposed for the surveyed cultural heritage based on the Buildings Department's Practice Note (PNAP) APP-137. This section presents the results of built heritage monitoring performed by the Contractor according to the proposed monitoring plan in baseline condition survey report. **Appendix B** shows the Limit Levels for the monitoring works.

### Monitoring Location

- 8.3 In the reporting month, construction vibration monitoring was conducted for built heritage features at FL02 and FL27 when pile driving operation was conducted within assessment area of the construction works. The location of the construction vibration monitoring stations was summarised in **Table 8.1** and shown in **Appendix K**.

**Table 8.1 Location of Construction Vibration Monitoring**

EP. No	Contract No.	Monitoring Station (s)	Nature of Cultural Heritage	Location (s)
EP-473/2013/A	ND/2019/05	FL02	Grave	Northwest side of Shung Him Tong Tsuen, at the hillside behind On Lok Garden
		FL27	Monument	Opposite to Shung Him Tong Public Toilet, at the bottom of slope feature

### Monitoring Parameters and Frequency

- 8.4 **Table 8.2** summarises the vibration monitoring plan for surveyed cultural heritage under the Works Contracts. Vibration monitoring was conducted for surveyed built heritage when pile driving operation was conducted within the assessment area of construction works.

**Table 8.2 Vibration Monitoring Plan**

EP. No	Contract No.	Monitoring Stations	Distance with Construction Works	Monitoring Plan
EP-473/2013/A	ND/2019/05	FL02 and FL27	Within 50m	Daily assessment is required
			Within 75m	Bi-daily assessment is required
			Within 100m	Weekly assessment is required

Remark:

[1] Baseline condition survey was conducted for built heritage features at HFL05, FL02, FL04, FL24, FL27 and FL36 under ND/2019/05 for EP-473/2013/A. As HFL05, FL04, FL24, FL27 and FL36 were not within the assessment area of the related construction work, no construction vibration monitoring was conducted for the built heritage in the reporting month.

- 8.5 The construction vibration monitoring was conducted throughout each event of the pile driving operation on a daily basis. The effect of ground-borne vibration from piling works on the surveyed built heritage was assessed by the maximum peak particle velocity (ppv), which was obtained from the maximum value of measurement of all pile driving operation events.

### Monitoring Equipment

- 8.6 Copies of calibration certificates of the monitoring equipment employed by the Contractor of the construction vibration monitoring are attached in **Appendix C**.

### Results and Observations

- 8.7 In the reporting month, construction vibration monitoring was carried out by the Contractor for the built heritage features at FL02 and FL27 on a daily basis when pile driving operation was conducted within 50m of the construction work. No Limit Level exceedance for construction vibration monitoring was recorded in the reporting month. The monitoring results are provided in **Appendix K**.

### Event and Action Plan

- 8.8 **Table 8.3** summarises the vibration limits for construction vibration monitoring for surveyed cultural heritage.

**Table 8.3 Vibration Limits for Construction Vibration Monitoring**

Type of Building	Guide Values of Maximum ppv* (mm/Sec)	
	Transient Vibration	Continuous Vibration
Vibration-sensitive / dilapidated buildings#	7.5	3.0
Declared monuments/ Historical structures	3.0	

Remarks:

\* peak particle velocity

# as cultural heritages are sensitive receivers, vibration monitoring should be classified as vibration-sensitive

- 8.9 If any exceedance of limits is found or damage to either structural or non-structural elements of the historic buildings is identified, the construction works should be stopped immediately and structural engineer's advices should be sought for any remedial work.

## 9 ECOLOGICAL MONITORING

### **Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River, Sheung Yue River, Shek Sheung River and Long Valley**

#### Monitoring Requirements and Protocol

- 9.1 As required under Section 12.3.2.5 of the Updated EM&A Manual, where development under the NDAs project is undertaken within 200m (the maximum distance at which it is predicted there may be some disturbance, and hence a reduction in numbers of large waterbirds) of Sheung Yue River and Long Valley, weekly transect at both high and low tides should be followed (It is considered high tide when the tidal levels are above 1.5m and low tide when the tidal levels are below 1.5m at Tsim Bei Tsui Station).
- 9.2 The purpose of the survey is to identify and enumerate all bird species utilizing the river channels and Long Valley Nature Park (LVNP) and identify any sources of actual or potential disturbance to birds due to construction activities throughout the construction period according to the methodology specified in Table 12.1 in the Updated EM&A Manual.
- 9.3 Monitoring in Long Valley followed the methodology adopted by the regular HKBWS bird monitoring programme in order to obtain comparable results and a complete coverage of the area in the shortest possible time.

#### Monitoring Frequency

- 9.4 High tide and low tide avifauna monitoring was required to be carried out on a weekly basis. Additional night-time avifauna monitoring in Long Valley was required to be carried out twice monthly from September to April, no additional night-time avifauna monitoring in Long Valley was carried out in the reporting month.

Date of avifauna monitoring: 7, 8, 13, 15, 19, 21, 28 and 29 July 2022

#### Monitoring Location

- 9.5 The avifauna monitoring was carried out at Ng Tung River, Sheung Yue River and Long Valley in the reporting month according to the construction programme. The transect routes in the reporting month were as follows:
- T1. Ng Tung River
  - T2. Ng Tung River
  - T3. Sheung Yue River
  - T5. Long Valley
- 9.6 As the sensitive receivers (large waterbirds) were easily visible, the transect route only needed to follow one bank of the rivers. The location of Transects T1, T2, T3 and T5 is shown in **Figure 9** for reference.

### Monitoring Parameters

- 9.7 The monitoring parameters and survey methodology for each transect are described below:
- Abundance of birds
  - Types of habitat of which birds in use
  - Notable bird behaviours such as roosting, feeding, nesting and presence of juveniles
  - Birds heard through birdcalls that could not be located were marked as “heard”, while birds flying over the survey area were marked as “flight”. Species of conservation significance were specified.
- 9.8 Other information at the time of survey such as weather condition, tidal condition, tide level and noticeable natural or anthropogenic activities were documented.
- 9.9 For Avifauna survey, Ornithological nomenclature would make reference to The Avifauna of Hong Kong (Carey *et al.* 2001), The Birds of Hong Kong and South China (Viney *et al.* 2005), and the most recent updated list from other sources (e.g. Hong Kong Bird Watching Society).

### Monitoring Results

- 9.10 In total, 41 species of birds were recorded during the bird surveys within assessment area. Among the recorded birds, there were 17 species of waterbirds. The detailed list of waterbirds and all recorded birds are shown in **Appendices L1i and L1j** respectively.
- 9.11 Among the four transects, transect T5 had a higher species diversity and abundance due to its diverse habitat types within Long Valley. Species such as *Ardeola bacchus* and *Egretta garzetta* were commonly found roosting and foraging at wetland habitats such as agricultural lands and shallow water habitats.
- 9.12 Along transect T5 in Long Valley, species with conservation interest such as *Himantopus himantopus*, which is a passage migrant, was commonly observed in wet agricultural land.
- 9.13 Construction works were observed in T5 in the reporting month.
- 9.14 Transect T3 was conducted along Sheung Yue River. Bird species such as *Ardeola bacchus* and *Egretta garzetta* were commonly observed feeding and roosting on the river bank and river bed. Construction works were observed beside Sheung Yue River.
- 9.15 Transects T1 and T2 are located at Ng Tung River. *Ardeola bacchus* and *Egretta garzetta* were commonly found feeding and roosting along the Ng Tung River. Fishing activities were observed at both T1 and T2. Potential anthropogenic sources of disturbance observed along T1 and T2 included the usage of remote control boats and helicopters.
- 9.16 Avifauna monitoring in construction phase was conducted during the reporting month and the detailed results are attached in **Appendix L1**.

## **Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream and Siu Hang San Tsuen Stream, and Long Valley**

### Monitoring Requirements and Protocol

- 9.17 As required under Section 12.3.2.14 of the Updated EM&A Manual, aquatic faunal

monitoring should be carried out during the construction phase.

- 9.18 Larger organisms such as fish should be monitored by direct counting, while kick-netting and sweep-netting should be used for invertebrate sampling. There should be three replicates for invertebrate sampling at each sampling point. For kick-netting, the net should be placed with the opening facing the water current, and the substrate should be disturbed by kicking to dislodge organisms from the stream bed. Sweep-netting should be conducted when kick-netting is not feasible, such as in area with no water current. Small organisms that could not be identified with naked eye should be brought to the laboratory for identification under the dissecting microscope.

#### Monitoring Frequency

- 9.19 Quantitative aquatic fauna replicate surveys of stream fauna was required to be carried out on a monthly basis during wet season. Three replicates for invertebrates sampling and direct counting of fish fauna were performed respectively.

Date of aquatic fauna monitoring: 21<sup>st</sup> July 2022

#### Monitoring Location

- 9.20 During wet season, the monitoring locations required to be carried out in Ma Tso Lung Stream are as follow:

- |         |         |         |         |         |
|---------|---------|---------|---------|---------|
| • MS_01 | • MS_02 | • MS_03 | • MS_04 | • MS_05 |
| • MS_06 | • MS_07 | • MS_08 | • MS_09 | • MS_10 |
| • MS_11 | • MS_12 | • MS_13 | • MS_14 | • MS_15 |

- 9.21 The location of monitoring stations is shown in **Figure 10** for reference.

#### Monitoring Parameters

- 9.22 The monitoring parameters and survey methodology for each monitoring station are described below:
- Species composition
  - Abundance
  - Distribution for invertebrates and fish fauna
  - Species of conservation significance would be specified
- 9.23 Other information at the time of survey such as weather conditions and noticeable natural or anthropogenic activities were recorded.

#### Monitoring Status

- 9.24 According to the Updated EM&A Manual, quantitative aquatic fauna replicate surveys of stream fauna was required to be carried out on a monthly basis during wet season.
- 9.25 In the survey of aquatic fauna, a total of 23 aquatic invertebrate species were recorded in Ma Tso Lung Stream and Siu Hang San Tsuen Stream. There were 8 fish species recorded in the reporting month. 2 species of conservation importance, *Oreochromis mossambicus* and *Parazacco spilurus*, were recorded. *Oreochromis mossambicus* is an introduced species, whilst *Parazacco spilurus* is a native species.

- 9.26 For the monitoring on 21<sup>st</sup> July 2022, two monitoring stations, MS\_01 & MS\_05, were found dried-up. No aquatic invertebrate nor fish species was recorded in those stations.
- 9.27 Aquatic faunal monitoring in construction phase was conducted during the reporting month and the results are attached in **Appendices L2 to L3**.

### **Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution**

#### Monitoring Requirements and Protocol

- 9.28 As required under Section 12.3.2.17 of the Updated EM&A Manual, monitoring of measures to minimise impacts should be carried out during the construction phase.
- 9.29 The purpose of survey is to monitor the effectiveness of measures to minimise impacts on ecologically sensitive habitats from disturbance and pollution by standard faunal transect surveys.

#### *Mammal survey*

- 9.30 Mammal survey should be performed during both day and night times, in areas along the transect routes which may potentially be utilized by terrestrial mammals. Field signs such as droppings, footprints, diggings and burrows left by larger terrestrial mammals should be observed. Mammals directly observed should be recorded, and identification should be made as accurate as possible from the field signs observed.
- 9.31 Bat survey should be conducted along the transect routes shortly after sunset, with the use of a bat detector to record the echolocation calls. The relative abundance of the species encountered should be estimated with reference to the baseline monitoring results, i.e. using a scale from one (species recorded within transect routes) to three (dominant species within transect routes), for comparison between baseline results and the current monitoring results. Nomenclature of mammal should be based on Shek (2006).

#### *Herpetofauna survey (Amphibians and Reptiles)*

- 9.32 Amphibian surveys should be conducted whenever possible on evenings following or during periods of rainfall, focusing on areas suitable for amphibians (e.g. forest, shrublands, grasslands, streams, ponds, marshes, etc.). Calling amphibians should be recorded, supplemented by visual observation of eggs, tadpoles, adult frogs, and toads.
- 9.33 Active searching of appropriate microhabitats such as stones, pond bunds, crevices and leaf debris should be performed mainly. Observation of exposed, basking and foraging reptiles should also be conducted. Nomenclature of amphibian and reptile should be based on Chan et al. (2005) and Karsen et al. (1998), respectively.

#### *Insect survey (Butterfly and Dragonfly)*

- 9.34 Butterflies and dragonflies observed along the transects should be identified and counted. Preferable habitats of the insects such as watercourses, fishponds, and vegetated areas should be observed with special attention. Nomenclature and protection status of the species should be based on Lo et al. (2005) for butterflies and Tam et al. (2011) for dragonflies.

#### Monitoring Frequency

- 9.35 Monitoring surveys of ecological sensitive receivers such as mammals, insects (butterflies and dragonflies), and herpetofauna was undertaken on a monthly bases.

Date of monitoring surveys of ecological sensitive receivers: 13, 25 July 2022

### Monitoring Location

- 9.36 The transect routes in the reporting month according to the construction works are as follows:
- T1. Ma Tso Lung riparian zone and associated wetland habitats;
  - T1. Green belt areas E1-8, D1-8 and G1-3 in KTN NDA;
  - T1. AGR one C2-4 and C2-2 in KTN NDA;
  - T1. Area north of Ng Tung River;
  - T3. Area west of Siu Hang San Tsuen Stream;
  - T4. South side of Fanling Highway and Castle Peak Road in the vicinity of Pak Shek Au;
  - T5. Area west and east of the southern limit of the FLN NDA work area; and
  - T6. Areas in the western part of KTN.

- 9.37 The location of Transects is shown in **Figure 11** for reference.

### Monitoring Parameters

- 9.38 The monitoring parameters and survey methodology for each transect are described below:-
- Species composition
  - Abundance
  - Distribution for fauna observed
  - Species of conservation significance would be specified

### Monitoring Results

#### *Mammal*

- 9.39 During the survey, a total of 5 mammal species were recorded from transects T1, T3, T4, T5 and T6. A total of 2 species of conservation importance was recorded, namely bats *Pipistrellus abramus* and *Cynopterus sphinx*.
- 9.40 Domestic cat, *Felis catus* was found at T1 and T3. Domestic dog, *Canis lupus familiaris*, was found at T1, T3, T4 and T5, where associated with human settlements.
- 9.41 Echolocation calls of bats were recorded with a bat detector. The bat detector would list out possible bat species having similar echolocation calls in pattern and frequency. The structure of the echolocation calls from the recordings was later analysed to identify species as far as possible (the lack of literature on echolocation call structure makes the field identification of some bat species in Hong Kong difficult, and some species could only be identified to genus level, or remain unidentified from the recordings).
- 9.42 Identification of bat species encountered in the surveys was made with consideration of the possible bat species suggested by the bat detector, the distribution of suggested bat species in Hong Kong, previous records of bat species in the EIA Report and Baseline Monitoring Report, and the structure of echolocation calls of the recordings (including call structure, frequency, duration, inter pulse interval etc., with reference to relevant literatures).
- 9.43 *Pipistrellus abramus* was recorded with FM/QCF call structure and frequency around 45 kHz to 68 kHz (Ma et al., 2010, p.319). The above characteristics were further compared with data from relevant literatures to confirm the identities. References were also made to



Tong (2016).

- 9.44 Bat species, *Cynopterus sphinx* was observed roosting in the tent-shaped shelter under fronds of Chinese Fan-palm during the monitoring at T1. *Pipistrellus abramus* was recorded in flight at nighttime at all of the transect..

*Herpetofauna (Amphibians and Reptiles)*

- 9.45 Along the transects, a total of 8 herpetofauna species was observed. No species of conservation importance were recorded. Species including toads, frogs, snake and geckos were recorded near wetland habitats and watercourse. Transect T1 had the highest species diversity among all transects.

*Insects (Butterfly and Dragonfly)*

- 9.46 During the insect survey, a total of 29 butterfly species and 10 odonata species were recorded from the transects. No species of conservation interest was recorded. Transect T1 had higher butterfly species diversity than other transects.
- 9.47 Odonata were recorded this month at all transects. No species recorded was of particular conservation importance.
- 9.48 Ecological sensitive receivers such as mammals, insects (butterflies and dragonflies), and herpetofauna monitoring during construction phase was conducted in the reporting month and the results are attached in **Appendices L4 to L7**.
- 9.49 For the monitoring conducted on 13 July 2022 at Transect T5, a section of the transect route was found located within a private property and hence not accessible. Another section of transect T5 was found blocked by a new accumulation of fallen trees. The inaccessible part are shown in **Photo 1** and **Photo 2** below. The adjusted accessible transect route is shown in **Figure 11**.



Photo 1. Inaccessible part of transect T5 located within a private property.



Photo 2. Inaccessible part of transect T5 blocked by fallen trees.

## Results and Observation

### Details of the Influencing Factors

#### *Major Activities*

- 9.50 During the survey of Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley, anthropogenic activities including soil turning with excavator and other construction activities were observed in Long Valley. Construction works were observed beside Sheung Yue River.
- 9.51 The anthropogenic activities affected only a small area of the habitat in Long Valley during monitoring and would only pose minor disturbances to the birds. *Acridotheres cristatellus* and *Bubulcus coromandus* were observed foraging near the excavators.
- 9.52 During the survey of Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River, anthropogenic activities including construction works beside T2, recreational usage of remote control boats and helicopters at both T1 and T2, and recreational fishing by fishing rod at both T1 and T2 were observed.
- 9.53 During the survey of Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution, construction activities NOT under this Project were observed at T5.

#### *Weather Conditions*

- 9.54 According to the observation during survey, temperature and the rain flow records in the reporting month (Reference: <http://www.weather.gov.hk/wxinfo/pastwx/metob202207.htm>), weather conditions might pose influence towards the monitoring results.
- 9.55 The detailed ecological monitoring results are attached in **Appendix L**.

#### **References**

Ma, J., Jones, G., Zhu, G. J., & Metzner, W. (2010). Echolocation behaviours of the Japanese pipistrelle bat *Pipistrellus abramus* during foraging flight. *Acta Theriologica*, 55(4), 315-332.

Tong, C. F. (2016). Distribution and preference of landscape features and foraging sites of insectivorous bats in Hong Kong urban parks. (Master dissertation)

**10 ENVIRONMENTAL SITE INSPECTION****Site Audits**

- 10.1 Site audits were carried out by ET on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures on the Contract site. Summary of the site audits are presented in **Table 10.1** and **Appendix P**.

**Table 10.1 Summary of Site Audits**

Environmental Site Inspection	Works Contracts						
	ND/2019/01	ND/2019/02	ND/2019/03	ND/2019/04	ND/2019/05	ND/2019/06	ND/2019/07
Weekly site audit with representative of the <i>Supervisor's</i> Representative and the Contractor	5, 13, 19 and 26 July 22	6, 15, 20 and 27 July 22	8, 15, 19 and 29 July 22	7, 14, 21 and 28 July 22	4, 14, 18 and 25 July 22	7, 14, 21 and 28 July 22	8, 15, 22 and 29 July 22
Joint Site Audit with representative of the <i>Supervisor's</i> Representative, the Contractor and IEC	13 July 22	15 July 22	19 July 22	6 July 22	14 July 22	N/A	8 July 22

- 10.2 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations made during the audit sessions are summarised in **Table 10.2**.
- 10.3 All construction activities with significant environmental impact undertaken by Contract No. ND/2019/06 was substantially completed in March 2022 and the majority of outstanding works were also completed in April 2022 with defect rectification works remained. The outstanding installation works were the short-duration works which would be completed within 2 months during the 1-year defect correction period. ET would record the environmental deficiency, if any, for NDTWM (EP-475/2013/A) during the 1-year defect correction period under Contract ND/2019/04 site inspection and would email weekly those inspection records to the Project Team of Contract ND/2019/06 for information.

**Table 10.2 Observations and Recommendations during Site Audits**

Parameters	Date	Observations and Recommendations	Follow-up
<b>Contract No.: ND/2019/01</b>			
<i>Permits / Licences</i>	19/07/2022	Environmental Permit should be displayed conspicuously on site at Portion 9C.	Improvement/Rectification was observed during follow-up audit session on 26 July 2022.
<b>Contract No.: ND/2019/02</b>			
<i>Landscape and Visual</i>	15/7/2022	To clarify the fallen tree status.	Item Remarked as 220720-R01. Follow-up action is needed to be review.
	20/07/2022		Item Remarked as 220727-R01. Follow-up action is needed to be review.
	27/07/2022	To clarify the nearly fallen tree status.	Follow-up action is needed to be reported in the following month.
<i>Ecology</i>	15/7/2022	Dull green barrier should be maintained properly.	Improvement/Rectification was observed during follow-up audit session on 20 July 2022.
<i>Water Quality</i>	27/07/2022	To enhance mitigation measures to prevent surface runoff into the Sheung Yue River near 1.43.7.	Follow-up action is needed to be reported in the following month.
<b>Contract No.: ND/2019/03</b>			
<i>Air Quality</i>	08/07/2022	Vehicle entrance within 30m of construction site should be kept clean of dust.	Improvement/Rectification was observed during follow-up audit session on 15 July 2022.
	29/07/2022	Dusty debris were observed at Yin Kong Road. Contractor was reminded to clear the dusty debris immediately.	Follow-up action is needed to be reported in the following month.
<i>Waste/ Chemical Management</i>	08/07/2022	Drip tray should be provided for chemical container.	Improvement/Rectification was observed during follow-up audit session on 15 July 2022.
<b>Contract No.: ND/2019/04</b>			
<i>Air Quality</i>	30/06/2022	To replace faded NRMM labels. / Replace the faded NRMM labels.	Item Remarked as 220707-R01. Follow-up action is needed to be review.
	07/07/2022		Improvement/Rectification was observed during follow-up audit session on 14 July 2022.
	07/07/2022	Cover the stockpile of dusty materials at the site near Ma Wat River.	Improvement/Rectification was observed during follow-up audit session on 14 July 2022.
<i>Ecology</i>	07/07/2022	Maintain the silt curtain to avoid muddy water entering the river.	Improvement/Rectification was observed during follow-up audit session on 14 July 2022.
<i>Waste / Chemical Management</i>	30/06/2022	General refuse should be disposed of properly.	Improvement/Rectification was observed during follow-up audit session on 7 July 2022.





Parameters	Date	Observations and Recommendations	Follow-up
<b>Contract No.: ND/2019/05</b>			
<i>Air Quality</i>	27/06/2022	Dusty stockpile should be covered by impervious sheeting properly.	Improvement/Rectification was observed during follow-up audit session on 4 July 2022.
<i>Water Quality</i>	04/07/2022	Sand bag barrier should be provided to direct storm water efficiently.	Improvement/Rectification was observed during follow-up audit session on 14 July 2022.
	14/07/2022	Should prevent dusty stockpile to enter the river with sufficient mitigation measure.	Improvement/Rectification was observed during follow-up audit session on 18 July 2022.
	18/07/2022	Should prevent muddy stockpile entering the river with sufficient mitigation measures.	Improvement/Rectification was observed during follow-up audit session on 25 July 2022.
<b>Contract No.: ND/2019/06</b>			
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<b>Contract No.: ND/2019/07</b>			
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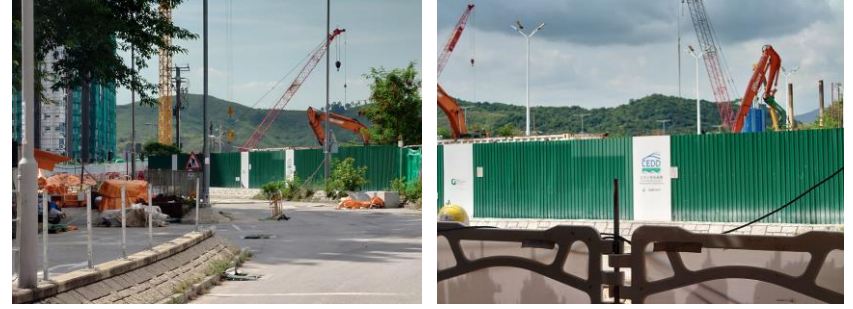
### Implementation Status of Environmental Mitigation Measures

- 10.4 According to the EIA Report, EPs and the Updated EM&A Manual, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the Environmental Mitigation Implementation Schedule is provided in **Appendix Q**. The photographic records of measures as stipulated in EPs to mitigate environmental impacts in the reporting month are presented in **Table 10.3**.



**Table 10.3 Photographic Records and Implementation Status of Measures**

EP No.	Condition	Photographic Record	Implementation Status
<u>EP-466/2013</u>	2.9	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	$\wedge_{[1]}$
<u>EP-467/2013/A</u>	2.9	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	$\wedge_{[1]}$
<u>EP-468/2013/A</u>	2.11	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	$\wedge_{[1]}$
<u>EP-469/2013</u>	2.7	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	$\wedge_{[1]}$

<p>EP- 473/2013/ A</p>	<p>2.13</p>	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	<p>Λ<sub>[1]</sub></p>
<p>EP- 475/2013/ A</p>	<p>2.7</p>	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	<p>Λ<sub>[1]</sub></p>
<p><b>Implementation status:</b></p>	<p>^ Mitigation measure was fully implemented          * Observation/reminder was made during site audit but improved/rectified by the contractor          # Observation/reminder was made during site audit but not yet improved/ rectified by the contractor          X Non-compliance of mitigation measure          • Non-compliance but rectified by the contractor          N/A Not Applicable at this stage as no such site activities were conducted in the reporting period</p>		

Remark:

[1]: Barrier fences might be subjected to change according to the phasing plan designed at detailed design stage

### Implementation Status of Water Quality Mitigation Measures

10.5 The water quality mitigation measures detailed in the EIA Report and the Updated EM&A Manual are recommended to be implemented during the construction phase. Water quality mitigation measures implemented by the contractors were closely monitored to prevent water pollution, especially during rainy season. An updated summary of the Environmental Mitigation Implementation Schedule is provided in **Appendix Q**. Specific water quality mitigation measures for major construction works in the reporting month are presented in **Table 10.4**.



**Table 10.4 Specific Water Quality Mitigation Measures for Major Construction Works in the Reporting Month**

Works Contracts	Photographic Records	
ND/2019/01	 <p>Hard paved exposed slope surface</p>	 <p>Hydroseeding for slope area</p>
ND/2019/02	 <p>Hard paved exposed haul road</p>	 <p>Hard paved exposed slope surface</p>
ND/2019/03	 <p>Hard paved exposed haul road</p>	 <p>Regular clearance of water for wheel washing facility</p>
ND/2019/04	 <p>Hard paved exposed slope surface</p>	 <p>Deployment of silt curtain around works area in Ng Tung River</p>



ND/2019/05	 <p>Covering dusty stockpile</p>	 <p>Provision of sand bags around works area</p>
ND/2019/07	 <p>Covering exposed slope surface with tarpaulin</p>	 <p>De-silting waste water before discharge</p>
<b>Water quality mitigation measures for site(s) in operation phase, remaining defect works</b>		
ND/2019/06	 <p>Hard paved exposed haul road</p>	 <p>Hard paved exposed haul road</p>

### Solid and Liquid Waste Management Status








- 10.6 Waste generated from Contract Nos. ND/2019/01, ND/2019/02, ND/2019/03, ND/2019/04, ND/2019/05 and ND/2019/07 included inert construction and demolition (C&D) materials and non-inert C&D wastes in the reporting month. The site of ND/2019/06 was handed over to AFCD for operation since 4 April 2022.
- 10.7 The amount of wastes generated by the construction works of the Contract Nos. ND/2019/01, ND/2019/02, ND/2019/03, ND/2019/04, ND/2019/05 and ND/2019/07 during the reporting month are shown in **Appendix R**. The site of ND/2019/06 was handed over to AFCD for operation since 4 April 2022.
- 10.8 The Contractors are advised to minimise the wastes generated through recycling or reusing. All mitigation measures stipulated in the Updated EM&A Manual and waste management plans shall be fully implemented. The status of implementation of waste management and reduction measures are summited in **Appendix Q**.

**Ecological Mitigation Measures – Creation of Long Valley Nature Park (LVNP)**

- 10.9 Based on the findings of the EIA Report, the area of Long Valley has been assessed as of high to very high ecological value and is the largest contiguous area of freshwater wetland habitats in Hong Kong. To safeguard the ecological value of Long Valley, about 37 hectares of land in Long Valley has been proposed to develop into Long Valley Nature Park (LVNP) for conserving and enhancing the ecologically important environment as well as for compensation of the wetland loss due to the NDA development.
- 10.10 LVNP is developed according to the approved Habitat Creation and Management Plan (HCMP) submitted under EP-468/2013/A. HCMP provides a framework and specifications for development and management of LVNP and guides the development to maintain and enhance the 37 hectares of low-lying wetland habitats.
- 10.11 Regarding the design, the zoning of land use in LVNP is intended to maintain the existing mosaic pattern of wet and dry agriculture, while controlling the activities that could potentially disturb target habitats and species. LVNP will be divided into three broad zones of land use as below:
- Biodiversity Zone of about 21 hectares largely designated for biodiversity conservation through cultivation of specified crops and habitat management.
  - Agricultural Zone of about 11 hectares designated for commercially focuses crop production and eco-friendly agricultural practice for farming.
  - Visitor Zone of about 5 hectares designed to accommodate visitors as well as storage and other facilities and for educational purposes.
- 10.12 The construction of LVNP started in late 2019 and was expected to be completed in 2023. During the construction period, the progress of construction and wetland enhancement works has been under observation by different stakeholders including AFCD and green groups. Close communication between AFCD and CEDD were conducted to exchange views on conservation, restoration and management of habitats as well as on the planning and design of the park. In addition, advices from green groups, Hong Kong Bird Watching Society (HKBWS) and The Conservancy Association (CA), have been taken on habitat management of Long Valley and potential effects on habitat and wildlife of each individual work conducted in Long Valley. A regular meeting was held monthly (on 15 July 2022 in the reporting month) to share the progress of LVNP with different stakeholders, including CEDD, AFCD, CA, HKBWS, Contractor, ET, IEC and farmers.
- 10.13 Proposals on wetland creation and restoration, dry agricultural land creation, pond creation, water treatment wetland and design of irrigation channel were submitted by the Contractor to achieve the objectives stated in HCMP and accepted by the Engineer with consent from AFCD before implementation. The Contractor would consult the stakeholders for recommendations and suggestions on mitigation measures to minimise the environmental impacts arising from construction works. The progress of works would be arranged to minimise impacts to avifauna and maintain the habitat for avifauna. The photographic records of site activities in LVNP are presented in **Table 10.5**.



**Table 10.5 Photographic Records of Site Activities in LVNP**

			
Continuing agricultural practice in existing farmland to maintain habitats in Long Valley			
			
<i>Open water Habitat</i> Creation of wetland with designated habitat for biodiversity conservation		<i>Open water Habitat</i> Creation of wetland with designated habitat for biodiversity conservation	
			
Planting of paddy rice to provide foraging ground for Yellow-breasted Bunting			
			
Retention of washing bay for amphibians breeding		Enhancement of irrigation channel to provide reliable water source for farmland in Long Valley	





Provision of bird island (hidden area)



Restoring of water flea pond to provide food source to water birds



Construction of storage sheds for farmers



A *Glareola maldivarum* was recorded



Wet agricultural land



Provision of noise barrier for noisy works in Long Valley

## 11 ENVIRONMENTAL NON-CONFORMANCE

### Summary of Exceedances

- 11.1 Two (2) Action Level and Six (6) Limit Level for DO, Nine (9) Limit Level for turbidity, and Nine (9) Limit Level for Suspended Solids of impact water quality monitoring were recorded. After investigation, all exceedances were considered due to the other external factors rather than the contract works. No Action/Limit Level exceedance for air quality, construction noise, ambient arsenic, landfill gas monitoring and build heritage monitoring was recorded in the reporting month. The summary of exceedance recorded in the reporting month is shown in Appendix O.
- 11.2 Ecological monitoring was carried out in the reporting month. The results will be compared with Action and Limit Levels after issuance of the Final Baseline Ecological Report.
- 11.3 Should the monitoring results of the environmental monitoring parameters at any designated monitoring stations indicate that Action / Limit Levels are exceeded, the actions in accordance with the Event/Action Plan in **Appendix N** would be carried out.

### Summary of Environmental Non-Compliance

- 11.4 No environmental non-compliance was recorded in the reporting month.

### Summary of Environmental Complaint

- 11.5 Five environmental complaints for ND/2019/01, ND/2019/04 and ND/2019/05 were received in the reporting month. The Cumulative Complaint Log since the commencement of the Project is presented in **Appendix S**.

### Summary of Environmental Summon and Successful Prosecution

- 11.6 There was no successful environmental prosecution or notification of summons received since the Project commencement. The Cumulative Log for environmental summon and successful prosecution since the commencement of the Project is presented in **Appendix T**.

## 12 FUTURE KEY ISSUES

### Key Issues in the Coming Three Months

12.1 The major site activities, potential environmental impacts and recommended mitigation measures for the coming two months are shown in **Table 12.1**.

**Table 12.1 Summary Table for Site Activities, Potential Environmental Impacts and Recommended Mitigation Measures in the Coming Months**

Contract No.	Major Site Activities (August to October 2022)	Location/ Working Period	Potential Environmental Impact	Recommended Mitigation Measures
ND/2019/01	(a) Site clearance / tree felling	Portions 1a, 1b, 1c, 1e, 2, 3	- Construction Dust impact - Noise Impact (Construction Phase) - Water Quality Impact (Construction Phase) - Waste Management (Construction Waste)	<b>Air</b> - Watering on exposed earth and haul road. - Cover the stockpiles or dusty materials. - Deploy water bowsers to water the haul road. - Deploy mist-cannon on site - Provide shelter with top and 3-sides for cement production activities. - Cover the Arsenic-containing soil. - Store the bulk cement in enclosed silo tank for soil treatment. - Close the mechanical cover of the vehicles used for transporting dusty materials. - Establish vehicle wheel washing facilities at vehicle exit points. - Speed control of site vehicles. <b>Noise</b> - Regular inspect of construction plants in good condition.
	(b) GI works	Portions 1a		
	(c) Excavation	Portions 1b, 3, 5, 7, 8b, 9b, 9c, 10a, 10b		
	(d) Construction of retaining wall	Portions 6a, 8a, 9b		
	(e) Site Formation	Portions 1a, 1c, 1e, 2, 7, 8a		
	(f) Removal of existing structure	Portions 1a, 1c		
	(g) Construction of subway	Portions 2		
	(h) Operation of HAC treatment facility	Portions 6b		

	(i) Drainage works	Portions 1b, 3, 5, 6a, 7, 8a, 9b, 10a, 10b, 11b		<ul style="list-style-type: none"> <li>- Provide temporary noise screens if necessary.</li> <li>- Use of Quiet plants (QPME) and working methods if possible.</li> <li>- Sequencing operation of construction plants where practicable.</li> <li>- Shut down the machines and plant if not in use.</li> <li>- Only well-maintained plant to be operated on-site</li> <li>- Mobile plant to be sited as far away from NSRs as possible practicable.</li> <li>- Conduct noise monitoring regularly.</li> <li>- Erect silent-up noise barrier at portion 6b.</li> </ul> <p><b>Water</b></p> <ul style="list-style-type: none"> <li>- Set up wastewater treatment system (AquaSed) on site</li> <li>- Erect soil bund / temporary drain to divert /collect surface runoff.</li> <li>- Maintain the drainage and wastewater treatment facilities.</li> </ul> <p><b>Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>- Sort out demolition debris and excavated materials from demolition works to recover reusable / recyclable portions</li> <li>- Provide recycling bins on site, encourage reuse and recycle as much as possible.</li> <li>- Provide drip trays for chemical containers.</li> <li>- Chemical spill kit available on site.</li> <li>- Chemical waste cabinet available on site.</li> <li>- Chemical wastes to be stored in appropriate containers and collected by a licensed chemical waste collector.</li> <li>- Delivery of yard waste to tree shredding facility for upcycling.</li> </ul>
	(j) Road Construction	Portion 5, 10a		
	(k) Trenchless	Portion 8b		
	(l) Construction of reservoir	Portions 8a		
	(m) Sheet piling/ELS	Portion 7, 8b, 9b, 10a, 10b		

<b>ND/2019/02</b>	(a) Pipe Jacking	Portions 1 & 3	Air, Noise, Waste	<ul style="list-style-type: none"> <li>- Dusty works should be spray water. Idle stockpile or slop should be covered by Tarpaulin sheet properly.</li> <li>- Wheel washing should be carried out at every exit.</li> <li>- Plants should be well maintained to prevent dark smoke and oil leakage. Idle plant should be turned off.</li> <li>- Drip tray should be provided for all chemical and stationary plants.</li> <li>- No construction works shall be carried out in restricted hours (7:00 pm to 7:00 am) unless CNP is obtained.</li> <li>- Waste should be sorted and dispose according to the Waste Management Plan</li> <li>- No direct discharge of wastewater into storm drains is allowed. Wastewater must be de-silted before discharged in accordance with the water discharge license.</li> <li>- Dull green barrier and ecological measures should be implemented according to the Ecological protection plan.</li> </ul>
	(b) Backfilling	Portion 3	Air, Noise, Waste	
	(c) Concreting	Portions 3, 9 & 10	Air, Noise, Water, Waste, Ecology	
	(d) Bedding & Pipe Laying	Portion 3	Air, Noise, Water, Waste, Ecology	
	(e) ELS	Portions 3 & 7	Air, Noise, Water, Waste, Ecology	
	(f) Sheet Pile Installation	Portions 3, 4, 5 & 7	Air, Noise, Water, Waste	
	(g) Cut and Fill of Slope	Portion 7	Air, Noise, Water, Waste	
<b>ND/2019/03</b>	(a) Excavation & ELS	Portion 1, 1a, 2, 3, 4, 4a, 4b, 5, 5a	<ul style="list-style-type: none"> <li>- Waste</li> <li>- Air pollution</li> <li>- Noise pollution</li> </ul>	<ul style="list-style-type: none"> <li>- Dusty works should be sprayed with water or stockpile should be covered by Tarpaulin properly.</li> <li>- Plants should have maintenance to prevent dark smoke and oil leakage. Idle plant should be turned off.</li> <li>- Drip tray should be provided for all chemical and stationary plants.</li> <li>- No construction works shall be carried out in restricted hours (7:00 pm to 7:00 am) unless CNP is granted.</li> </ul>
	(b) Site Clearance	Sections 7, 8 and 9	<ul style="list-style-type: none"> <li>- Waste</li> <li>- Air pollution</li> <li>- Noise pollution</li> </ul>	
	(c) Tree Felling	Sections 6, 7, 8 and 9	<ul style="list-style-type: none"> <li>- Waste</li> <li>- Air pollution</li> <li>- Noise pollution</li> </ul>	



				<ul style="list-style-type: none"> <li>- Waste should be sorted and disposed according to Waste Management Plan.</li> <li>- No direct discharge of wastewater in storm water drainage is allowed. Wastewater must be desilted before discharging according to water discharge license.</li> </ul>
<b>ND/2019/04</b>	(a) Sheet piling	Bridge A2, A3, Portion K	- Air, Noise, Waste	<ul style="list-style-type: none"> <li>- Dusty works should be sprayed with water or stockpile should be covered by tarpaulin properly.</li> <li>- Plants should have maintenance to prevent dark smoke and oil leakage. Idle plant should be turned off.</li> <li>- Drip tray should be provided for all chemical and stationary plants.</li> <li>- No construction works shall be carried out in restricted hours (7:00 pm to 7:00 am) unless CNP is granted.</li> <li>- Waste should be sorted and disposed according to Waste Management Plan.</li> <li>- No direct discharge of wastewater into storm water drains is allowed. Wastewater must be desilted before discharging according to water discharge license.</li> </ul>
	(b) Bored piling	Bridge A1, A2, A3	- Air, Noise, Water, Waste	
	(c) Predrill	Bridge A3, Portion K	- Air, Noise, Water, Waste	
	(d) Excavation & ELS	Portion H, Bridge A2, A3, F	- Air, Noise, Waste	
	(e) Site clearance	Portion K	- Air, Noise, Waste	
	(f) Tree felling	Portion Q, R	- Air, Noise, Waste	
<b>ND/2019/05</b>	(a) Bored piling (Rotary type / RCD)	B2-01, B2-02, C2-03b, D2-01	<ul style="list-style-type: none"> <li>- Construction Dust Impact</li> <li>- Noise Impact</li> <li>- Water Quality Impact (Construction Phase)</li> <li>- Waste Management (Construction Waste)</li> </ul>	<ul style="list-style-type: none"> <li>- Regular watering on exposed worksites and haul road.</li> <li>- Stockpiling area should be provided with covers and water spraying system.</li> <li>- Only well maintained plant to be operated on site.</li> <li>- plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs.</li> </ul>
	(b) Pile Piling	D2-03		
	(c) Sheet Piling	C2-01, B1-01, C1-02b, C2-02, E2-01		
	(d) Interface Coring works	E2-01		

	(e) ELS & Pile Cap Construction	E2-03, E3-02, C3-04, D1-03, C1-01, C1-03, C1-04, C3-03, C3-04, E1-04	<ul style="list-style-type: none"> <li>- Landscape and Visual</li> <li>- Cultural Heritage</li> </ul>	<ul style="list-style-type: none"> <li>- mobile plant to be sited as far away from NSRs as possible practicable.</li> <li>- All open stockpiles of construction materials of more than 50m<sup>3</sup> to be covered with tarpaulin.</li> <li>- Manholes to be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system.</li> <li>- All vehicles and plant to be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads.</li> <li>- Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal.</li> <li>- Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions.</li> <li>- Provide training to workers on appropriate waste management procedures, including waste reduction, reuse and recycling.</li> <li>- To adopt other good site practice, such as arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site and regular cleaning and maintenance programme for drainage.</li> <li>- Chemical wastes to be stored in appropriate</li> </ul>
	(f) Footing Construction	C4-02		
	(g) Utilities Diversion / construction Works and Permanent Road Works	Portion 11, Portion 13, Portion 17 and 18		
	(h) Pier/Pier head Construction	E3-01, D2-02, C4-03, E1-02		
	(i) Portal Beam Construction	C4-01		
	(j) Road Construction	TWSRE		
	(k) Retaining wall & slope works	FW06, FS04		
	(l) Launching Girder & Form Traveler Fabrication	CTC Storage Yard		
	(m) SOP & Segment construction (precast & in-situ cast in type)	C4-04, E3-03, E2-02		
	(n) Fabrication for Form Traveler	E2-02, E3-03		

				<p>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 Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p> <ul style="list-style-type: none"> <li>- Conducting Construction Vibration Monitoring</li> <li>- Tree Protection &amp; Preservation Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004.</li> <li>- Tree Transplantation Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible.</li> <li>- Erect 2m high dull green site boundary fence.</li> </ul>
<b>ND/2019/06</b>	Site clearance	Portions 4, 5	N/A	N/A
<b>ND/2019/07</b>	(a) Site Clearance	Portions 4	<ul style="list-style-type: none"> <li>- Construction Dust Impact</li> <li>- Noise Impact</li> <li>- Water Quality Impact (Construction Phase)</li> <li>- Waste Management (Construction Waste)</li> <li>- Landscape and Visual</li> </ul>	<ul style="list-style-type: none"> <li>- Regular watering on exposed worksites and haul road.</li> <li>- Stockpiling area should be provided with covers and water spraying system.</li> <li>- Only well-maintained plant to be operated on-site.</li> <li>- plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs.</li> <li>- mobile plant to be sited as far away from NSRs</li> </ul>
	(b) Erection of site hoarding	Portions 3, 4		
	(c) C&D waste disposal	Portion 1, 2, 4, 5		
	(d) Construction of box culvert	Portions 2		
	(e) Filling works	Portions 1, 2, 4		
	(f) Construction of site haul road	Portions 4		

	(g) Drainage Works	Portion 1, 3, 4, 5		<p>as possible practicable.</p> <ul style="list-style-type: none"> <li>- All open stockpiles of construction materials of more than 50m<sup>3</sup> to be covered with tarpaulin.</li> <li>- Manholes to be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system.</li> <li>- All vehicles and plant to be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads.</li> <li>- Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal.</li> <li>- Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions.</li> <li>- Provide training to workers on appropriate waste management procedures, including waste reduction, reuse and recycling.</li> <li>- To adopt other good site practice, such as arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site and regular cleaning and maintenance programme for drainage.</li> <li>- Chemical wastes to 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</li> </ul>
	(h) Sewerage works	Portion 1, 3, 4, 5		
	(i) Construction of Noise Barrier	Portion 5		
	(j) Waterworks	Portion 1		

				<p>Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p> <ul style="list-style-type: none"> <li>- Tree Protection &amp; Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004.</li> <li>- Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible.</li> <li>- Erect 2m high dull green site boundary fence.</li> <li>- Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.</li> </ul>
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12.2 The major site activities in coming three months are shown in **Table IV**.

#### **Monitoring Schedule for the Next Month**

12.3 The tentative environmental monitoring schedule for the next month is shown in **Appendix D**.

#### **Construction Programme for the Next Month**

12.4 A tentative construction programme is provided in **Appendix A**.

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### 13 CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

13.1 This monthly EM&A Report presents the EM&A work undertaken in July 2022 in accordance with the Updated EM&A Manual.

13.2 Two (2) Action Level and Six (6) Limit Level for DO, Nine (9) Limit Level for turbidity, and Nine (9) Limit Level for Suspended Solids of impact water quality monitoring were recorded. After investigation, all exceedances were considered due to the other external factors rather than the contract works.

13.3 No Action/Limit Level exceedance for air quality, construction noise, ambient arsenic, landfill gas monitoring and build heritage monitoring was recorded in the reporting month.

Contract No. ND/2019/01

13.4 Environmental site inspection were conducted on 5, 13, 19 and 26 July 22 by ET in the reporting month.

Contract No. ND/2019/02

13.5 Environmental site inspection were conducted on 6, 15, 20 and 27 July 22 by ET in the reporting month.

Contract No. ND/2019/03

13.6 Environmental site inspection were conducted on 8, 15, 19 and 29 July 22 by ET in the reporting month.

Contract No. ND/2019/04

13.7 Environmental site inspection were conducted on 7, 14, 21 and 28 July 22 by ET in the reporting month.

Contract No. ND/2019/05

13.8 Environmental site inspections were conducted on 4, 14, 18 and 25 July 22 by ET in the reporting month.

Contract No. ND/2019/06

13.9 Environmental site inspections were conducted on 7, 14, 21 and 28 July 22 by ET in the reporting month.

Contract No. ND/2019/07

13.10 Environmental site inspections were conducted on 8, 15, 22 and 29 July 22 by ET in the reporting month.

13.11 Five environmental complaints were received in the reporting month. No notification of summons or successful prosecutions was received in the reporting month.

13.12 The ET would keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

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## Recommendations

13.13 According to the environmental audits performed in the reporting month, the following recommendations were made:

### *Air Quality Impact*

- To regular water haul roads;
- To provide vehicle washing facilities with high pressure water jet at every discernible or designated vehicle exit point;
- To maintain the impervious material to entirely cover the stockpile of dusty materials; and
- To ensure all regulated machines displayed with valid Non-road Mobile Machinery (NRMM) labels.

### *Construction Noise Impact*

- To ensure compressor operated with doors closed.

### *Water Impact*

- To review and implement temporary drainage system;
- To prevent any surface runoff discharge into Sheung Yuen River, Ma Wat River or public road;
- To provide sandbags or construct berm to prevent any outflow of muddy water from site area;
- To ensure all vehicle clear of earth and mud before leaving the site areas;
- To ensure the drainage facilities would not be clogged with waste or sediment to avoid overflow;
- To regularly check the condition of desilting materials for proper function;
- To regularly maintain and ensure water treatment facilities proper operation and function;
- To divert all the water generated from the construction site to de-silting facilities with sufficient handling capacity before discharge; and
- To avoid or regularly clear the stagnant water in drip trays;

### *Waste/Chemical Management*

- To dispose of general refuse properly;
- To clear and avoid oil stains at site areas;
- To provide proper storage areas for chemical; and
- To maintain drip trays for chemical storage well.

### *Landfill Gas Hazard*

- “No Smoking” and “No Naked Flame” notices in Chinese and English should be posted prominently around the construction site.

*Land Contamination*

- Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or contaminated run-off during rainy season. Watering should be avoided on stockpiles of soil to minimise runoff.

*Ecology*

- Properly erect and maintain 2m high solid barriers for protecting Siu Hang San Tsuen Stream.

*Permit/ Licences*

- To display valid Permit or Licences at the site entrances.



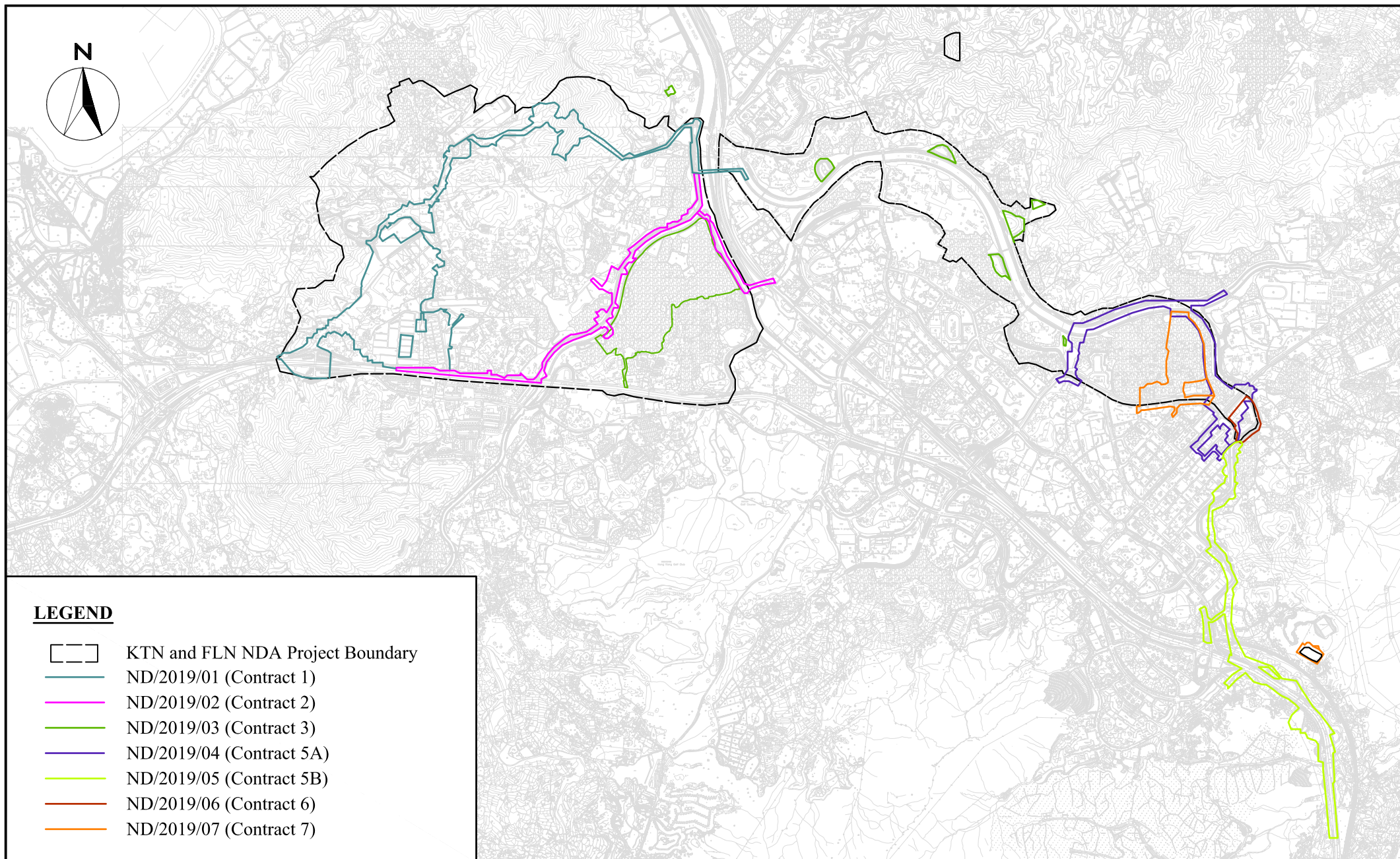
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**DRAWING(S)**

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# **LEGEND**

- KTN and FLN NDA Project Boundary
- ND/2019/01 (Contract 1)
- ND/2019/02 (Contract 2)
- ND/2019/03 (Contract 3)
- ND/2019/04 (Contract 5A)
- ND/2019/05 (Contract 5B)
- ND/2019/06 (Contract 6)
- ND/2019/07 (Contract 7)

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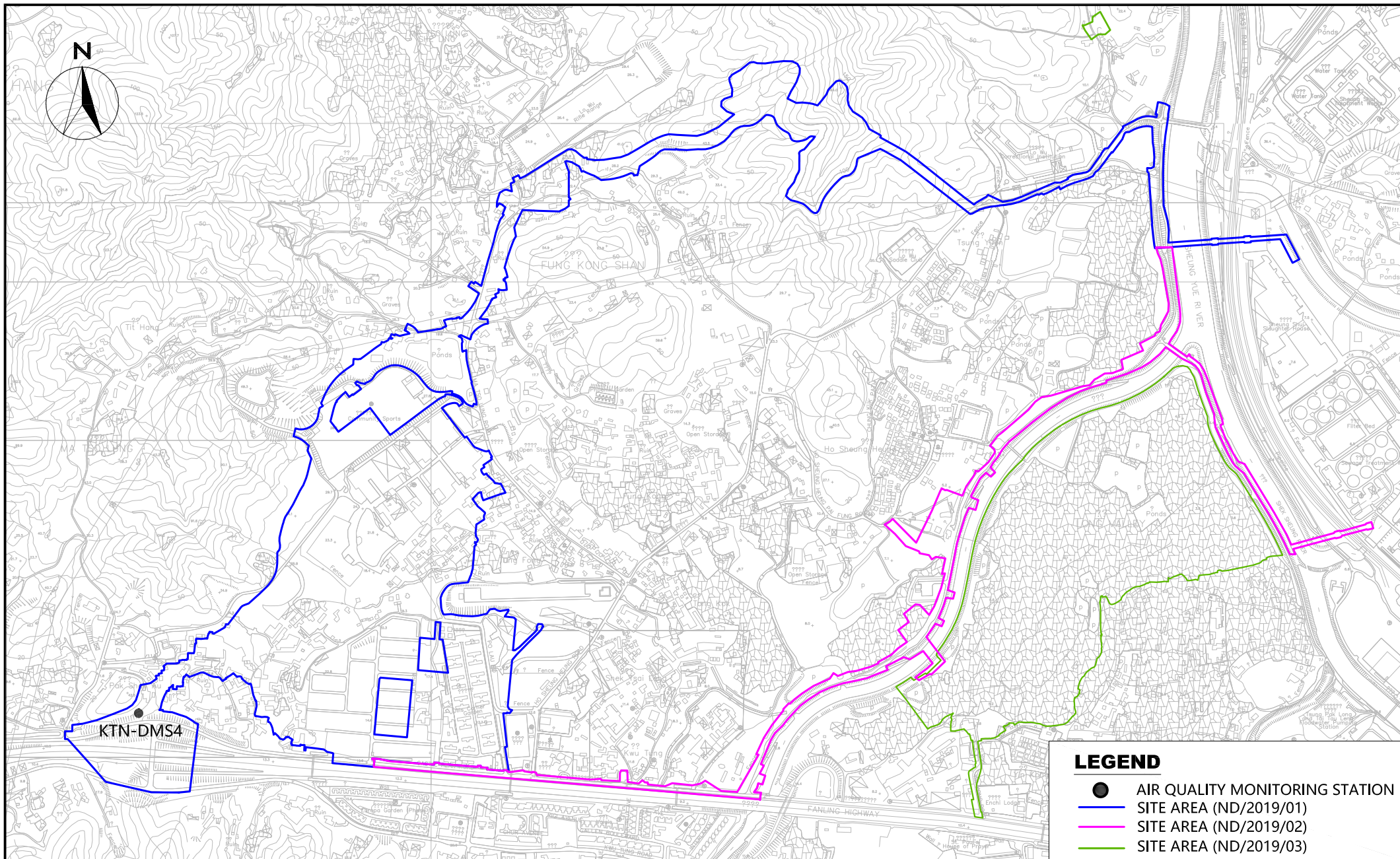
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**FIGURE(S)**

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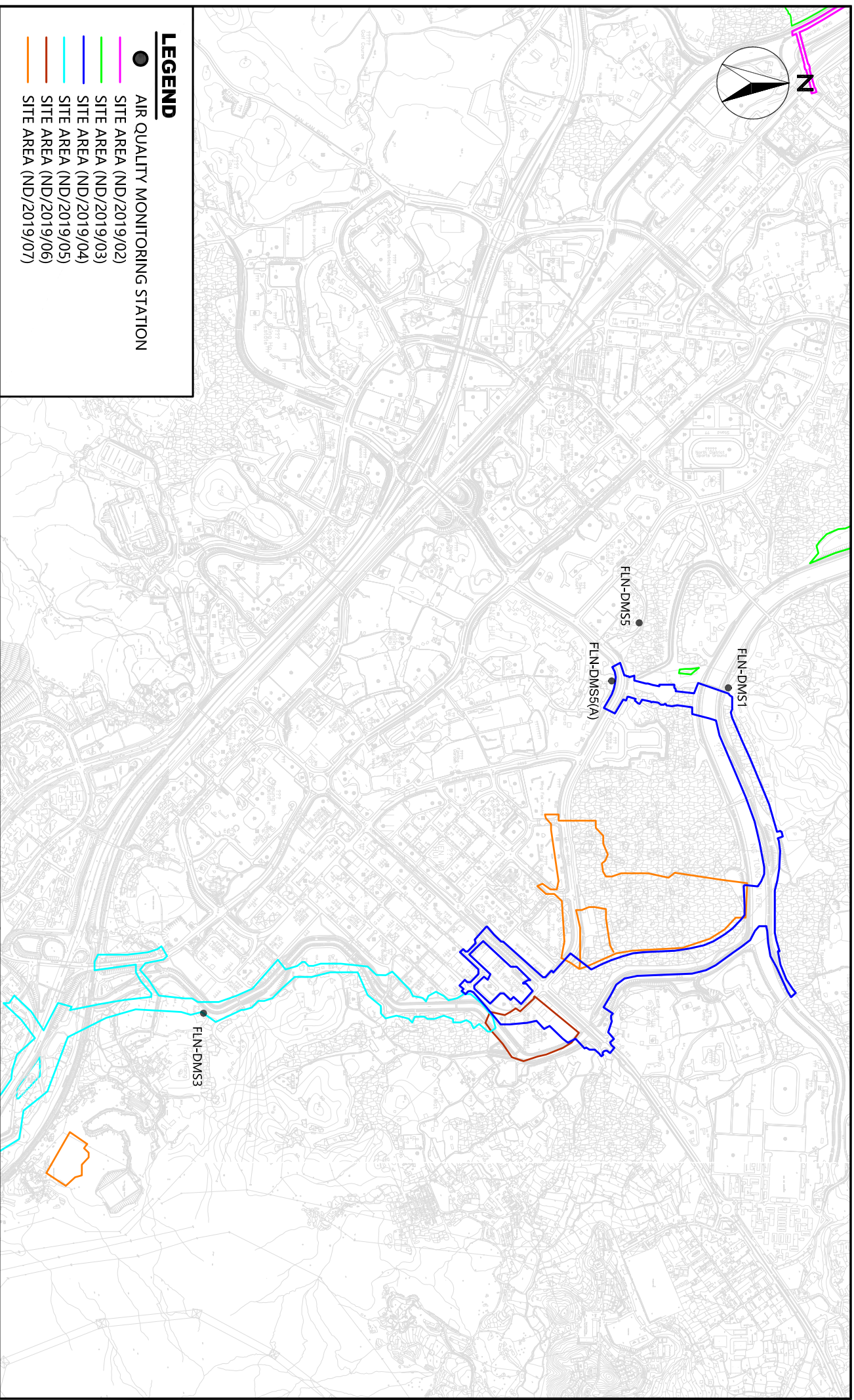




#### LEGEND

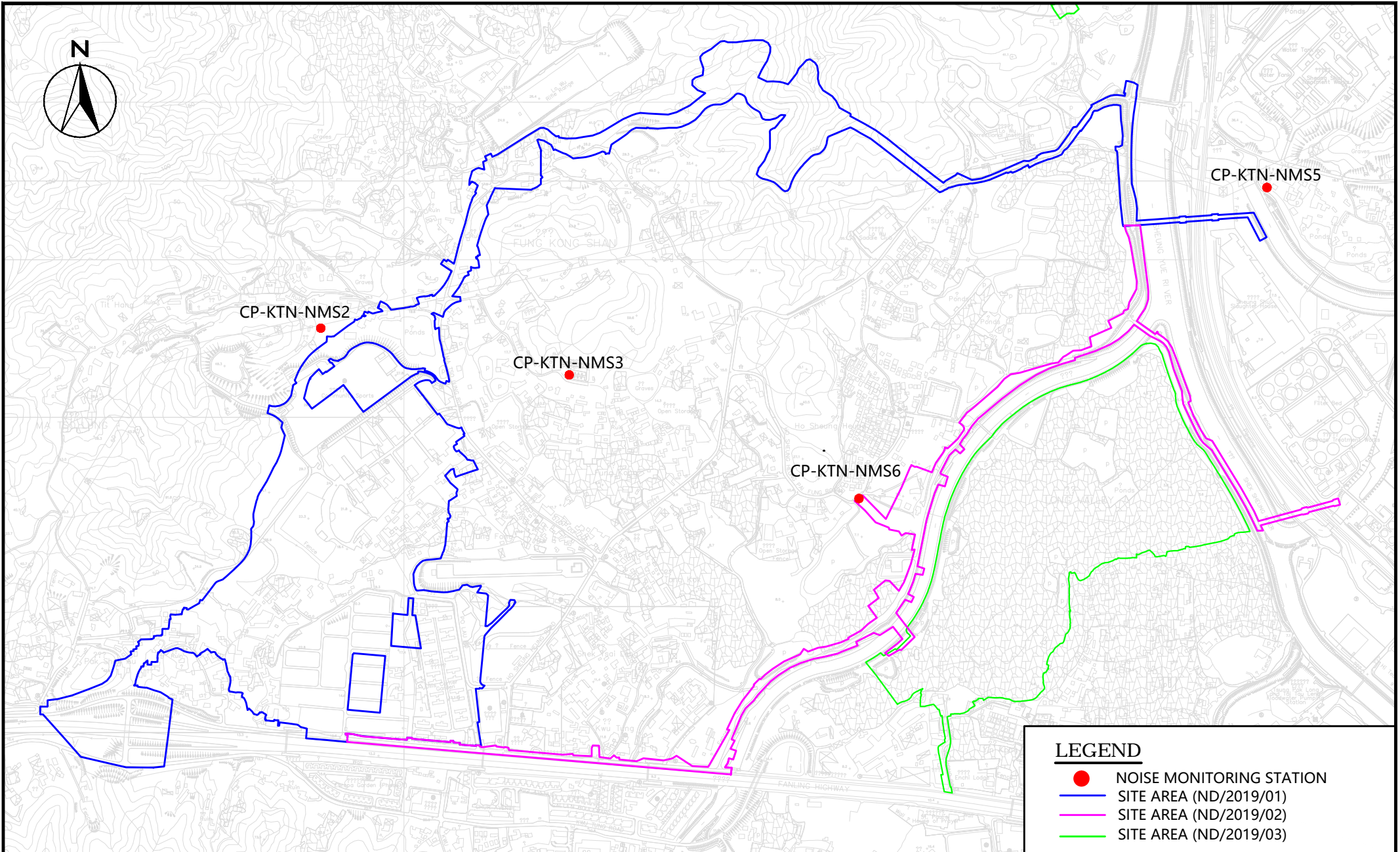
- AIR QUALITY MONITORING STATION
- SITE AREA (ND/2019/01)
- SITE AREA (ND/2019/02)
- SITE AREA (ND/2019/03)





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CHECK	IT	DATE	DEC 2021
PROJECT No.	WMA20002	FIGURE NO.	2
		REV	—

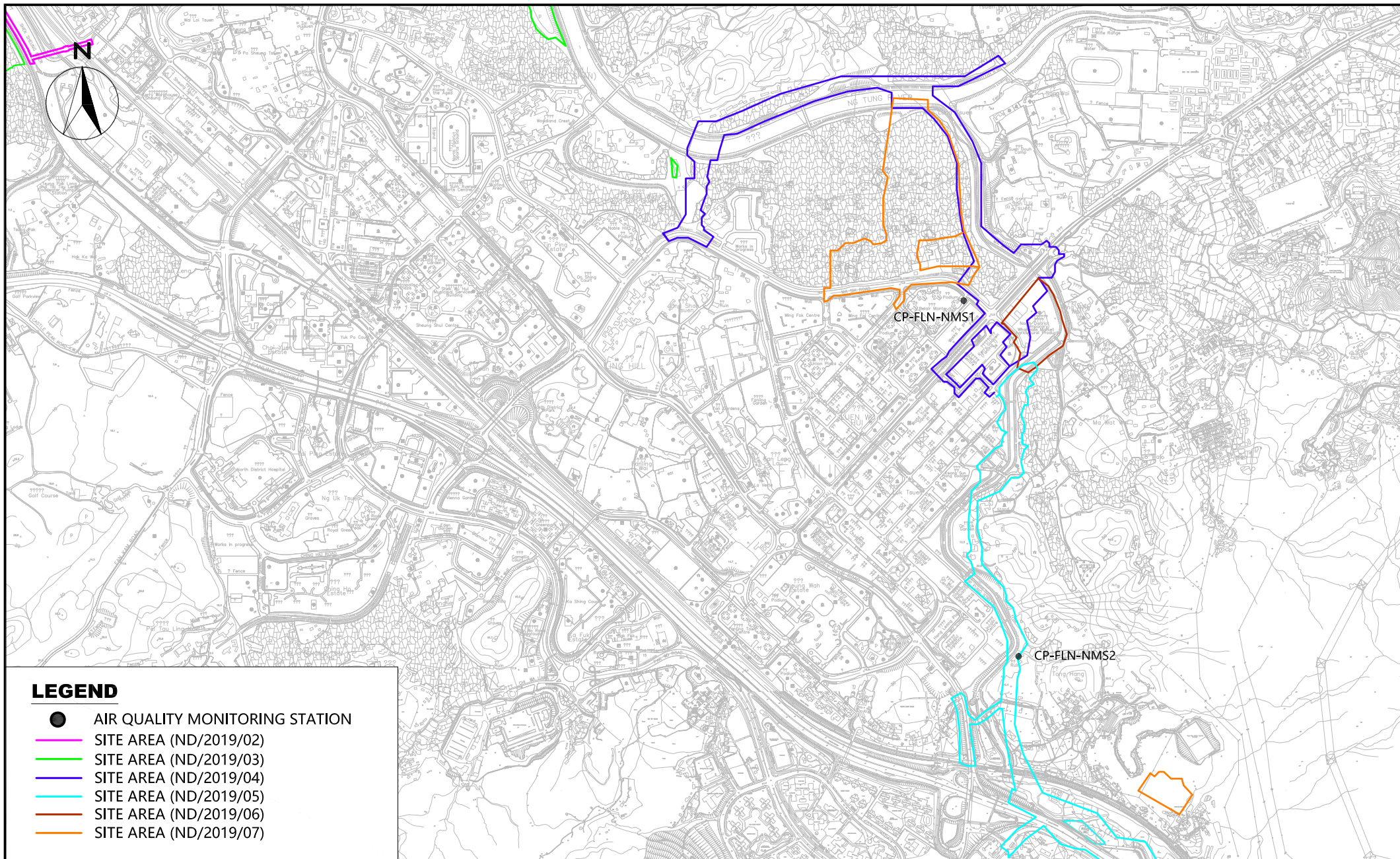




#### LEGEND

- NOISE MONITORING STATION
- SITE AREA (ND/2019/01)
- SITE AREA (ND/2019/02)
- SITE AREA (ND/2019/03)

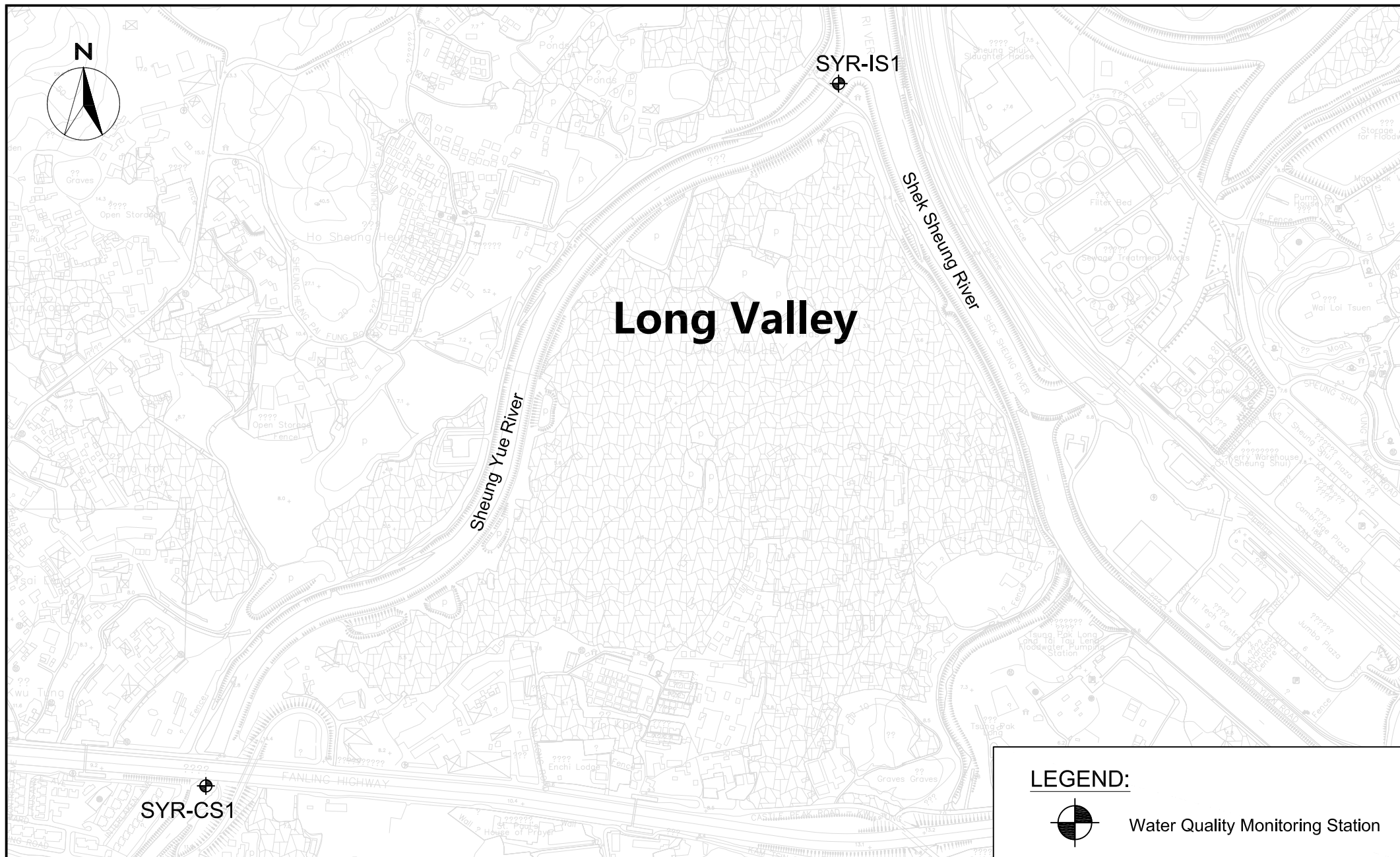




## LEGEND

- AIR QUALITY MONITORING STATION
- SITE AREA (ND/2019/02)
- SITE AREA (ND/2019/03)
- SITE AREA (ND/2019/04)
- SITE AREA (ND/2019/05)
- SITE AREA (ND/2019/06)
- SITE AREA (ND/2019/07)





# LEGEND:



Water Quality Monitoring Station

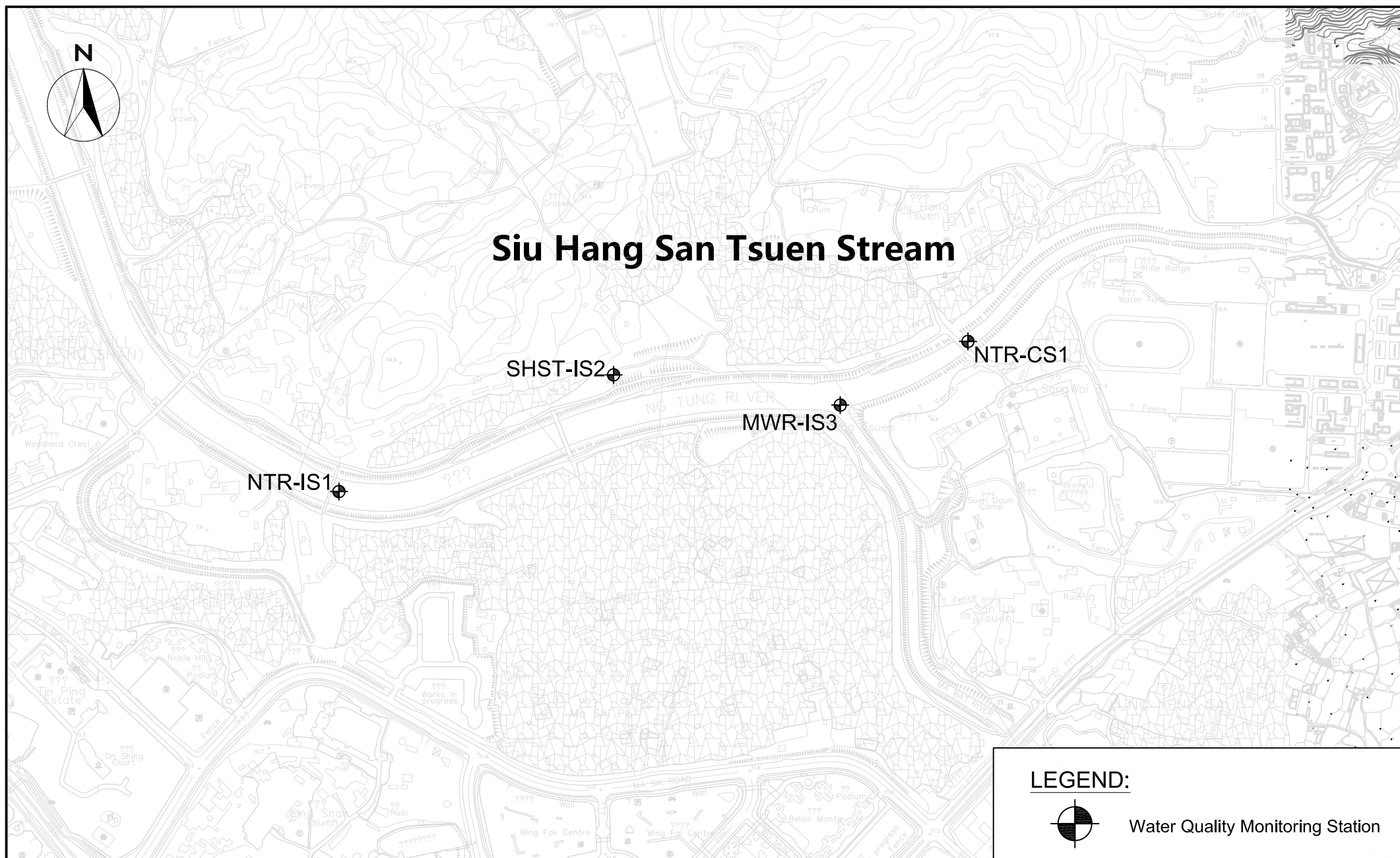
**WELLAB 匯力**  
consulting . testing . research

Service Contract No. NDO 04/2019 Environmental Team for EM&A Works in Construction  
Phase for the First Phase Development of KTN and FLN NDAs

## Location of Additional Water Quality Monitoring Stations at River Beas

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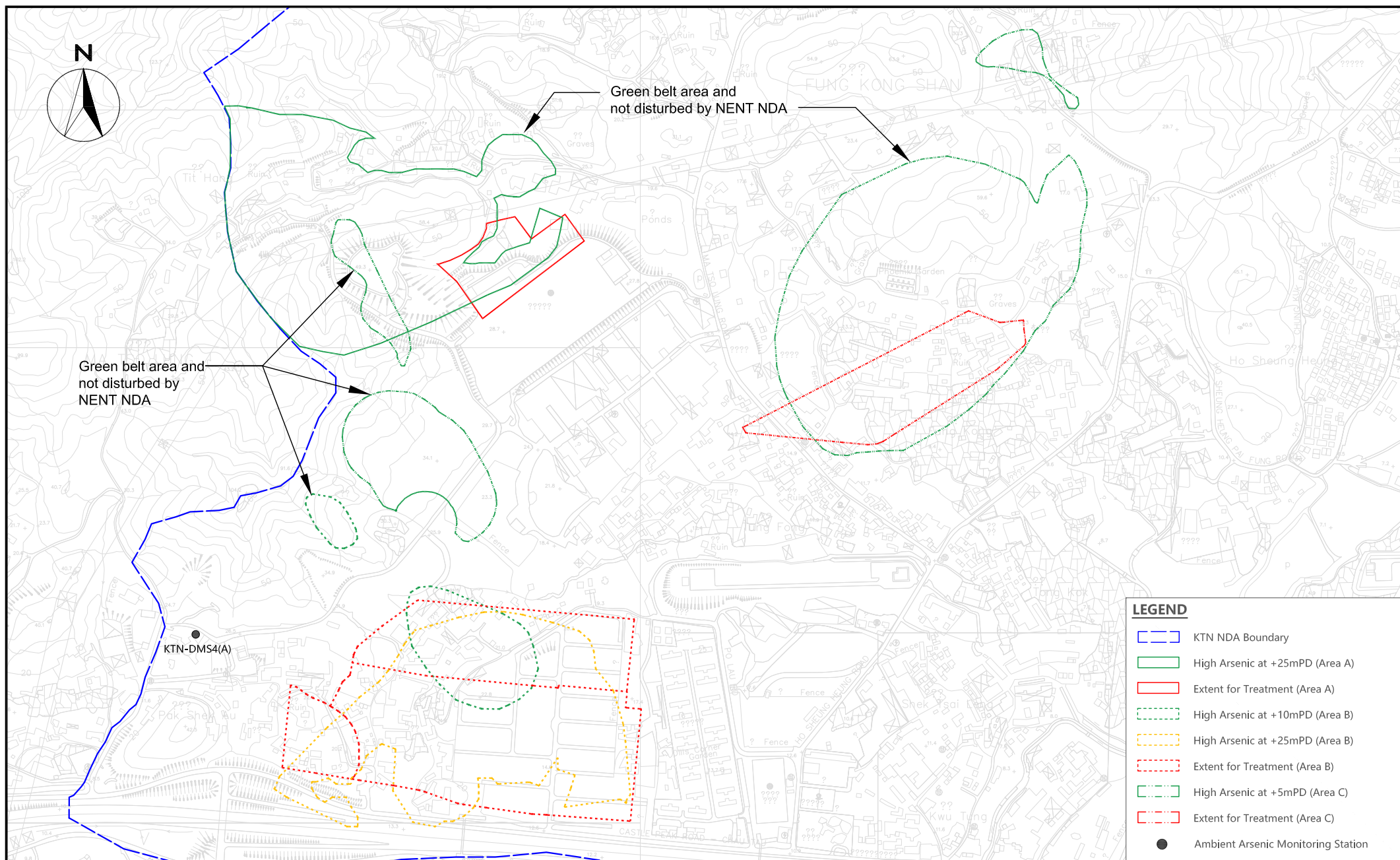


# LEGEND:



Water Quality Monitoring Station

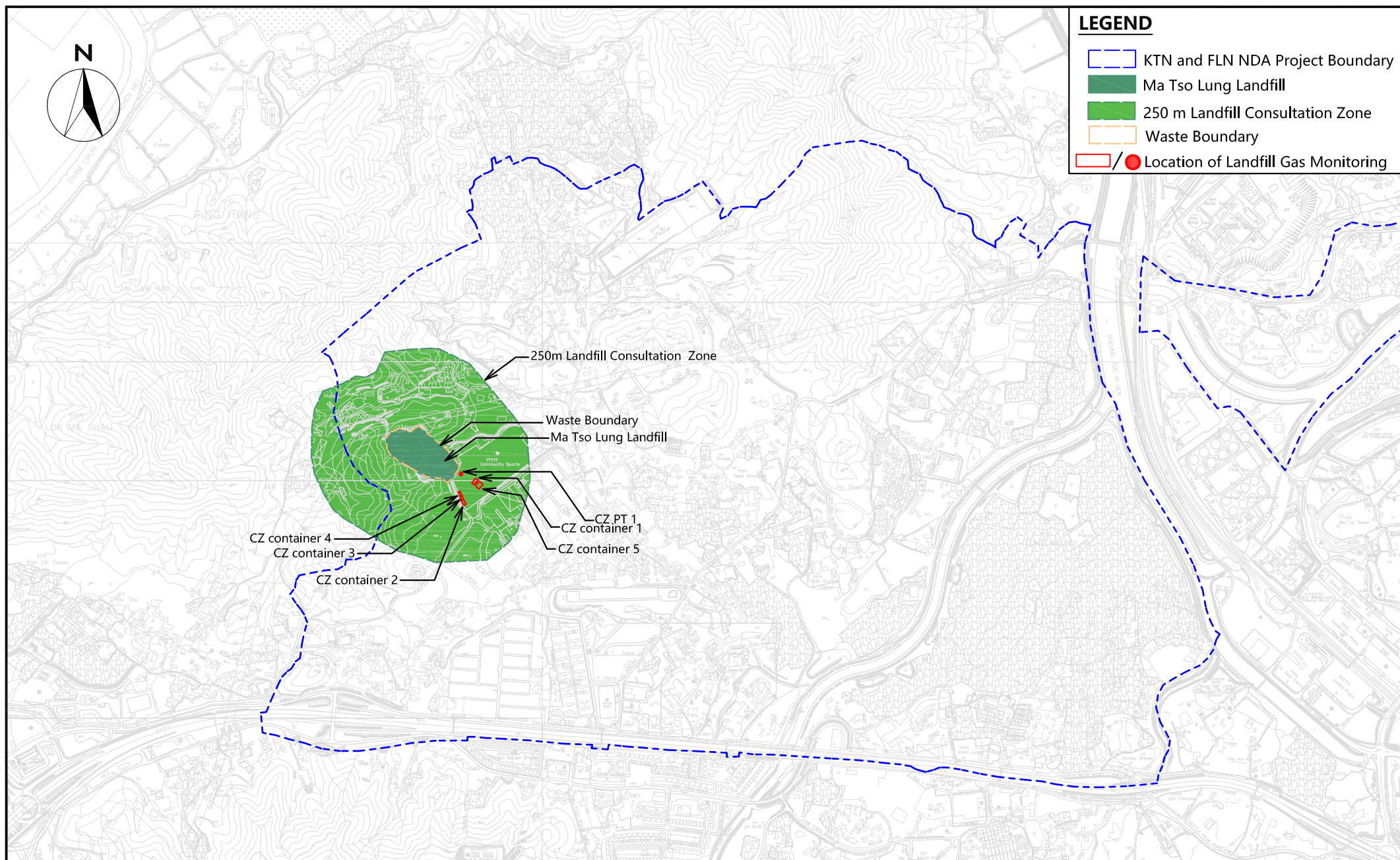
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PROJECT No.	WMA20002	FIGURE NO.	6
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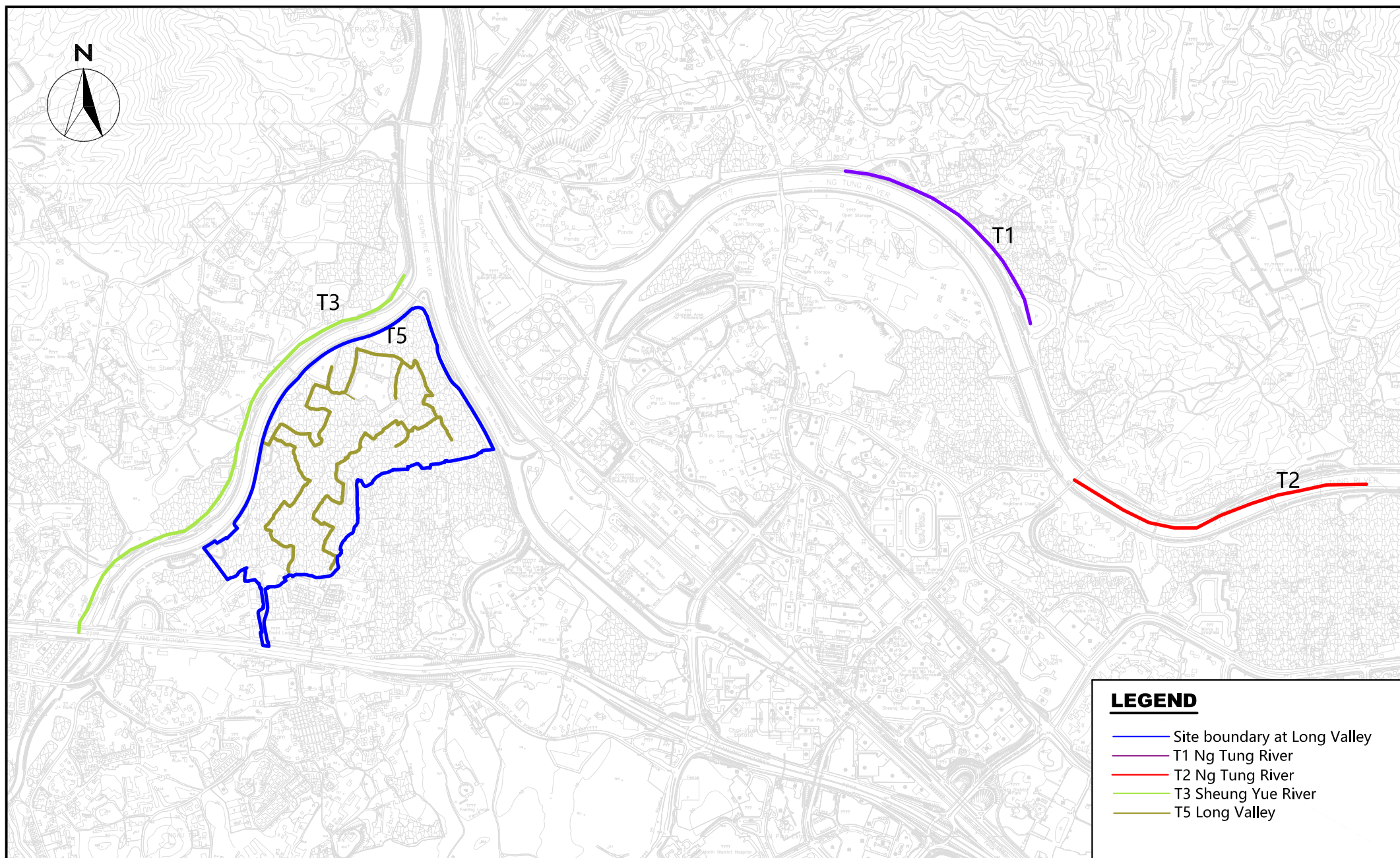
# LEGEND

- KTN NDA Boundary
- High Arsenic at +25mPD (Area A)
- Extent for Treatment (Area A)
- High Arsenic at +10mPD (Area B)
- High Arsenic at +25mPD (Area B)
- Extent for Treatment (Area B)
- High Arsenic at +5mPD (Area C)
- Extent for Treatment (Area C)
- Ambient Arsenic Monitoring Station













# LEGEND

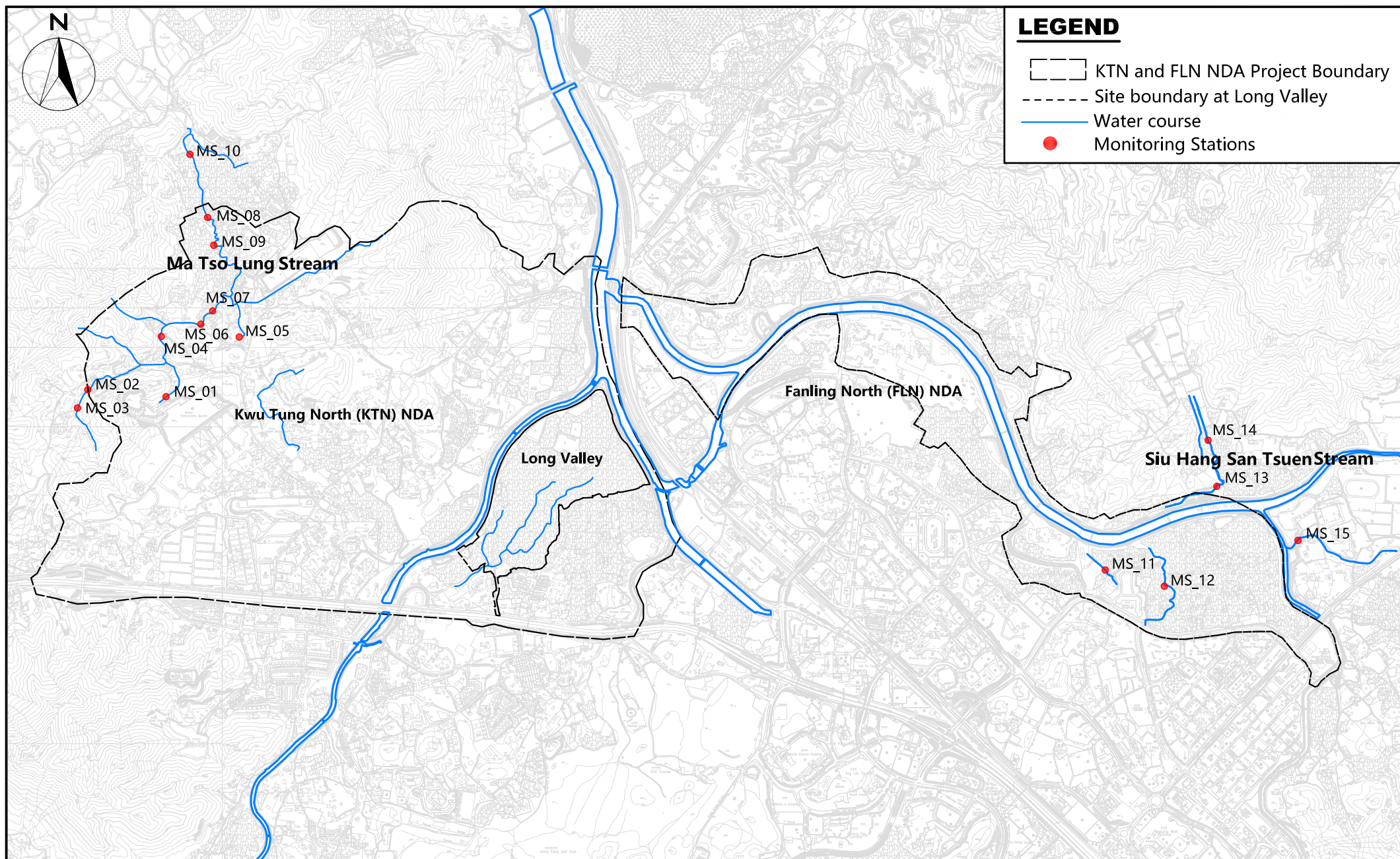
- Site boundary at Long Valley
- T1 Ng Tung River
- T2 Ng Tung River
- T3 Sheung Yue River
- T5 Long Valley



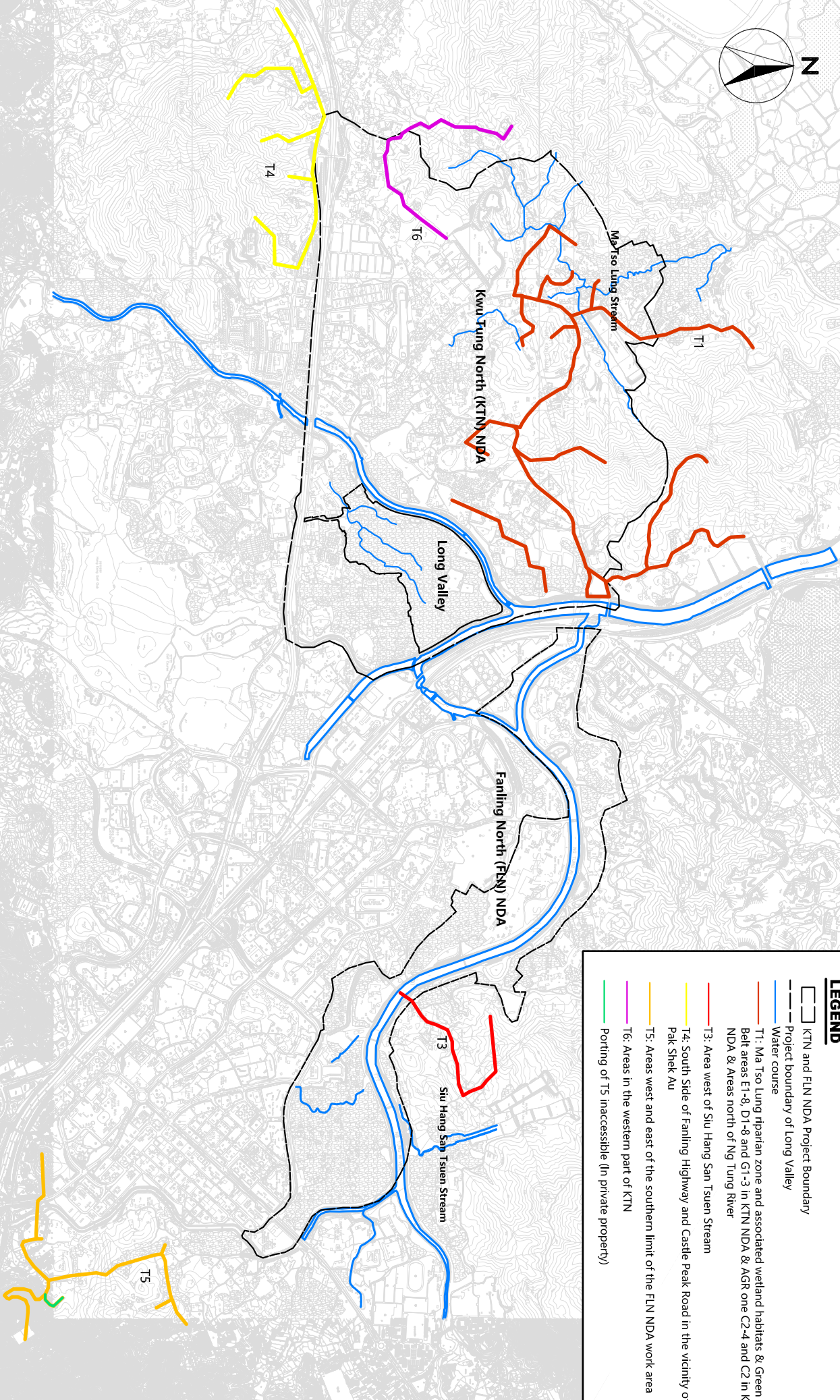


## LEGEND

-  KTN and FLN NDA Project Boundary
-  Site boundary at Long Valley
-  Water course
-  Monitoring Stations







#### LEGEND

- KTN and FLN NDA Project Boundary
- Project boundary of Long Valley
- Water course
- T1: Ma Tso Lung riparian zone and associated wetland habitats & Green Belt areas E1-8, D1-8 and G1-3 in KTN NDA & AGR one C2-4 and C2 in KTN NDA & Areas north of Ng Tung River
- T3: Area west of Siu Hang San Tsuen Stream
- T4: South Side of Fanling Highway and Castle Peak Road in the vicinity of Pak Shek Au
- T5: Areas west and east of the southern limit of the FLN NDA work area
- T6: Areas in the western part of KTN
- Porting of T5 inaccessible (in private property)

Service Contract No. NDO 04/2019 Environmental Team for EM&A Works in Construction  
Phase for the First Phase Development of KTN and FLN NDAs  
**Location of Transect Route of Ecological Sensitive Habitats**  
**(Non-Aquatic Fauna) Transects (T1, T3-T6)**

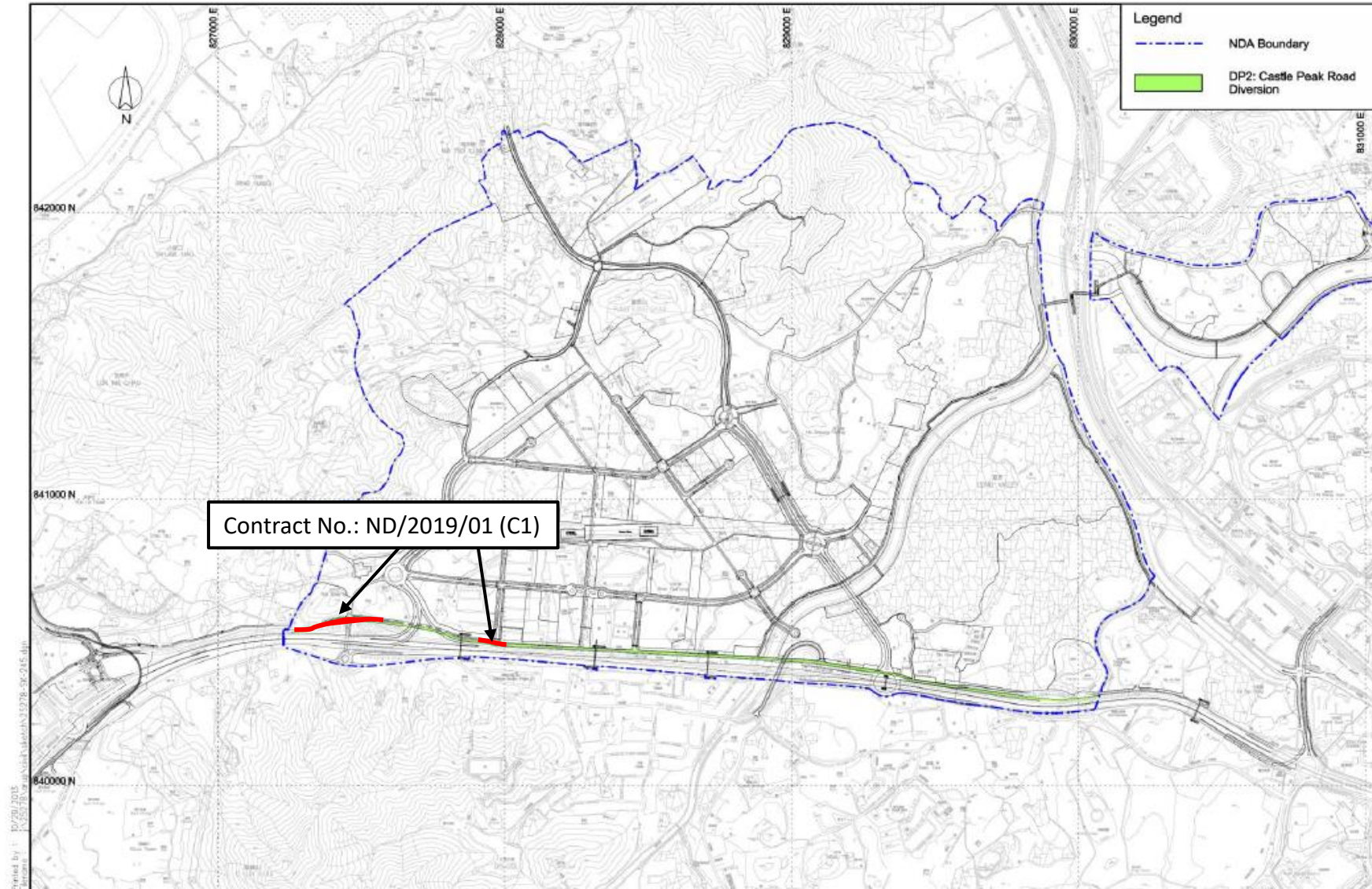
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PROJECT No.	WMA20002	FIGURE NO.	11
		REV	—

**Figure 12**

**Site Layout Plan of Contract ND/2019/01**

**under EP-466-2013**





**Project Title: Castle Peak Road Diversion**

**Figure 1: Location Plan for Castle Peak Road Diversion Project**

(Extracted from Drawing No. SK/245 of North East New Territories New Development Area Planning and Engineering Study)

**Environmental Permit No:**  
**EP-466/2013**

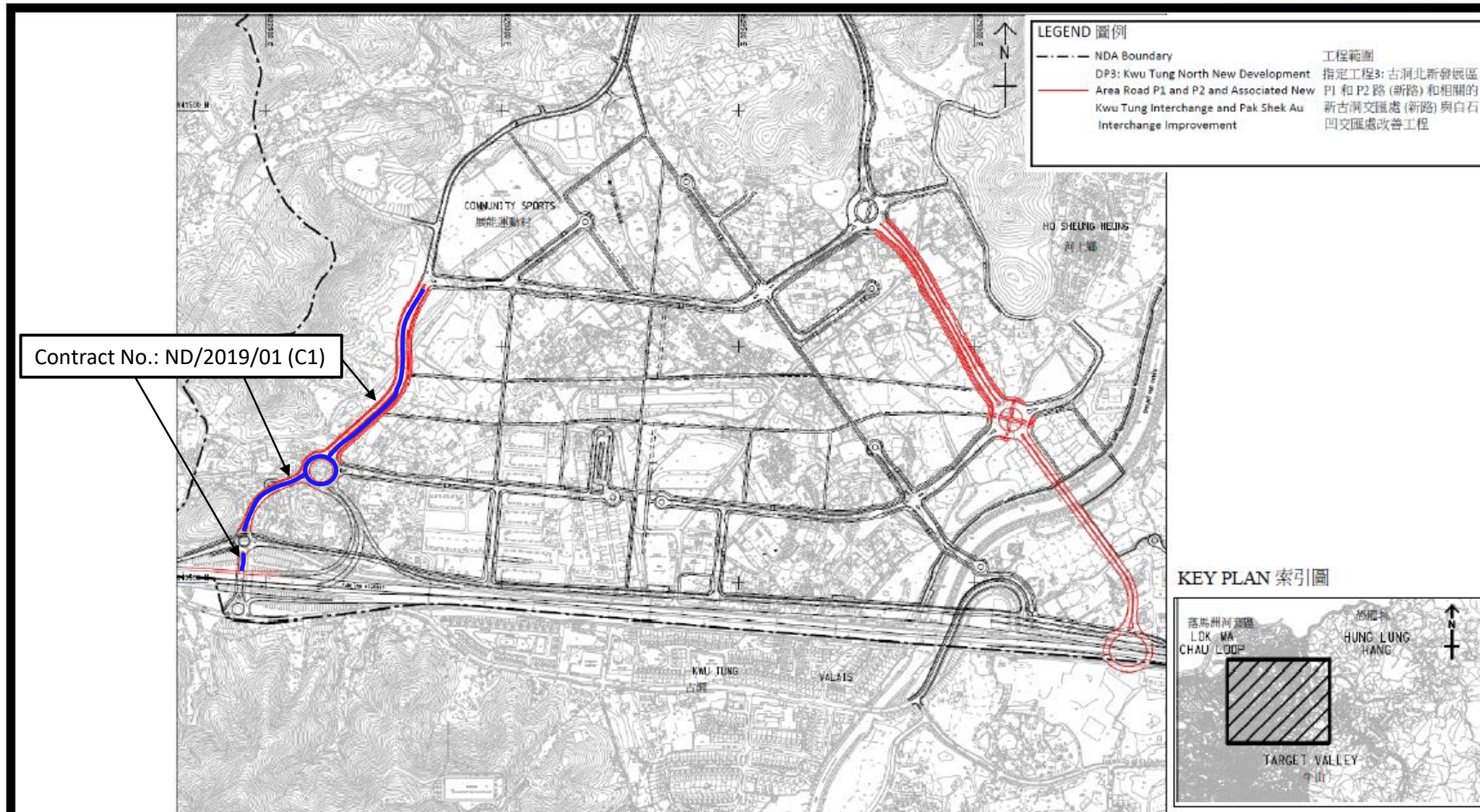




**Figure 13**

**Site Layout Plan of Contract ND/2019/01**

**under EP-467-2013-A**



**Project Title:** Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement  
**工程名稱:** 古洞北新發展區P1和P2路 (新路) 和相關的新古洞交匯處 (新路) 與白石凹交匯處改善工程

**Environmental Permit No:**  
**EP-467/2013/A**  
**環境許可證編號:**  
**EP-467/2013/A**



**Figure 1: Location Plan for Interchange Improvement (Indicative)**  
 (This figure was prepared based on Figure 1.2 of VEP application (No.: VEP-523/2016))

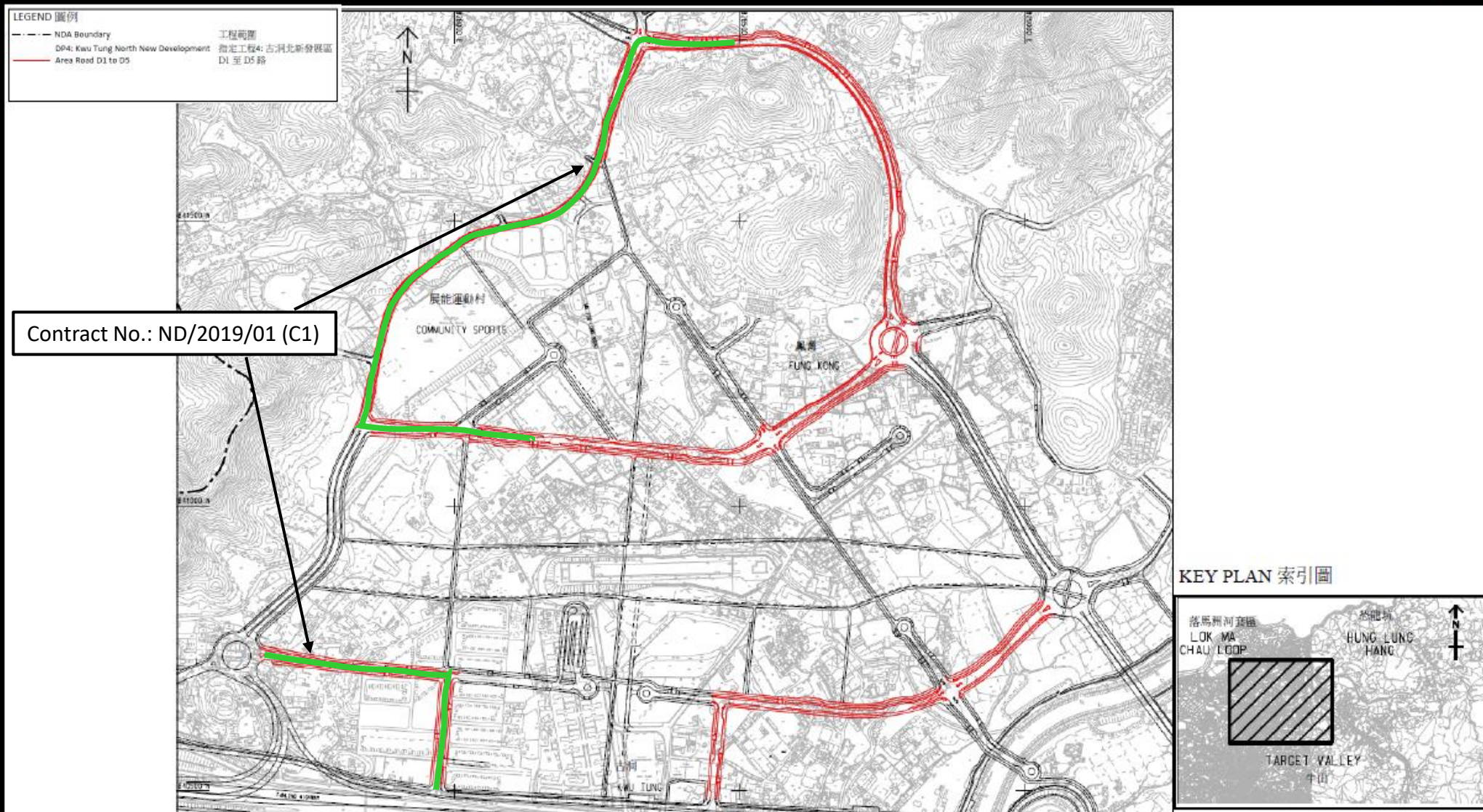
**圖1: 交匯處改善工程位置 (示意圖)**  
 (本圖是根據申請更改環境許可證(編號: VEP-523/2016)圖1.2編制)

**Figure 14**

**Site Layout Plan of Contract ND/2019/01**

**under EP-468-2013-A**





**Project Title:** Kwu Tung North New Development Area Road D1 to D5  
**工程名稱:** 古洞北新發展區D1至D5路

**Environmental Permit No:**  
 EP-468/2013/A  
**環境許可證編號:**  
 EP-468/2013/A



**Figure 1: Location Plan for The Project (Indicative)**

(This figure was prepared based on Figure 1.4 of VEP application (No.: VEP-524/2016))

**圖1：工程項目位置 (示意圖)**

(本圖是根據申請更改環境許可證(編號: VEP-524/2016)圖1.4編制)

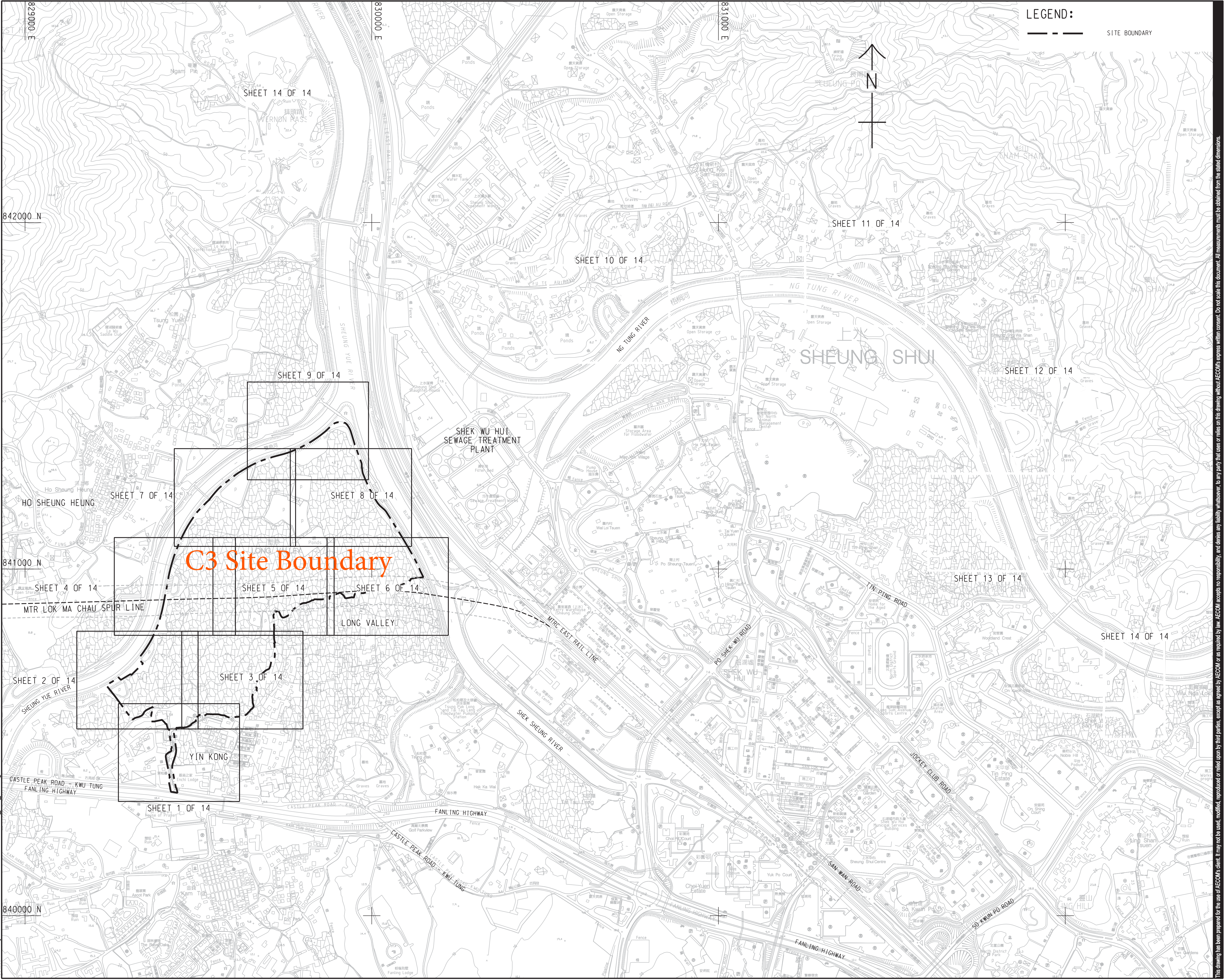
**Figure 15**

**Site Layout Plan of Contract ND/2019/03**

**under EP-468-2013-A**



Plot File by: Yauky 11/02/2019 11:02:2019  
PATH P:\Projects\60335576\DRAWING\CONTRACT\C3\C3\_C00\_1000.dgn  
Project Management Initials: Designer: KCTL Checked: CYCH Approved: HWL ISO A1 594mm x 841mm



# Sang Hing - Kuly Venture

## Title of Designated Project Kwu Tung North New Development Area Road D1 to D5

**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

**ISSUE/REVISION**  
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核實
-	JUN-19	TENDER DRAWING	CYCH

**STATUS**  
階段

**SCALE**  
比例

A1 1 : 5000

**DIMENSION UNIT**  
尺寸單位

METRES

**KEY PLAN**  
索引圖

**PROJECT NO.**  
項目編號

60335576

**CONTRACT NO.**  
合約編號

ND/2019/03

**SHEET TITLE**  
圖紙名稱

KEY PLAN OF GENERAL LAYOUT

**SHEET NUMBER**  
圖紙編號

60335576/C3/C00/1000

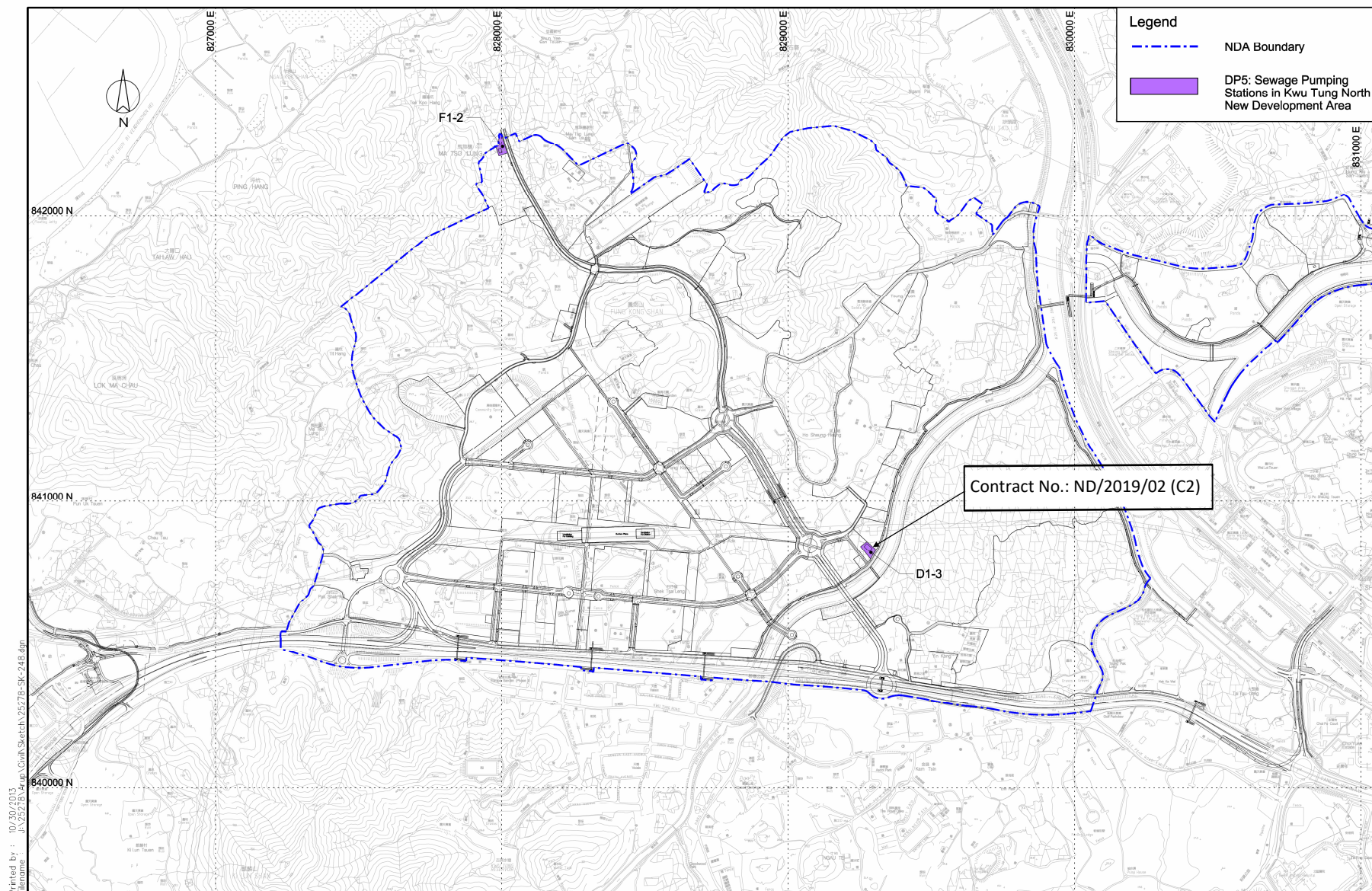
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**Figure 16**

**Site Layout Plan of Contract ND/2019/02**

**under EP-469-2013**



**Project Title: Sewage Pumping Stations in Kwu Tung North New Development Area**

**Figure 1: Location Plan for the Proposed Pumping Stations**

(Extracted from Drawing No. SK/248 of North East New Territories New Development Area Planning and Engineering Study)

**Environmental Permit No:**  
**EP-469/2013**

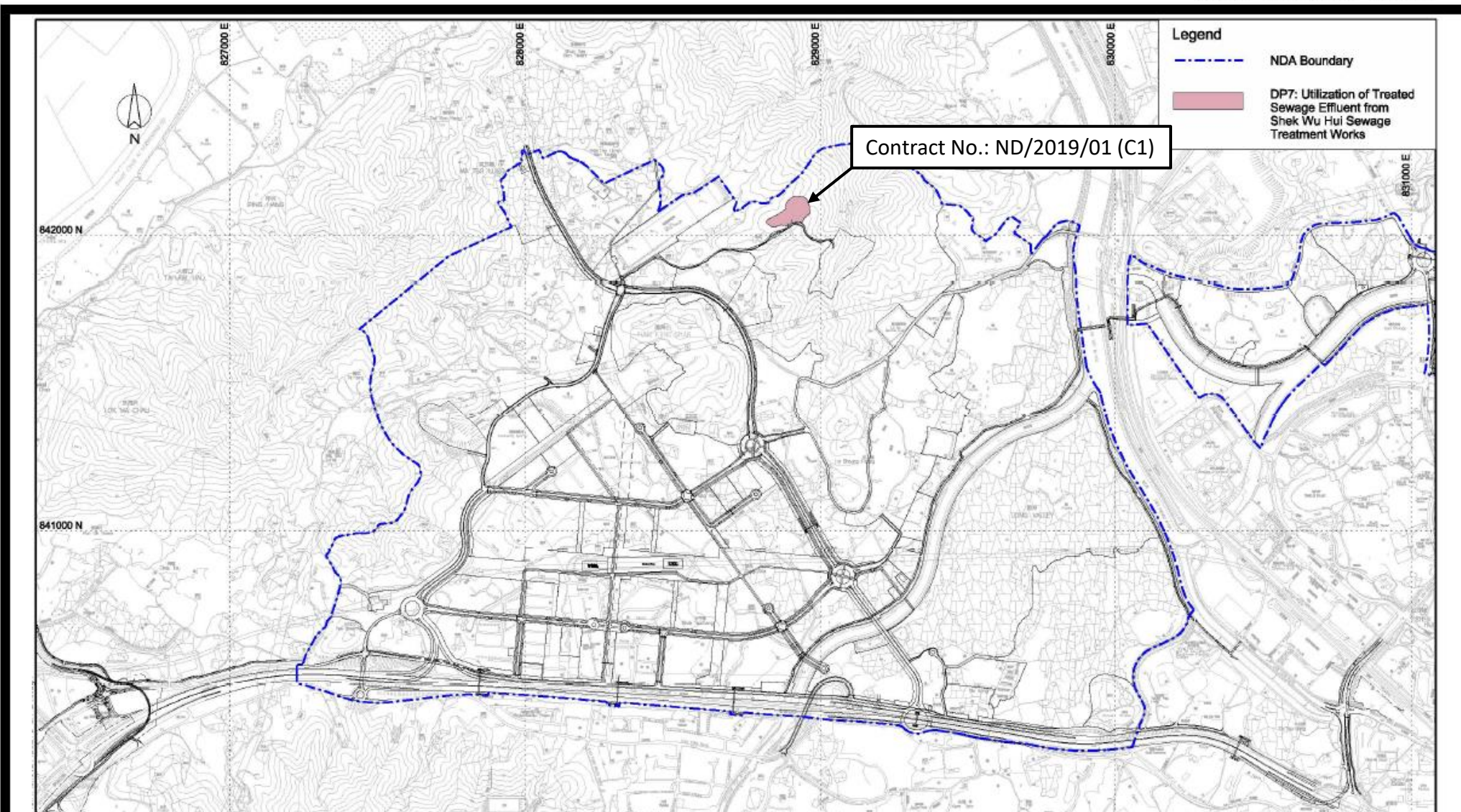




**Figure 17**

**Site Layout Plan of Contract ND/2019/01**

**under EP-470-2013**



**Project Title: Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works**

**Figure 1: Location Plan for the Project**

(Extracted from Drawing No. SK/249 of North East New Territories New Development Area Planning and Engineering Study)

**Environmental Permit No:  
EP-470/2013**

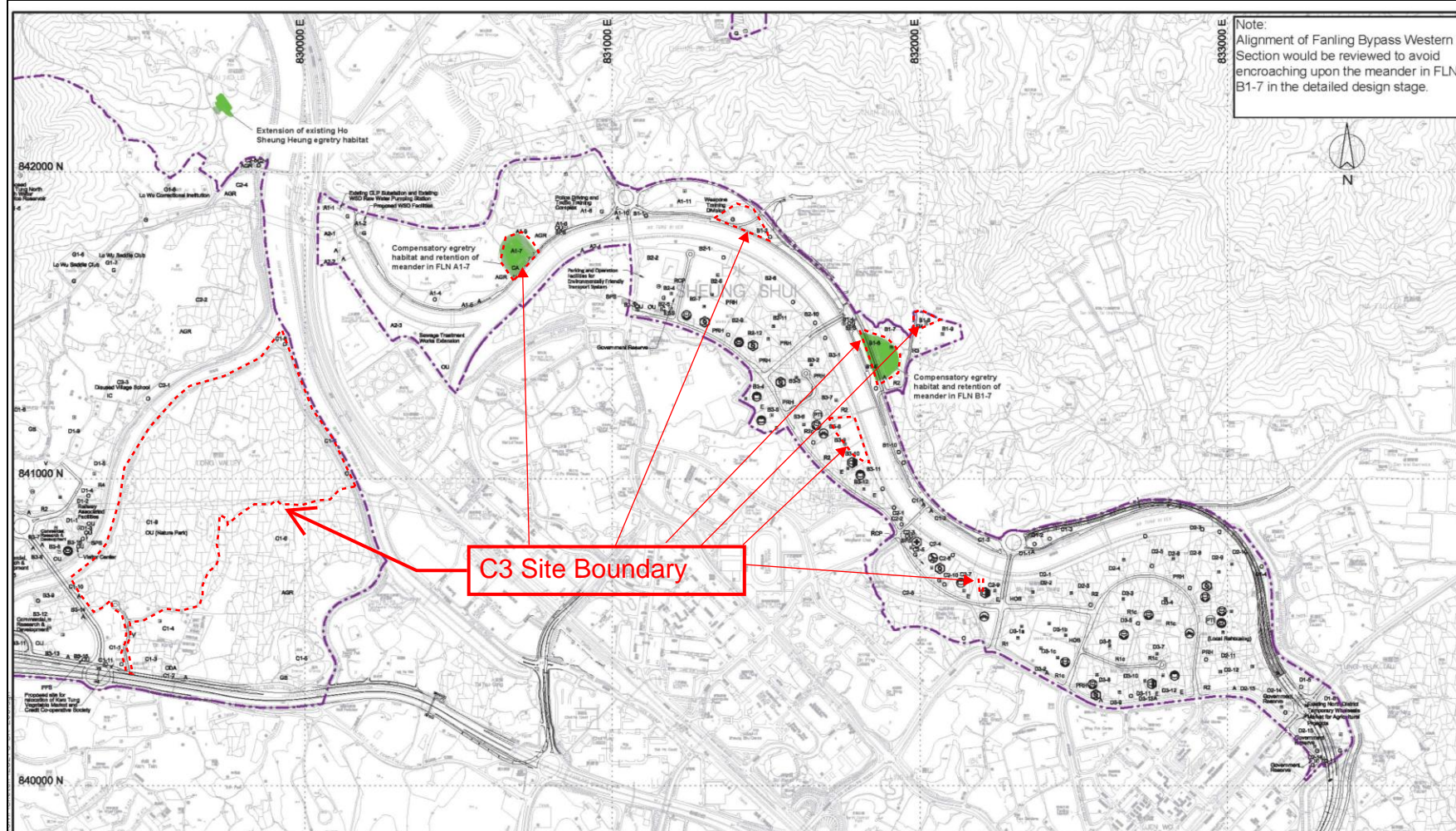


**Figure 18**

**Site Layout Plan of Contract ND/2019/03**

**under EP-473-2013-A**





**Project Title:** Fanling Bypass Eastern Section

**工程名稱:** 粉嶺繞道東段

**Figure 2:** Location of Alternative Egretty Sites and Retained Meanders

**圖 2:** 替代鷺鳥林選址和保留河曲的位置

(Extracted from Drawing No. SK/254 of North East New Territories New Development Area Planning and Engineering Study)

(摘錄自新界東北新發展區規劃及工程研究 圖: SK/254)

**Environmental Permit No:**

**EP-473/2013/A**

**環境許可證編號: EP-473/2013/A**

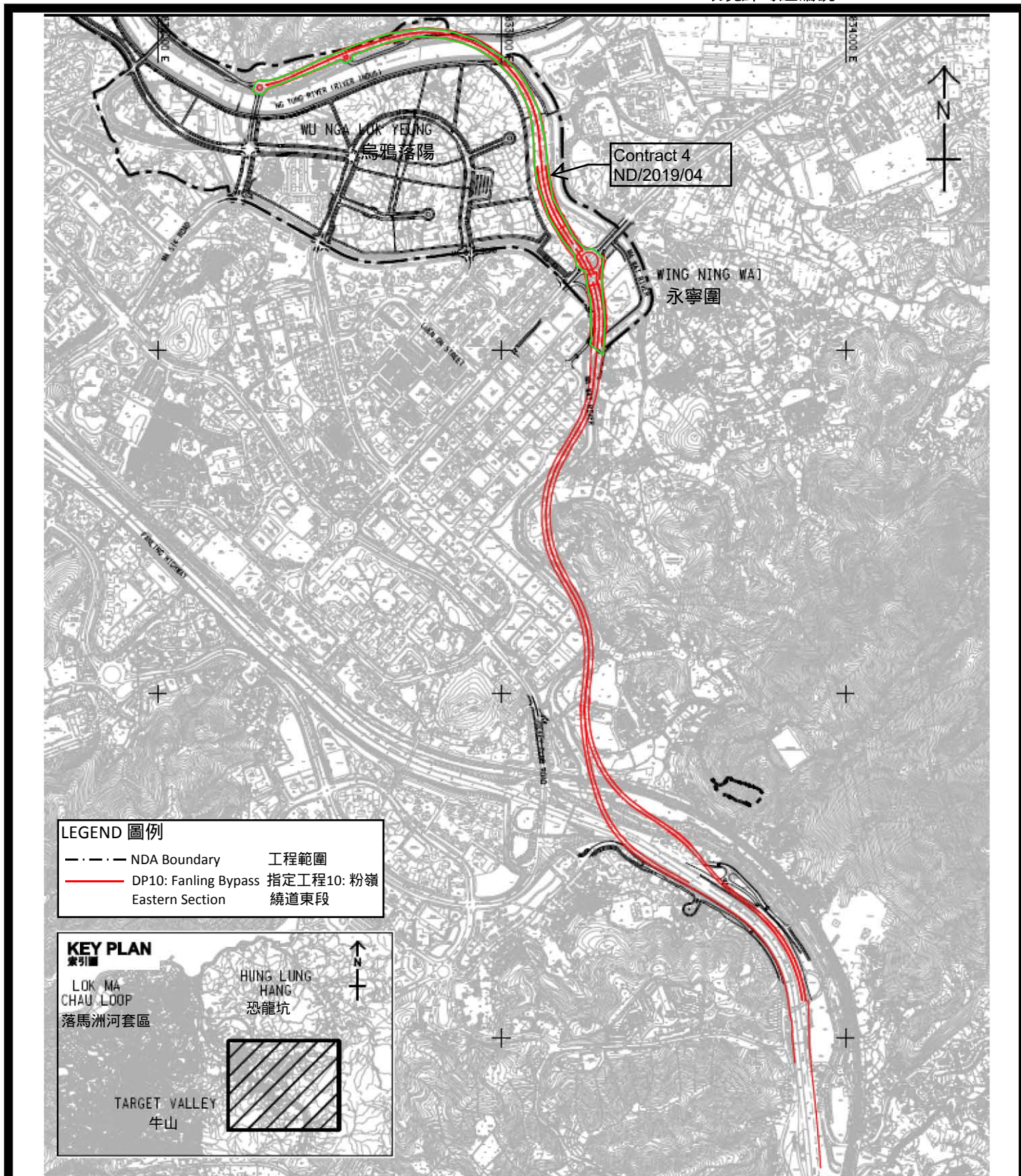


**Figure 19**

**Site Layout Plan of Contract ND/2019/04**

**under EP-473-2013-A**





**Project Title: Fanling Bypass Eastern Section**

**工程名稱: 粉嶺繞道東段**

**Figure 1: Location Plan for the Project (Indicative)**

**圖 1: 工程項目位置 (示意圖)**

This figure was prepared based on Figure 1.1 of VEP application (No.: VEP-526/2016)  
本圖是根據申請更改環境許可證(編號: VEP-526/2016)圖1.1編制

**Environmental Permit No:**

**EP-473/2013/A**

**環境許可證編號:**

**EP-473/2013/A**

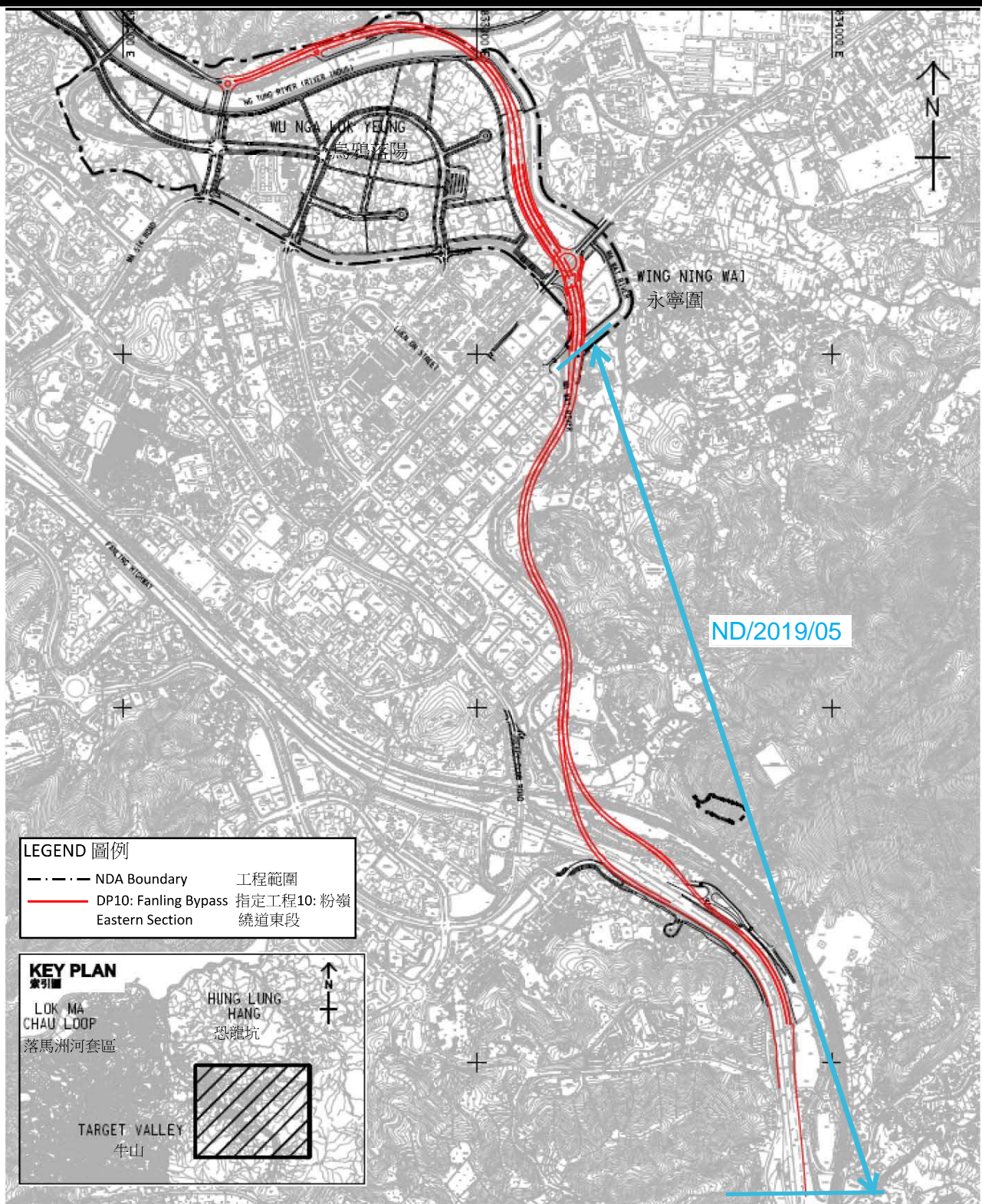


**Figure 20**

**Site Layout Plan of Contract ND/2019/05**

**under EP-473-2013-A**





**Project Title: Fanling Bypass Eastern Section**

工程名稱：粉嶺繞道東段

**Figure 1: Location Plan for the Project (Indicative)**

圖 1：工程項目位置 (示意圖)

This figure was prepared based on Figure 1.1 of VEP application (No.: VEP-526/2016)  
本圖是根據申請更改環境許可證(編號: VEP-526/2016)圖1.1編制

**Environmental Permit No:**

EP-473/2013/A

**環境許可證編號:**

EP-473/2013/A

EP-473/2013/A

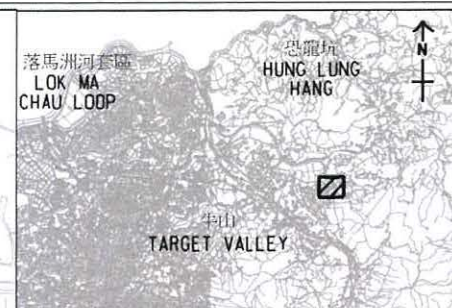
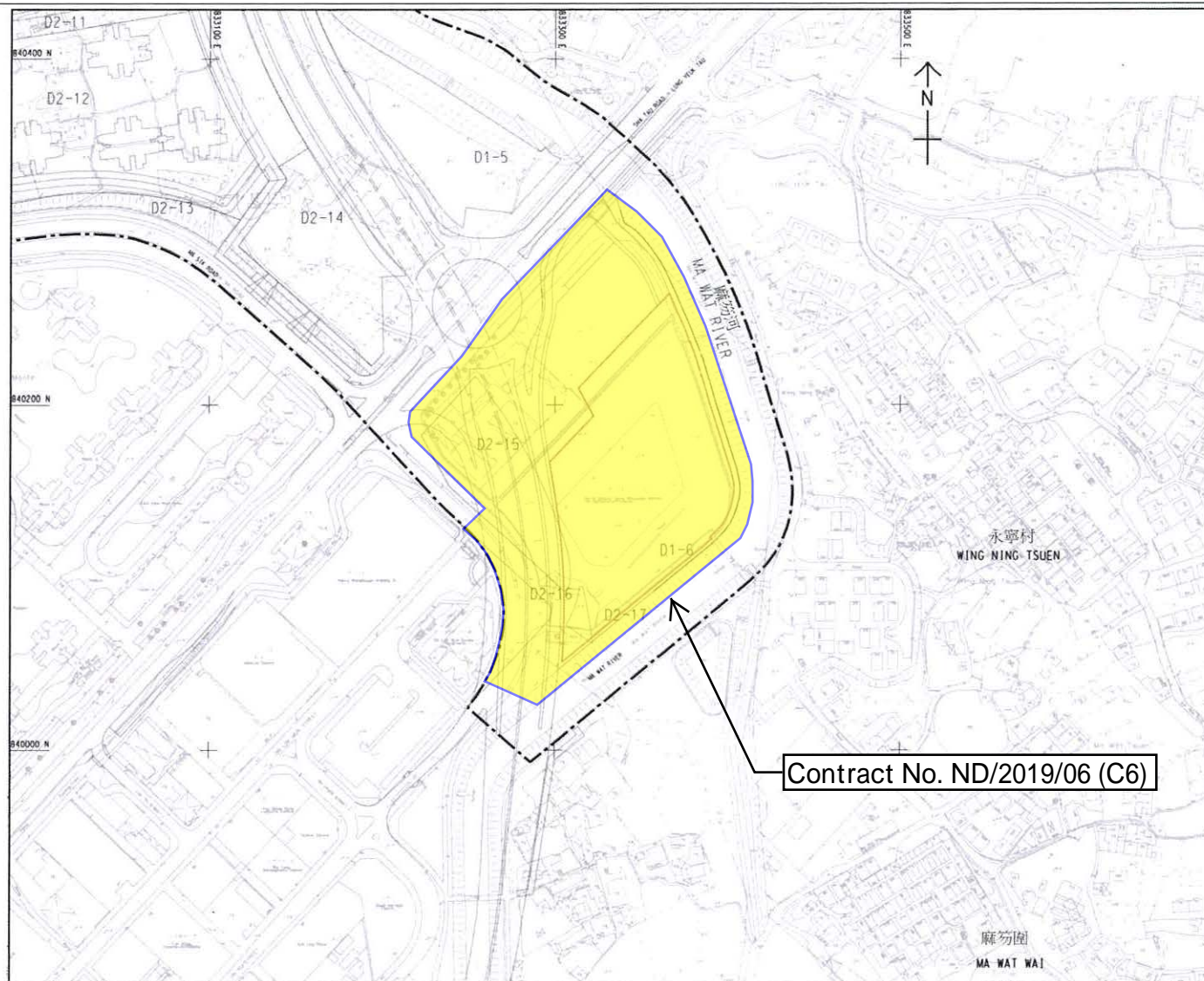




**Figure 21**

**Site Layout Plan of Contract ND/2019/06**

**under EP-475-2013-A**



圖例:

LEGEND:

- 新發展區項目邊界  
NDA PROJECT BOUNDARY
- 最新位置邊界  
LATEST SITE BOUNDARY



**Project Title: NENT - Reprovision of temporary Wholesale Market in Fanling North New Development Area**  
**工程名稱：粉嶺北新發展區重置臨時批發市場**

**Environmental Permit No.: EP-475/2013/A**  
**環境許可證編號：EP-475/2013/A**

**Figure 1: Project Location Plan (Indicative)**

**圖 1：工程項目位置圖（示意圖）**

(This figure was prepared based on Figure 1.1 of VEP application (No.: VEP-516/2016))  
 (本圖是根據申請更改環境許可證(編號 VEP-516/2016) 圖 1.1 編制)

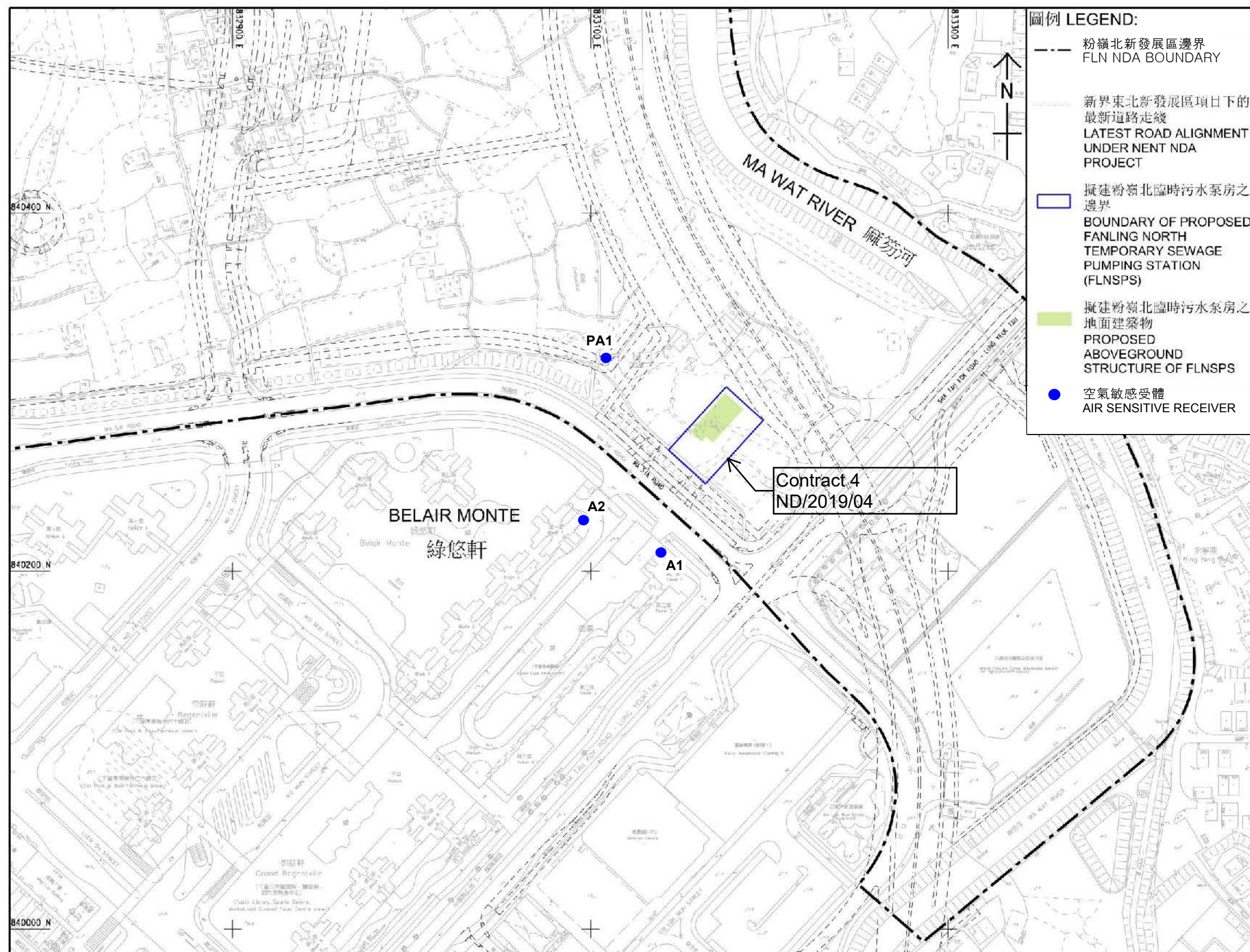


**Figure 22**

**Site Layout Plan of Contract ND/2019/04**

**under EP-546-2017**





**Project Title: Fanling North Temporary Sewage Pumping Station**  
**工程名稱：粉嶺北臨時污水泵房**

**Environmental Permit No.: EP-546/2017**  
**環境許可證編號：EP-546/2017**

**Figure 1: Project Location Plan (Indicative)**  
**圖 1：工程項目位置圖（示意圖）**

(This figure was prepared based on Figure 1.1 of Project Profile No: PP-557/2017  
 (本圖是根據工程項目簡介編號: PP-557/2017 圖 1.1 編制))



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**APPENDIX A**  
**CONSTRUCTION PROGRAMME**

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## **Construction Programme of ND/2019/01**



Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23						
Revised Programme (2022-06-25) Rev.0																																			
2.0 - Site Access Dates																																			
AD-1000	Poriton 1a	0	25-Jun-22*		-354	CD(7d)	◆ Poriton 1a																												
AD-1020	Portion 1c	0	25-Jun-22*		-170	CD(7d)	◆ Portion 1c																												
AD-1240	Poriton 13	0	25-Jun-22*		-170	CD(7d)	◆ Portion 13																												
3.0 - Site Completion Dates																																			
3.1 Sectional Work Completion (Original Contract Completion Date)																																			
SC0-1130	Section 9 - all works in Area F	0		06-Sep-22*	0	CD(7d)	◆ Section 9 - all works in Area F																												
SC0-1140	Section 10A - all works in Area J	0		06-Jul-22*	0	CD(7d)	◆ Section 10A - all works in Area J																												
3.2 Planned Sectional Work Completeion																																			
SC-1010	Section 2A - all works in Area C1	0		06-Jun-22 A		CD(7d)	◆ Section 2A - all works in Area C1																												
6.0 - Preliminaries and General Requirements																																			
6.2 - General Submissions																																			
GS-1230	Submission of Major Method Statements	42	06-Dec-19 A	05-Aug-22	586	CD(7d)																													
GS-1290	Preparation and Submission of Fully Corodinated BIM	1314	21-Aug-20 A	28-Jan-26*	8	CD(7d)																													
6.3 - Subletting Packages																																			
SP-1180	E&M works and Lift Installation for Pak Shek Au Pedestrian Subway	110	06-Jul-22	23-Oct-22	586	CD(7d)																													
7.0 Construction																																			
Section 1																																			
S1-1022	Potential Delay on Production and Supply of Precast Concrete Pipes (EWN 040) (CNE 047)	0		25-Jun-22	-211	CD(7d)	◆ Potential Delay on Production and Supply of Precast Concrete Pipes (EWN 040) (CNE 047)																												
S1-1024	Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)	0		25-Jun-22	-246	CD(7d)	◆ Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)																												
S1-1026	Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)	0		25-Jun-22	-246	CD(7d)	◆ Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)																												
S1-1028	Delay in Fabrication & Supply of Structural Steel Members for NB 35 due to the Severe Outbreak of Omicron (EWN 055)	0		25-Jun-22	-144	CD(7d)	◆ Delay in Fabrication & Supply of Structural Steel Members for NB 35 due to the Severe Outbreak of Omicron (EWN 055)																												
S1-1030	Obstruction for the Construction of Proposed Footpath and Cycle Track along Road L1 in Area H at Portion 7 (EWN 067)	0		25-Jun-22	-126	CD(7d)	◆ Obstruction for the Construction of Proposed Footpath and Cycle Track along Road L1 in Area H at Portion 7 (EWN 067)																												
S1-1032	DN200 Fresh Watermain to Existing Watermain for MWSC Site between Po Lau Road and Castle Peak Road (CNE 075)	0		25-Jun-22	-211	CD(7d)	◆ DN200 Fresh Watermain to Existing Watermain for MWSC Site between Po Lau Road and Castle Peak Road (CNE 075)																												
S1-1034	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Jun-22	-126	CD(7d)	◆ Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)																												
S1-1036	Later Supply and Installation of Traffic Signal and Ducting at the Junction of Road D1 and Road L1 in Area H (EWN 070)	0		25-Jun-22	-126	CD(7d)	◆ Later Supply and Installation of Traffic Signal and Ducting at the Junction of Road D1 and Road L1 in Area H (EWN 070)																												
S1-1038	Early Open Road D1-1 and Road L-1 for General Public Use and Access (EWN 071)	0		25-Jun-22	-211	CD(7d)	◆ Early Open Road D1-1 and Road L-1 for General Public Use and Access (EWN 071)																												
Portion 10a in Area H, H1, H2 (Soil Treatment & Provision of Site Access & EVA to MWSC)																																			
KD1 - Provision of Site Access and EVA to MWSC																																			
Civil Works																																			
Road D1 (Stage 1)																																			
S1K1-2000	Construct & maintain Temporary drainage	18	25-Jun-22	16-Jul-22	-198	WD(6d)																													
S1K1-2010	Pressure test for Fresh & Flushing watermain (around 190m)	12	28-Apr-22 A	09-Jul-22	-192	WD(6d)																													
S1K1-2014	Underground utilities (under footpath)	18	03-May-21 A	16-Jul-22	-198	WD(6d)																													
Road D1 (Stage 2) Castle Peak road junction																																			
S1K1-2024	Construct & maintain Temporary drainage	133	25-Jun-22	01-Dec-22	-198	WD(6d)																													
S1K1-2028	Underground Drainage (around 40m)	15	20-Dec-21 A	13-Jul-22	-183	WD(6d)																													
S1K1-2030	Underground Sewerage (around 40m)	20	20-Dec-21 A	19-Jul-22	-188	WD(6d)																													
S1K1-2032	Underground Fresh & Flushing watermain (around 40m)	30	24-Jan-22 A	30-Jul-22	-198	WD(6d)																													
S1K1-2033	Pressure test for Fresh & Flushing watermain (around 40m)	12	01-Aug-22	13-Aug-22	-198	WD(6d)																													
S1K1-2034	Underground utilities (around 40m)	42	16-Feb-22 A	13-Aug-22	-198	WD(6d)																													
S1K1-2036	Road works - Formation & Sub base	30	15-Aug-22	19-Sep-22	-198	WD(6d)																													
S1K1-2038	Road works - Road kerb	25	20-Sep-22	20-Oct-22	-198	WD(6d)																													
Road L1																																			

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	June 2022					July 2022					August 2022					September 2022					October 2022				
							2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23		
	S1K1-2100	Construct & maintain Temporary drainage	24	25-Jun-22	23-Jul-22	-133	WD(6d)																								
	S1K1-2109	Pressure test for Fresh & Flushing watermain <span></span> s (around 120m)	12	28-Apr-22 A	09-Jul-22	-121	WD(6d)																								
	S1K1-2110	Underground utilities (under footpath)	18	05-Nov-21 A	23-Jul-22	-133	WD(6d)																								
	Smart Road Lightings System Installation																														
	S1K1-3020	Procurement and delivery of smart road lighting system	19	01-Nov-21 A	13-Jul-22	-145	CD(7d)																								
	S1K1-3030	Installation of smart road lighting system	46	14-Jul-22	05-Sep-22	-116	WD(6d)																								
	S1K1-3040	Testing and Commissioning (T&C) for smart road l <span></span> ighting system	30	06-Sep-22	05-Oct-22	-104	CD(7d)																								
Section 2A																															
S2A-1000	Planned Completion Date of Section 2A	0		06-Jun-22 A		CD(7d)																									
Portion 5 in Area C1 (Soil Treatment & Interface with HD's Contractors)																															
Soil Treatment																															
S2AP5-2020	Remaining works (Site formation, proofrolling, chain Link fence, open channel)	0	11-Apr-22 A	06-Jun-22 A		WD(6d)																									
Section 2B																															
Portion 9a in Area C2 (Soil Treatment & Interface with HD's Contractors)																															
Interface with HD's Contractor to carry out GI																															
S2BP9a-3020	HD's Contractor to carry out GI in Area C2 (Stage 3)	40	25-Jun-22	03-Aug-22	276	CD(7d)																									
Section 3																															
Portion 1a in Area E (Soil Treatment & Interface with HKHS's Contractors)																															
Preparation work/Tree Survey/Site Clearance/GI																															
S3P1a-1040	Prepare Arsenic Assessment Report	18	25-Jun-22	16-Jul-22	707	WD(6d)																									
S3P1a-1050	Arsenic Treatment Plan	18	18-Jul-22	06-Aug-22	707	WD(6d)																									
Soil Treatment																															
S3P1a-2000	Construct & maintain Temporary drainage	84	08-Aug-22	16-Nov-22	929	WD(6d)																									
S3P1a-2010	Remove soil (original assumed 17334m3) (1 / 13 EGI completed, interim soil to be excavated / treated : 1260m3 / 400m3)	36	08-Aug-22	19-Sep-22	707	WD(6d)																									
S3P1a-2020	Backfilling to the formation levels	48	20-Sep-22	16-Nov-22	929	WD(6d)																									
Section 4A																															
Portion 1b in Area D1 (Soil Treatment & Interface with HD's Contractors)																															
Preparation work/Tree Survey/Site Clearance/GI																															
S4AP1b-1020	Site Clearance & Tree Felling	17	24-Mar-22 A	15-Jul-22	121	WD(6d)																									
S4AP1b-1040	Prepare Arsenic Assessment Report	36	16-Jul-22	26-Aug-22	168	WD(6d)																									
S4AP1b-1050	Arsenic Treatment Plan	36	27-Aug-22	11-Oct-22	168	WD(6d)																									
Soil Treatment																															
S4AP1b-2000	Construct & maintain Temporary drainage	177	25-Jun-22	27-Jan-23	80	WD(6d)																									
S4AP1b-2010	Remove soil (7 / 7 EGI completed, interim soil to be excavated / treated : 12150m3 / 8100m3) HAC Soil Below 2 m	6	25-Jun-22*	02-Jul-22	80	WD(6d)																									
S4AP1b-2020	Backfilling to the formation levels	171	04-Jul-22	27-Jan-23	80	WD(6d)																									
Interface with HD's Contractor to carry out GI																															
S4AP1b-3020	HD's Contractor to carry out GI in Area D1 (Stage 1A/2/2A)	0	06-May-22 A	04-Jun-22 A		CD(7d)																									
S4AP1b-3030	HD's Contractor to carry out GI in Area D1 Zone B (Stage 3)	90	16-Jul-22	13-Oct-22	145	CD(7d)																									
S4AP1b-3040	HD's Contractor to carry out GI in Area D1 Zone C (Stage 3)	90	14-Sep-22	12-Dec-22	145	CD(7d)																									
Section 4B																															
Portion 1c in Area D2 (Soil Treatment & Interface with HD's Contractors)																															
Preparation work/Tree Survey/Site Clearance/GI																															
S4BP1c-1040	Prepare Arsenic Assessment Report	30	25-Jun-22	30-Jul-22	336	WD(6d)																									
S4BP1c-1050	Arsenic Treatment Plan	30	01-Aug-22	03-Sep-22	336	WD(6d)																									
Soil Treatment																															
S4BP1c-2000	Construct & maintain Temporary drainage	72	25-Jun-22	19-Sep-22	324	WD(6d)																									
S4BP1c-2010	Remove soil (original assumed 2868m3) (0 / 2 EGI completed, interim soil to be excavated / treated : 0m3 / 0m3)	24	25-Jun-22*	23-Jul-22	324	WD(6d)																									
S4BP1c-2020	Backfilling to the formation levels	48	25-Jul-22	19-Sep-22	324	WD(6d)																									



Build King – Richwell Engineering  
Joint Venture

Planned Work

Critical Work

Actual Work

Milestone

Milestone Critical

ND/2019/01 - 3 Month Rolling Programme (2022-06)

Data Date: 25-Jun-22

Run Date: 28-June-22

Project ID: ND201901-RP-28.0

Lauyout: ND201901-3MRP with logo

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THE 3-MONTH ROLLING PROGRAMME


Date	Revision	Checked	Approved
28-Jun-22	Rev.0	SC	BY



Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	June 2022					July 2022					August 2022				September 2022				October 2022			
							2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16
Section 4C																												
Portion 1b in Area D3 (Soil Treatment & Interface with ArchSD's Contractors)																												
Preparation work/Tree Survey/Site Clearance/GI																												
S4CP1 b-1020	Site Clearance & Tree Felling	17	14-Mar-22 A	15-Jul-22	24	WD(6d)																						
S4CP1 b-1040	Prepare Arsenic Assessment Report	36	16-Jul-22	26-Aug-22	24	WD(6d)																						
S4CP1 b-1050	Arsenic Treatment Plan	36	27-Aug-22	11-Oct-22	24	WD(6d)																						
Interface with ArchSD's Wet Market Contractor to carry out GI																												
S4CP1 b-3010	ArchSD's Wet Market Contractor to carry out GI in Area D3	24	07-Jan-22 A	23-Jul-22	161	WD(6d)																						
Section 6A																												
Portion 1e in Area G1 (Soil Treatment & Forming Hammerhead)																												
Preparation work/Tree Survey/Site Clearance/GI																												
S6AP1e-1012	Approval & Acceptance of Tree Felling Application	0	11-Nov-21 A	11-Jun-22 A		CD(7d)																						
S6AP1e-1020	Site Clearance & Tree Felling	49	25-Jun-22 A	22-Aug-22	37	WD(6d)																						
S6AP1e-1040	Prepare Arsenic Assessment Report	36	23-Aug-22	06-Oct-22	37	WD(6d)																						
Section 6B																												
Portion 1e in Area G2 (Soil Treatment)																												
Preparation work/Tree Survey/Site Clearance/GI																												
S6BP1e-1012	Approval & Acceptance of Tree Felling Application	0	11-Nov-21 A	11-Jun-22 A		CD(7d)																						
S6BP1e-1020	Site Clearance & Tree Felling	49	25-Jun-22 A	22-Aug-22	634	WD(6d)																						
S6BP1e-1040	Prepare Arsenic Assessment Report	36	23-Aug-22	06-Oct-22	634	WD(6d)																						
Section 7 (Subject to excision)																												
KD2 - Portion 11b in Area K (Laying sewer rising mains and connect to existing MBR)																												
Sewerage Works																												
S7P11b-1015	Construct & maintain Temporary drainage	18	25-Jun-22	16-Jul-22	191	WD(6d)																						
S7P11b-1060	Construction of MBR & Civil works	18	08-Apr-21 A	16-Jul-22	191	WD(6d)																						
S7P11b-1080	Testing & Commissioning (T&C) of E&M equipment for MBR	19	10-Jun-22 A	13-Jul-22	236	CD(7d)																						
Portion 4 in Area K (Complete Temp. Noise Barriers along Castle Peak Road)																												
KD9 - Complete the temporary noise barriers along Castle Peak Road in Area I, J, K																												
S7P11b-3010	Erection of temporary noise barrier in Area K, Portion 11b (115m, 1 gang)	130	25-Jun-22	28-Nov-22	79	WD(6d)																						
Section 8																												
S8-1012	Suspension of Works at Part of Portion 2 (EWN No. 019)	0		25-Jun-22	-589	CD(7d)																						
S8-1014	Part of Portion 2 Occupied by YL/2015/01 (EWN No. 016) (CNE No. 022)	0		25-Jun-22	-589	CD(7d)																						
S8-1016	Opening of Cycle Track at Portion 2 and 10a (EWN No. 017)	0		25-Jun-22	-589	CD(7d)																						
S8-1018	Excavation Permit (XP) for New Cycle Path (EWN No. 021) (CNE No. 022)	0		25-Jun-22	-589	CD(7d)																						
S8-1020	Increased Difficulty for the Construction of Pak Shek Au Pedestrian Subway Cum Cycle Track at Portion 2 (EWN 068)	0		25-Jun-22	-366	CD(7d)																						
Portion 2 in Area A (Soil Treatment & Construction of Pak Shek Au Junction)																												
Preparation work																												
S8P2-0016	Site clearance / Tree Felling (Stage 2)	0	16-Nov-21 A	08-Jun-22 A		WD(6d)																						
S8P2-0018	Construction of temporary road	0	24-Nov-21 A	15-Jun-22 A		WD(6d)																						
S8P2-0020	Traffic diversion to temp road	0	16-Jun-22 A	22-Jun-22 A		WD(6d)																						
S8P2-1016	Remaining Ground investigation (0 / 1 GI completed)	12	25-Jun-22	09-Jul-22	-218	WD(6d)																						
S8P2-1018	Site clearance after Road Diversion	36	25-Jun-22	06-Aug-22	-242	WD(6d)																						
Soil Treatment																												
S8P2-2010	Remove soil (original assumed 6898m3) (0/1 EGI completed, interim soil to be excavated / treated : 0m3/0m3) Clean Soil	26	25-Jun-22*	26-Jul-22	-475	WD(6d)																						
S8P2-2020	Backfilling to the formation levels	48	27-Jul-22	21-Sep-22	-280	WD(6d)																						
Civil Work																												
Construction of Pak Shek Au Junction																												
S8P2-4100	Cut slope with soil nail construction at existing slope KS34	180	25-Jun-22	31-Jan-23	-306	WD(6d)																						

 <p><b>Build King – Richwell Engineering Joint Venture</b></p>	<div style="display: flex; flex-direction: column; gap: 5px;"> <div><div style="width: 20px; height: 10px; background-color: #90EE90; border: 1px solid black;"></div> Planned Work</div> <div><div style="width: 20px; height: 10px; background-color: #FF0000; border: 1px solid black;"></div> Critical Work</div> <div><div style="width: 20px; height: 10px; background-color: #0000FF; border: 1px solid black;"></div> Actual Work</div> <div><div style="width: 0; height: 0; border-left: 5px solid transparent; border-right: 5px solid transparent; border-bottom: 8px solid black;"></div> Milestone</div> <div><div style="width: 0; height: 0; border-left: 5px solid transparent; border-right: 5px solid transparent; border-bottom: 8px solid red;"></div> Milestone Critical</div> </div>	<h2 style="margin: 0;">ND/2019/01 - 3 Month Rolling Programme (2022-06)</h2> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Data Date: 25-Jun-22</span> <span>Run Date: 28-June-22</span> </div>	<p>Project ID: ND201901-RP-28.0</p> <p>Layout: ND201901-3MRP with logo</p> <p>Page 3 of 14</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4">THE 3-MONTH ROLLING PROGRAMME</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Revision</th> <th style="width: 25%;">Checked</th> <th style="width: 25%;">Approved</th> </tr> <tr> <td>28-Jun-22</td> <td>Rev.0</td> <td>SC</td> <td>BY</td> </tr> </table>	THE 3-MONTH ROLLING PROGRAMME				Date	Revision	Checked	Approved	28-Jun-22	Rev.0	SC	BY
	THE 3-MONTH ROLLING PROGRAMME															
	Date	Revision	Checked	Approved												
28-Jun-22	Rev.0	SC	BY													

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23						
S8P2-4110	Expose existing UU & ELS for Drainage & Water Main	100	25-Jun-22	24-Oct-22	-306	WD(6d)																													
Portion 1a in Area A (Soil Treatment, Slope, Retaining Wall, Noise Barrier, Drainage & Roadwork)																																			
Preparation work																																			
S8P1a-0100	Delay in the Access to and Use of Portions 1a & 12 of the Site (CNE 034)	0		25-Jun-22	-404	CD(7d)												◆ Delay in the Access to and Use of Portions 1a & 12 of the Site (CNE 034)																	
S8P1a-0102	Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)	0		25-Jun-22	42	CD(7d)												◆ Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)																	
S8P1a-0104	Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)	0		25-Jun-22	42	CD(7d)												◆ Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)																	
S8P1a-0106	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Jun-22	376	CD(7d)												◆ Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)																	
S8P1a-1002	Tree survey and prepare tree felling and transplant report	33	26-Jul-21 A	03-Aug-22	-328	WD(6d)																													
S8P1a-1004	Approval & Acceptance of Tree Felling Application	30	04-Aug-22	02-Sep-22	-404	CD(7d)																													
S8P1a-1010	Site clearance	48	03-Sep-22	01-Nov-22	-330	WD(6d)																													
S8P1a-1050	Archaeological Survey	72	08-Jul-22	30-Sep-22	-268	WD(6d)																													
S8P1a-1060	Prepare and submit Asbestos Abatement Programme	4	23-May-22 A	28-Jun-22	-400	CD(7d)																													
S8P1a-1070	Notification and Approval of Asbestos Abatement Programme	48	29-Jun-22	15-Aug-22	-400	CD(7d)																													
S8P1a-1080	Set up Containment Area, Removal and Disposal of Asbestos and Clean up Works	60	16-Aug-22	27-Oct-22	-326	WD(6d)																													
Portion 3 in Area A (Soil Treatment, Drainage & Roadwork)																																			
Preparation work																																			
S8P3-0102	Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)	0		25-Jun-22	273	CD(7d)												◆ Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)																	
S8P3-0103	Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)	0		25-Jun-22	273	CD(7d)												◆ Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)																	
S8P3-0104	Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWs) (CNE 060)	0		25-Jun-22	273	CD(7d)												◆ Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWs) (CNE 060)																	
S8P3-0106	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Jun-22	488	CD(7d)												◆ Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)																	
Soil Treatment																																			
S8P3-2010	Remove soil (original assumed 1597 m3) (1 / 1 EGI completed, interim soil to be excavated / treated : 0m3 / 0m3)	24	25-Jun-22*	23-Jul-22	53	WD(6d)																													
S8P3-2020	Backfilling to the formation levels	48	25-Jul-22	19-Sep-22	53	WD(6d)																													
Civil Work																																			
S8P3-3000	Construct & maintain Temporary drainage	465	25-Jun-22	15-Jan-24	53	WD(6d)																													
S8P3-3005	Slopeworks (KS53 cut slope)	100	20-Sep-22	18-Jan-23	53	WD(6d)																													
S8P3-3010.0	Underground Drainage work (SMH1007 to 1008)	90	25-Jun-22	12-Oct-22	135	WD(6d)																													
Portion 5 in Area A (Soil Treatment, Bored Pile Wall, Drainage & Roadwork)																																			
Preparation work/Tree Survey/Site Clearance/GI																																			
S8P5-0000	The footing detail for Roadside Directional Sign ADS30 at Portion 5 (EWN 043)	0		25-Jun-22	1657	CD(7d)												◆ The footing detail for Roadside Directional Sign ADS30 at Portion 5 (EWN 043)																	
S8P5-0102	Design Layout and Profile for the Water Supply Pipework (EWN 034)	0		25-Jun-22	-49	CD(7d)												◆ Design Layout and Profile for the Water Supply Pipework (EWN 034)																	
S8P5-0104	Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)	0		25-Jun-22	-49	CD(7d)												◆ Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)																	
S8P5-0106	Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)	0		25-Jun-22	-49	CD(7d)												◆ Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)																	
S8P5-0108	Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWs) (CNE 060)	0		25-Jun-22	14	CD(7d)												◆ Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWs) (CNE 060)																	
S8P5-0110	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Jun-22	521	CD(7d)												◆ Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)																	
Construction according to CSD for Alternative on Bored Pile Wall																																			
S8P5-2005	Construct & maintain Temporary drainage	528	25-Jun-22	05-Apr-24	-22	WD(6d)																													
Civil Work																																			
S8P5-4002	Divert Local Road	265	19-Apr-22 A	16-May-23	-40	WD(6d)																													
S8P5-4004.02	Underground Fresh & Flushing watermain (South bound Carriageway)	142	28-Jun-22	14-Dec-22	-22	WD(6d)																													
S8P5-4014	Drainage works across DJ watermain (SMH1006a and pipe laying to 1006) (CNE 060, EC-1086)	90	04-Aug-22	19-Nov-22	-22	WD(6d)																													
S8P5-4014.0	Condition Survey for Drainage works across DJ watermain PMI 162 - (0 / 4 Trial Pits completed)	33	04-Jun-22 A	03-Aug-22	-22	WD(6d)																													
Portion 6a & 6b in Area A (Soil Treatment, Bored Pile Wall, Drainage & Roadwork)																																			
S8P6a-0002	Details of DCS pipe at D4-1 & D5 Road (EWN 030)	0		25-Jun-22	-328	CD(7d)												◆ Details of DCS pipe at D4-1 & D5 Road (EWN 030)																	
S8P6a-0003	Entrustment of Works for Installation of District Cooling System (DCS) pipelines along Road D4-1 (EWN 033)	0		25-Jun-22	11	CD(7d)												◆ Entrustment of Works for Installation of District Cooling System (DCS) pipelines along Road D4-1 (EWN 033)																	
Preparation work/Tree Survey/Site Clearance/GI																																			
S8P6a-1010	Site Clearance & Tree Felling	18	15-Feb-20 A	16-Jul-22	66	WD(6d)																													
Construction according to CSD for Alternative on Bored Pile Wall																																			
S8P6a-2004	Construct & maintain Temporary drainage	540	25-Jun-22	19-Apr-24	-41	WD(6d)																													
Civil Work																																			
S8P6a-4002	Road D4 - Underground Sewerage work (MH KT1.02 to Plug end)	74	24-Aug-22	21-Nov-22	-40	WD(6d)																													



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Joint Venture**

Planned Work  
 Critical Work  
 Actual Work  
 Milestone  
 Milestone Critical

## ND/2019/01 - 3 Month Rolling Programme (2022-06)

**Data Date: 25-Jun-22      Run Date: 28-June-22**

Project ID: ND201901-RP-28.0  
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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	June 2022					July 2022					August 2022					September 2022					October 2022				
							2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23		
S8P6a-4010.06	Road D4 (between SMH1002A and KT1001) - Underground Drainage work	48	25-Jun-22	20-Aug-22	-40	WD(6d)																									
	S8P6a-4010.08	Road D4 (SMHKT1001A and pipe laying to KT1001) - Underground Drainage work	48	22-Aug-22	19-Oct-22	-40	WD(6d)																								
	S8P6a-4018.02	Construction of Concrete Barrier Stem Wall KB01 Stage 3 (Bay 4 to 12) (8 / 9 bays completed)	42	21-Feb-22 A	13-Aug-22	0	WD(6d)																								
	S8P6a-4020.00	Road D4 Underground Flushing watermain CHQ 670 - 810	36	04-Jul-22*	13-Aug-22	-86	WD(6d)																								
	S8P6a-4020.02	Road D4 Underground Flushing watermain CHQ 520 - 670	42	15-Aug-22*	05-Oct-22	0	WD(6d)																								
	S8P6a-4054	Confirmation of Details for DCS pipes at D4-1 Road (EWN 030)	0		25-Jun-22*	-328	CD(7d)																								
Portion 9b & 9d in Area A (Soil Treatment, Slope, Retaining Wall, Drainage & Roadwork)																															
S8P9b-0003	Details of DCS pipe at D4-1 & D5 Road (EWN 030)	0		25-Jun-22	-328	CD(7d)																									
S8P9b-0004	Design Layout and Profile for the Water Supply Pipework (EWN 034)	0		25-Jun-22	-192	CD(7d)																									
S8P9b-3112	Conflict between Drainage Works and Existing Twin DN2200 Dongjiang Water Mains (CNE 051)	0		25-Jun-22	-192	CD(7d)																									
S8P9b-3114	Conflict between Drainage Works and Water Mains in Road W1 (CNE 052)	0		25-Jun-22	-192	CD(7d)																									
S8P9b-3116	Level Different between Road A3 and Road D4-1 (CNE 055)	0		25-Jun-22	-192	CD(7d)																									
S8P9b-3118	New Formed Feature KW18 L-Shape Retaining Wall abutting Road D4-1 and A3 (EWN 062) Cancelled	0		25-May-22 A		CD(7d)																									
S8P9b-3120	Strong Objection from the Local Villager for the Construction of L-Shape Retaining Wall KW02 at Road D4-1 (EWN 063)	0		25-Jun-22	-185	CD(7d)																									
S8P9b-3122	Requesting for Additional Concrete Vehicular Access by the Local Villager adjacent 9b of the Site (EWN 064)	0		25-Jun-22	-161	CD(7d)																									
S8P9b-3124	Suspension of Precast Concrete Manhole Supply due to the Severe Outbreak of COVID-19 in Mainland China (EWN 060)	0		25-Jun-22	-192	CD(7d)																									
S8P9b-3126	Increased Risk for Damages to Existing Dongjiang Raw Water Mains (DJRWs) (CNE 060)	0		25-Jun-22	-82	CD(7d)																									
S8P9b-3128	Additional Sewerage Pipes clash with the Proposed Watermain along Road D4 and D5 (EWN 065)	0		25-Jun-22	-245	CD(7d)																									
S8P9b-3130	Part of Portion 9b of the Site (near eastern end of Road D5) occupied by the Local Villagers (EWN 066)	0		25-Jun-22	-63	CD(7d)																									
S8P9b-3132	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Jun-22	431	CD(7d)																									
S8P9b-3134	Design Change to the Proposed Roads and New Features at Area A in Portion 9b of the Site (EWN 069)	0		25-Jun-22	20	CD(7d)																									
Preparation work/Tree Survey/Site Clearance/GI																															
S8P9b-0006	Removal of Existing CLP Facilities (EWN No. 018)	0		25-Jun-22	-129	CD(7d)																									
S8P9b-1002	Submission & Acceptance of Tree Felling Application	0	05-May-21 A	22-Jun-22 A		CD(7d)																									
S8P9b-1010	Site clearance & Tree Felling	48	25-Jun-22 A	20-Aug-22	-152	WD(6d)																									
S8P9b-1016	Remaining Ground investigation KS 19 (0 / 1 GI completed)	6	28-Jul-22	03-Aug-22	-103	WD(6d)																									
S8P9b-1017	Remaining Ground investigation Rd D4 (0 / 1 GI completed)	6	22-Aug-22	27-Aug-22	-118	WD(6d)																									
S8P9b-1025	Verification of Ground Condition & Design Review by Project Manager	60	25-Jun-22	23-Aug-22	-123	CD(7d)																									
S8P9b-1040	Arsenic Treatment Plan (Stage 2)	36	25-Jun-22	06-Aug-22	-140	WD(6d)																									
Soil Treatment																															
S8P9b-2010	Remove soil (original assumed 15758m3) (0 / 8 EGI completed, interim soil to be excavated / treated : 0m3 / 0m3)	40	22-Aug-22*	10-Oct-22	-152	WD(6d)																									
Civil Work																															
S8P9b-3000	Construct & maintain Temporary drainage	714	25-Jun-22	16-Nov-24	-220	WD(6d)																									
S8P9b-3001	Slopeworks for new feature KS19 Cut Slope	6	04-Aug-22	10-Aug-22	-86	WD(6d)																									
S8P9b-3002	Slopeworks for new feature KS19 (Rows D & E 19 nos. soil nails)	12	11-Aug-22	24-Aug-22	-86	WD(6d)																									
S8P9b-3003	Slopeworks for new feature KS19 (Rows B & C 46 nos. soil nails)	21	25-Aug-22	19-Sep-22	-86	WD(6d)																									
S8P9b-3004	Slopeworks for new feature KS19 (Row A 69 nos. soil nails)	36	20-Sep-22	02-Nov-22	-86	WD(6d)																									
S8P9b-3020	Road D4 - Underground Flushing watermain CHQ 810 - 1050	60	15-Aug-22*	26-Oct-22	-86	WD(6d)																									
S8P9b-3038	Road D5 - Construction of No Fines Backfill	42	02-Jul-22*	19-Aug-22	-193	WD(6d)																									
S8P9b-3040.02	Construction of retaining wall KW04 (3 / 3 footing completed & 2 / 3 stem wall completed)	24	24-Dec-21 A	23-Jul-22	-80	WD(6d)																									
S8P9b-3040.04	Construction of retaining wall KW03 (3 / 3 footing completed & 2 / 3 stem wall completed) Stage 1	20	21-Feb-22 A	19-Jul-22	-166	WD(6d)																									
S8P9b-3040.06	Construction of retaining wall KW02 (0 / 2 footing completed & 0 / 2 stem wall completed)	60	20-Aug-22	01-Nov-22	-193	WD(6d)																									
S8P9b-3058.04	Road D5 - Construction of Underground Drainage Manhole SMH KT7102 to SMH KT7103	33	17-Jan-22 A	03-Aug-22	-17	WD(6d)																									
S8P9b-3100	Construct Temporary Decking over Nullah	24	04-Jul-22	30-Jul-22*	-220	WD(6d)																									
S8P9b-3102	Divert Ma Tso Lung Road & Demolish existing Decking over Nullah	206	01-Aug-22	11-Apr-23	-220	WD(6d)																									
S8P9b-3108	Construct Underground Utilities & Drainage works (Road D4-2, D4-1 CH 950 to 1000 & Road D5 CH 0 to 150)	206	01-Aug-22	11-Apr-23	-220	WD(6d)																									
S8P9b-3500	Confirmation of Details for DCS pipes at D4-1 & D5 Road (EWN 030)	0		25-Jun-22*	-328	CD(7d)																									
Portion 8a in Area A (Soil Treatment, Reservoirs, Slope, Drainage & Roadwork)																															
S8P8a-1106	Design Change on Road W1 (EWN 025)	0		25-Jun-22	-227	CD(7d)																									
S8P8a-3090	Insufficient Width of Road W1 for Accommodation of All Underground Utilities (CNE 056)	0		25-Jun-22	-227	CD(7d)																									
Preparation work/Tree Survey/Site Clearance/GI																															
S8P8a-1030	Ground investigation (2 / 3 GI completed) to Fresh Water Service Reservoir	5	21-Dec-20 A	30-Jun-22	-105	WD(6d)																									
S8P8a-1046	Verification of Ground Condition & Design Review by Project Manager (to Fresh Water Service Reservoir)	60	01-Jul-22	29-Aug-22	-130	CD(7d)																									



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Planned Work

Critical Work

Actual Work

Milestone

Milestone Critical

ND/2019/01 - 3 Month Rolling Programme (2022-06)

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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	June 2022					July 2022					August 2022				September 2022				October 2022								
							2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23				
Forming Site Access and Site Formation																																	
Stage 1 General Excavation near Flushing Water Servie Reservoir (Excavation Volume 52834 m3)																																	
S8P8a-1105	Construct & maintain Temporary drainage	40	25-Jun-22	11-Aug-22	-195	WD(6d)																											
S8P8a-1160	General excavation for remaining of Road W1	40	11-Jun-20 A	11-Aug-22	-195	WD(6d)																											
Stage 2 General Excavation near Fresh Water Servie Reservoir (Excavation Volume 299396 m3)																																	
S8P8a-1208	Construct & maintain Temporary drainage	13	25-Jun-22	11-Jul-22	-168	WD(6d)																											
S8P8a-1220	General excavation for New Feature KS47 and adjacent road	13	01-Dec-20 A	11-Jul-22	-168	WD(6d)																											
S8P8a-1230	General excavation for New Feature KS49 and adjacent road	13	11-Jan-21 A	11-Jul-22	-168	WD(6d)																											
S8P8a-1250	General excavation for remaining of Road W2	13	14-Dec-20 A	11-Jul-22	-168	WD(6d)																											
KD8 - complete all works for fresh water and flushing water services reservoirs, pipe laying & road																																	
S8K8-6000	Temporary Stockpile at Portion 5 and Additional Land D (EWN No. 020) (CNE No. 020, 037, 038)	0		25-Jun-22	-242	CD(7d)																				Temporary Stockpile at Portion 5 and Additional Land D (EWN No. 020) (CNE No. 020, 037, 038)							
S8K8-6002	Strong Objection on the Construction of Fresh and Flushing Reservoirs (EWN 031) Maintenance Access beside KS47	0		25-Jun-22	-196	CD(7d)																				Strong Objection on the Construction of Fresh and Flushing Reservoirs (EWN 031) Maintenance Access beside KS47							
S8K8-6006	Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)	0		25-Jun-22	26	CD(7d)																				Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)							
Construction of Kwu Tung North Flushing Water Service Reservoir (KTN FLWSR)																																	
Civil Works																																	
S8K8-1005	Construct & maintain Temporary drainage	154	25-Jun-22	27-Dec-22	21	WD(6d)																											
S8K8-1030.054	Waiting for supply of DI pipes (EWN 041, CNE 047 EC-1054)	16	02-Dec-21 A	14-Jul-22	21	WD(6d)																											
S8K8-1030.056	Construction of Outlet Chamber (after DI pipe supply recommenced)	30	15-Jul-22	18-Aug-22	21	WD(6d)																											
S8K8-1030.46	Construction of Roof Slab bay 5 (GL 12 - 15 & GL D - G)	0	30-May-22 A	09-Jun-22 A		WD(6d)																											
S8K8-1030.47	Construction of Roof Slab bay 5a (GL 12 - 15 & GL A - D)	0	13-May-22 A	31-May-22 A		WD(6d)																											
S8K8-1040	Backfilling (6559m3)	108	19-Aug-22	27-Dec-22	21	WD(6d)																											
E&M Works																																	
S8K8-2010	Design and Approval for E&M works for KTN FLWSR	24	01-Feb-21 A	18-Jul-22	56	CD(7d)																											
S8K8-2020	Submission and Approval of E&M plants & materials for KTN FLWSR	54	01-Feb-21 A	17-Aug-22	26	CD(7d)																											
S8K8-2030	Procurement of E&M equipment for KTN FLWSR	60	03-Aug-22	01-Oct-22	26	CD(7d)																											
Construction of Kwu Tung North Freshwater Service Reservoir (KTN FWSR)																																	
S8K8-6034	Revised Construction Drawings of Fresh Water Service Reservoir (CNE 067, 067a)	0		25-Jun-22	-39	CD(7d)																				Revised Construction Drawings of Fresh Water Service Reservoir (CNE 067, 067a)							
S8K8-6044	Potential Delay on Supply of Steel Moulds for Construction of Fresh Water Service Reservoir(FWSR) (EWN 053)	0		25-Jun-22	-23	CD(7d)																				Potential Delay on Supply of Steel Moulds for Construction of Fresh Water Service Reservoir(FWSR) (EWN 053)							
Civil Works																																	
S8K8-1000.06	Base Slab - bay 5b	0	25-Apr-22 A	01-Jun-22 A		WD(6d)																											
S8K8-1000.08	Base Slab - bay 7	18	25-Jun-22	16-Jul-22	-39	WD(6d)																											
S8K8-1000.10	Base Slab - bay 8	18	18-Jul-22	06-Aug-22	-39	WD(6d)																											
S8K8-1000.12	Base Slab - bay 9	18	08-Aug-22	27-Aug-22	-39	WD(6d)																											
S8K8-1000.24	Pad Footing - GL 8 & 10 / C-G	0	25-Apr-22 A	07-Jun-22 A		WD(6d)																											
S8K8-1000.26	Pad Footing - GL 11 / C-G	0	20-May-22 A	07-Jun-22 A		WD(6d)																											
S8K8-1000.28	Pad Footing - GL 3-5 / L-Q	14	25-Jun-22	12-Jul-22	-39	WD(6d)																											
S8K8-1000.30	Pad Footing - GL 6 & 7 / L-Q	14	13-Jul-22	28-Jul-22	-39	WD(6d)																											
S8K8-1000.32	Pad Footing - GL 8 & 10 / L-Q	14	29-Jul-22	13-Aug-22	-39	WD(6d)																											
S8K8-1000.34	Pad Footing - GL 11 / L-Q	14	15-Aug-22	30-Aug-22	-39	WD(6d)																											
S8K8-1000.40	Cover Slab - No. 14	0	09-May-22 A	11-Jun-22 A		WD(6d)																											
S8K8-1000.42	Cover Slab - No. 15 Stage 1	3	16-Jun-22 A	28-Jun-22	-31	WD(6d)																											
S8K8-1000.44	Cover Slab - No. 16	15	29-Jun-22	16-Jul-22	-31	WD(6d)																											
S8K8-1000.48	Cover Slab - No. 17 Stage 1	15	18-Jul-22	03-Aug-22	-31	WD(6d)																											
S8K8-1000.50	Cover Slab - No. 17 Stage 2	15	04-Aug-22	20-Aug-22	-31	WD(6d)																											
S8K8-1000.60	Columns (152 nos)	208	25-Jun-22	04-Mar-23	-19	WD(6d)																											
S8K8-1000.70	Baffle Wall - GL 10 / J-P	12	31-Aug-22	14-Sep-22	-39	WD(6d)																											
S8K8-1000.72	Baffle Wall - GL 7 / M-S	12	08-Aug-22	20-Aug-22	-31	WD(6d)																											
S8K8-1000.74	Baffle Wall - GL 4 / J-P	12	25-Jul-22	06-Aug-22	-31	WD(6d)																											
S8K8-1000.78	Baffle Wall - GL 7 / A-F	12	11-Jul-22	23-Jul-22	-31	WD(6d)																											
S8K8-1000.80	Baffle Wall - GL 4 / D-J	12	25-Jun-22	09-Jul-22	-31	WD(6d)																											
S8K8-1002.02	Wall - No. 2	0	20-May-22 A	07-Jun-22 A		WD(6d)																											
S8K8-1002.04	Wall - No. 3	18	25-Jun-22	16-Jul-22	-33	WD(6d)																											



Planned Work

Critical Work

Actual Work

◆ Milestone

◆ Milestone Critical

## ND/2019/01 - 3 Month Rolling Programme (2022-06)

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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	June 2022					July 2022					August 2022				September 2022				October 2022				
							2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23
	S8K8-1002.06	Wall - No. 5	18	18-Jul-22	06-Aug-22	-33	WD(6d)																						
	S8K8-1002.08	Wall - No. 6	18	08-Aug-22	27-Aug-22	-33	WD(6d)																						
	S8K8-1002.10	Wall - No. 7	18	29-Aug-22	19-Sep-22	-33	WD(6d)																						
	S8K8-1002.26	Wall - No. 1T	20	31-Aug-22	23-Sep-22	-39	WD(6d)																						
	S8K8-1002.28	Wall - No. 2T	20	24-Sep-22	19-Oct-22	-39	WD(6d)																						
	S8K8-1002.30	Wall - No. 4	18	15-Jun-22 A	16-Jul-22	-33	WD(6d)																						
	S8K8-1042	Construction of Outlet Chamber	54	08-Feb-22 A	27-Aug-22	-39	WD(6d)																						
	S8K8-1044	Construction of Temporary Access Rd to Receiving Pit adjacent to FWSR Grid Line 1	32	08-Jul-22*	13-Aug-22	-254	WD(6d)																						
	S8K8-1046	Remianing Excavation for Construction of FWSR adjacnet to Cut Slope KS47	30	15-Aug-22	19-Sep-22	-72	WD(6d)																						
	S8K8-3000	Construct & maintain Temporary drainage	451	25-Jun-22	28-Dec-23	-72	WD(6d)																						
	S8K8-3026	Construction of Sub soil drainage (Stage 2)	48	11-Aug-22	08-Oct-22	-72	WD(6d)																						
	S8K8-3043	Up Hill Recieving Pit - GI works (7/7 completed)	0	25-Apr-22 A	30-May-22 A		WD(6d)																						
	S8K8-3046	Up Hill Recieving Pit - Pipe Pile along Access Road (194 nos.)	50	25-Jun-22	23-Aug-22	-262	WD(6d)																						
	S8K8-3048	Up Hill Recieving Pit - Excavation and tie back installation	52	24-Aug-22	26-Oct-22	-262	WD(6d)																						
	E&M Works																												
S8K8-4010	Design and Approval for E&M works for KTN FWSR	39	20-Dec-21 A	02-Aug-22	0	CD(7d)																							
S8K8-4020	Submission and Approval of E&M plants & materials for KTN FWSR	131	15-Mar-22 A	02-Nov-22	-90	CD(7d)																							
Remaining Civil Work in Portion 8a Area A																													
S8P8a-2558	Construct & maintain Temporary drainage	163	01-Aug-22	15-Feb-23	-95	WD(6d)																							
S8P8a-2560	Excavation for retaining wall KW06 bay 1 - bay 7 (bays 0/7 completed)	100	01-Aug-22	28-Nov-22	-95	WD(6d)																							
S8P8a-2562	Construction of retaining wall KW06 bay 1 - bay 7 (bays 0/7 completed)	140	27-Aug-22	15-Feb-23	-95	WD(6d)																							
S8P8a-2598	Construct & maintain Temporary drainage	232	01-Aug-22	12-May-23	-189	WD(6d)																							
S8P8a-2600	Excavation for retaining wall KW05 bay 8 - bay 16 (bays 0/9 completed)	120	01-Aug-22	21-Dec-22	-189	WD(6d)																							
S8P8a-2628	Construct & maintain Temporary drainage	110	25-Jun-22	04-Nov-22	-195	WD(6d)																							
S8P8a-2630	Excavation for retaining wall KW05 bay 1 - bay 7 (bays 5/7 completed)	30	31-Mar-22 A	30-Jul-22	-195	WD(6d)																							
S8P8a-2632	Construction of retaining wall KW05 bay 1 - bay 7 (Base Slab 0/7 bays completed, Stem Wall 0/7 bays completed)	110	25-Jun-22	04-Nov-22	-195	WD(6d)																							
S8P8a-2658	Construct & maintain Temporary drainage	220	25-Jun-22	18-Mar-23	-182	WD(6d)																							
S8P8a-2660	Excavation for retaining wall KW11 bay 1 - bay 11 (bays 2/11 completed)	53	31-Mar-22 A	26-Aug-22	-182	WD(6d)																							
S8P8a-2662	Construction of retaining wall KW11 bay 1 - bay 11 (Base Slab 1/11 bays completed, Stem Wall 0/11 bays completed)	220	16-Jun-22 A	18-Mar-23	-182	WD(6d)																							
S8P8a-3046	Construct & maintain Temporary drainage	670	01-Aug-22	31-Oct-24	-195	WD(6d)																							
S8P8a-3048	Backfill to level of utilities laying	263	01-Aug-22	19-Jun-23	-195	WD(6d)																							
S8P8a-3050	Underground utilities & Drairage work (605m drain and 23 M/H, 2 gang)	400	12-Aug-22	13-Dec-23	-195	WD(6d)																							
Portion 8b in Area A (Soil Treatment & Install Watermains by Trenchless / Open Trench Method)																													
S8P8b-1002	Assumed resumption date of fresh and flushing reservoirs construction due to CNE No. 006 & EWN No. 005	0		25-Jun-22	-329	CD(7d)																							
S8P8b-1003	Works affected by the New Constructed 1650mm dia. Drain Pipe along Ho Sheung Heung Road at Portion 8b (CNE 072, 72a)	0		25-Jun-22	-516	CD(7d)																							
S8P8b-1004	Suspension of EGI works and withdrawal of TTA on Ho Sheung Heung Rd (CNE No.24)	0		25-Jun-22	-329	CD(7d)																							
S8P8b-1005	Unavailability of Vehicular Access and Movement towards Receiving Pit (CNE 068)	0		25-Jun-22	-147	CD(7d)																							
S8P8b-1006	Disruptipon of Precast Concrete Pipe (Jacking Pipe) Supply due to the Severe Outbreak of Omicron (EWN 054)	0		25-Jun-22	-149	CD(7d)																							
S8P8b-1008	Change of Road Layout of Ho Sheung Heung Road after the Works by DSD Contract DC/2019/06 (CNE 072b)	0		25-Jun-22	-516	CD(7d)																							
Preparation work																													
S8P8b-1010	Site clearance & Tree Felling	66	12-Jul-22	27-Sep-22	-279	WD(6d)																							
S8P8b-1070	Approval & Acceptance of Tree Felling Application	17	22-Jan-22 A	11-Jul-22	-346	CD(7d)																							
Construction of Watermains																													
Construction of watermains by trenchless method																													
S8P8b-4000	Construct & maintain Temporary drainage	944	25-Jun-22	29-Aug-25	-498	WD(6d)																							
S8P8b-4010.01	Construction of receiving pit at Portion 8b near Sheung Yue River (Resume construction)	30	17-May-22 A	30-Jul-22	-116	WD(6d)																							
S8P8b-4010.07	Resubmit & Approval of CIA Report & Pipe Jacking Method Statement	23	13-Apr-22 A	22-Jul-22	-116	WD(6d)																							
S8P8b-4012.04	Sheung Yue River - Procurement of DN1200 Jacking pipes	12	04-May-22 A	09-Jul-22	-116	WD(6d)																							
S8P8b-4012.06	Sheung Yue River - Gantry Construction at Jacking Pit	0	11-May-22 A	28-May-22 A		WD(6d)																							
S8P8b-4012.07	Sheung Yue River - Set up for Pipe Jacking works	12	11-Jul-22	23-Jul-22	-116	WD(6d)																							
S8P8b-4012.08	Sheung Yue River - DN1200 Pipe Jacking (Length 180m approx.) outside MTR Zone	60	25-Jul-22	05-Oct-22	-116	WD(6d)																							
S8P8b-4066	Up Hill Pipe Jacking Pit - Pipe Pile Construction (140 nos.)	0	11-Apr-22 A	17-Jun-22 A		WD(6d)																							
S8P8b-4068	Up Hill Pipe Jacking Pit - ELS, Excavation & Toe Grouting	54	18-Jun-22 A	27-Aug-22	-118	WD(6d)																							



**Build King – Richwell Engineering**  
Joint Venture

Planned Work

Critical Work

Actual Work

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◆ Milestone

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◆ Milestone Critical

ND/2019/01 - 3 Month Rolling Programme (2022-06)

Data Date: 25-Jun-22

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 <p><b>Build King – Richwell Engineering Joint Venture</b></p>	<p> <span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black;"></span> Planned Work  <span style="display: inline-block; width: 15px; height: 10px; background-color: #FF0000; border: 1px solid black;"></span> Critical Work  <span style="display: inline-block; width: 15px; height: 10px; background-color: #0000FF; border: 1px solid black;"></span> Actual Work  <span style="display: inline-block; width: 0; height: 0; border-left: 5px solid transparent; border-right: 5px solid transparent; border-bottom: 8px solid black;"></span> Milestone  <span style="display: inline-block; width: 0; height: 0; border-left: 5px solid transparent; border-right: 5px solid transparent; border-bottom: 8px solid red;"></span> Milestone Critical                 </p>	<h2 style="margin: 0;">ND/2019/01 - 3 Month Rolling Programme (2022-06)</h2> <p style="margin-top: 20px;"> <span style="margin-right: 50px;">Data Date: 25-Jun-22</span> <span>Run Date: 28-June-22</span> </p>	<p>Project ID: ND201901-RP-28.0</p> <p>Layout: ND201901-3MRP with logo</p> <p>Page 8 of 14</p>	THE 3-MONTH ROLLING PROGRAMME			
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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	June 2022						July 2022				August 2022				September 2022				October 2022							
							2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23			
	S13P2- 4010	West Quadrant - Site formation of south roundabout	29	03-Jan-22 A	29-Jul-22	-24	WD(6d)	<div></div>						<div></div>																		
	S13P2- 4020	West Quadrant - Construction of fill slope, draft wall & reconstruction of existing slope	102	30-Jul-22	29-Nov-22	-24	WD(6d)	<div></div>						<div></div>						<div></div>												
Portion 1a in Area N (Soil Treatment, Drainage & Roadwork)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S13P1a-0100	Delay in the Access to and Use of Portions 1a & 12 of the Site (CNE 034)	0		25-Jun-22	-354	CD(7d)	<div></div>						<div></div>						<div></div>												
	S13P1a-0102	Potential Changes ofthe Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Jun-22	902	CD(7d)	<div></div>						<div></div>						<div></div>												
	S13P1a-1000	Tree survey and prepare tree felling and transplant report	54	04-Aug-21 A	27-Aug-22	225	WD(6d)	<div></div>						<div></div>																		
	S13P1a-1002	Approval & Acceptance of Tree Felling Application	30	28-Aug-22	26-Sep-22	279	CD(7d)	<div></div>						<div></div>																		
Portion 7 in Area N (Soil Treatment, Drainage & Roadwork)																																
	S13P7-0000	Potential Changes ofthe Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Jun-22	1130	CD(7d)	<div></div>						<div></div>						<div></div>												
Preparation work/Tree Survey/Site Clearance/GI																																
	S13P7-1030	Prepare Arsenic Assessment Report	6	16-Jul-20 A	02-Jul-22	652	WD(6d)	<div></div>						<div></div>																		
	S13P7-1040	Arsenic TreatmentPlan	6	09-Nov-20 A	02-Jul-22	652	WD(6d)	<div></div>						<div></div>																		
Civil Work																																
Underground Utilities																																
	S13P7-3000	Construct & maintain Temporary drainage	452	25-Jun-22	29-Dec-23	574	WD(6d)	<div></div>						<div></div>																		
	S13P7-3011	Underground drainage (309m drain and 8 M/H)	142	18-Jun-21 A	19-Dec-22	652	WD(6d)	<div></div>						<div></div>																		
	S13P7-3012	Underground sewage (about 150m and 3 M/H)	304	25-Jun-22	04-Jul-23	576	WD(6d)	<div></div>						<div></div>																		
	S13P7-3013	Underground watermains	298	25-Jun-22	26-Jun-23	562	WD(6d)	<div></div>						<div></div>																		
Portion 1b in Area N (Soil Treatment, Drainage & Roadwork)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S13P1b-1010	Site clearance	0	24-Mar-22 A	18-Jun-22 A		WD(6d)	<div></div>						<div></div>																		
	S13P1b-1030	Prepare Arsenic Assessment Report	36	25-Jun-22	06-Aug-22	977	WD(6d)	<div></div>						<div></div>																		
	S13P1b-1040	Arsenic TreatmentPlan	36	08-Aug-22	19-Sep-22	977	WD(6d)	<div></div>						<div></div>																		
Soil Treatment																																
	S13P1b-2010	Remove soil (original assumed 561m3) (0 / 1 EGI completed, interim soil to be excavated / treated : 0m3 / 0m3)	0	25-May-22 A	30-May-22 A		WD(6d)	<div></div>						<div></div>																		
	S13P1b-2020	Backfilling to the formation levels	0	03-Jun-22 A	09-Jun-22 A		WD(6d)	<div></div>						<div></div>																		
Civil Work																																
	S13P1b-3000	Construct & maintain Temporary drainage	274	25-Jun-22	27-May-23	775	WD(6d)	<div></div>						<div></div>																		
	S13P1b-3010	Construction of Underground Drainage (2 M/H)	48	10-Jun-22 A	20-Aug-22	776	WD(6d)	<div></div>						<div></div>																		
	S13P1b-3012	Construction of Sewerage	18	22-Aug-22*	12-Sep-22	776	WD(6d)	<div></div>						<div></div>																		
	S13P1b-3014	Remianing Underground utilities & Drainage work (79m and 3 M/H)	100	13-Sep-22*	11-Jan-23	776	WD(6d)	<div></div>						<div></div>																		
Portion 6a & 5 in Area N (Soil Treatment, Noise Barrier, Drainage & Roadwork)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S13P6a-1003	Design Layout and Profile for the Water Supply Pipework (EWN 034)	0		25-Jun-22	508	CD(7d)	<div></div>						<div></div>						<div></div>												
	S13P6a-1004	Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWMs) (CNE 060)	0		25-Jun-22	508	CD(7d)	<div></div>						<div></div>						<div></div>												
	S13P6a-1005	Potential Changes ofthe Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Jun-22	740	CD(7d)	<div></div>						<div></div>						<div></div>												
Soil Treatment																																
	S13P6a-2010	Remove soil (original assumed 566m3) (1 / 1 EGI completed, interim soil to be excavated / treated : 0m3 /0m3) Clean Soil	30	25-Jun-22*	30-Jul-22	485	WD(6d)	<div></div>						<div></div>																		
	S13P6a-2020	Backfilling to the formation levels	60	01-Aug-22	12-Oct-22	485	WD(6d)	<div></div>						<div></div>																		
Civil Work																																
	S13P6a-3000	Construct & maintain Temporary drainage	575	25-Jun-22	01-Jun-24	415	WD(6d)	<div></div>						<div></div>																		
	S13P6a-3012	Drainage works across DJ watermain (CNE 060, EC-1086)	160	25-Jun-22	04-Jan-23	415	WD(6d)	<div></div>						<div></div>																		
Portion 1c in Area N (Soil Treatment, Drainage & Roadwork)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S13P1c-0100	Potential Changes ofthe Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Jun-22	888	CD(7d)	<div></div>						<div></div>						<div></div>												
	S13P1c-1010	Site clearance	0	15-Mar-22 A	18-Jun-22 A		WD(6d)	<div></div>						<div></div>																		
	S13P1c-1025	Site investigation for Noise Barriers	30	25-Jun-22	30-Jul-22	983	WD(6d)	<div></div>						<div></div>																		
	S13P1c-1030	Prepare Arsenic Assessment Report	36	25-Jun-22	06-Aug-22	977	WD(6d)	<div></div>						<div></div>																		
	S13P1c-1040	Arsenic TreatmentPlan	36	08-Aug-22	19-Sep-22	977	WD(6d)	<div></div>						<div></div>																		



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Joint Venture**

Planned Work  
 Critical Work  
 Actual Work  
 Milestone  
 Milestone Critical

## ND/2019/01 - 3 Month Rolling Programme (2022-06)

Data Date: 25-Jun-22      Run Date: 28-June-22

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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	June 2022					July 2022					August 2022					September 2022					October 2022							
							2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23					
Soil Treatment																																		
S13P1c-2010	Remove soil (original assumed 1784m3) (0 / 2 EGI completed, interim soil to be excavated / treated : 0m3 / 0m3)	5	25-May-22 A	30-Jun-22	628	WD(6d)																												
S13P1c-2020	Backfilling to the formation levels	46	13-Jun-22 A	18-Aug-22	818	WD(6d)																												
Civil Work																																		
S13P1c-3000	Construct & maintain Temporary drainage	398	25-Jun-22	25-Oct-23	628	WD(6d)																												
S13P1c-3010	Underground utilities & Drainage work (217m drain and 5 M/H)	260	10-Jun-22 A	10-May-23	604	WD(6d)																												
Portion 9a in Area N (Soil Treatment, Noise Barrier, Drainage & Roadwork)																																		
S13P9a-0100	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Jun-22	994	CD(7d)	◆ Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)																											
Preparation work/Tree Survey/Site Clearance/GI																																		
S13P9a-1010	Site clearance	0	15-Mar-22 A	18-Jun-22 A		WD(6d)																												
S13P9a-1025	Site investigation for Noise Barriers	30	25-Jun-22	30-Jul-22	626	WD(6d)																												
S13P9a-1030	Prepare Arsenic Assessment Report	36	25-Jun-22	06-Aug-22	584	WD(6d)																												
S13P9a-1040	Arsenic Treatment Plan	36	08-Aug-22	19-Sep-22	584	WD(6d)																												
Soil Treatment																																		
S13P9a-2010	Remove soil (original assumed 561m3) (0 / 1 EGI completed, interim soil to be excavated / treated : 0m3 /0m3)	24	20-Sep-22	19-Oct-22	584	WD(6d)																												
Civil Work																																		
S13P9a-3000	Construct & maintain Temporary drainage	346	20-Sep-22	17-Nov-23	584	WD(6d)																												
Section 14																																		
Portion 7 in Area S3 (Soil Treatment & Operation of HAC Soil Treatment Plant)																																		
KD4 - Setting up and T&C of the High Arsenic-containing Soil Treatment Plant																																		
S14P7S3-2010	Set up, testing and commissioning high arsenic-containing soil treatment plant (KD4) (CSD for Treated soil Stock pile)	4	06-Oct-20 A	29-Jun-22	0	WD(6d)																												
Operation and Dismantling of the Soil Treatment Plant																																		
S14P7S3-3010	Stock Pile of Treated Soil	662	20-Nov-20 A	19-Sep-24	0	WD(6d)																												
Portion 16 in Area Q (Soil Treatment & Construction of CLC)																																		
KD7 - Complete the construction works of Community Liaison Centre in Area Q																																		
S14P16-3060	FS Notification & Confirmation for CLC FS Plan	0		30-May-22 A		CD(7d)	◆ FS Notification & Confirmation for CLC FS Plan																											
Portion 7 in Area T1, T2, T3 (Soil Treatment & Temp. Noise Barrier along Castle Peak Road)																																		
Preparation work/Tree Survey/Site Clearance/GI																																		
S14P7T-1001	Late Possession of Site of Part of Portions 7 and 10a (in Area H, H1, T1, T2 & T3) (CNE No. 001)	0		25-Jun-22	229	CD(7d)	◆ Late Possession of Site of Part of Portions 7 and 10a (in Area H, H1, T1, T2 & T3) (CNE No. 001)																											
S14P7T-1010	Tree survey and prepare tree felling and transplant report (Area T1)	30	25-Jun-22	30-Jul-22	157	WD(6d)																												
S14P7T-1012	Ground investigation (0 / 1 GI completed) (Area T1)	30	01-Aug-22	03-Sep-22	183	WD(6d)																												
S14P7T-1020	Site clearance (Area T1)	30	01-Aug-22	03-Sep-22	183	WD(6d)																												
S14P7T-1022	Approval & Acceptance of Tree felling Application (Area T1)	30	31-Jul-22	29-Aug-22	193	CD(7d)																												
S14P7T-1024	Tree felling works (Area T1)	30	30-Aug-22	06-Oct-22	158	WD(6d)																												
KD9 - Complete the temporary noise barriers along Castle Peak Road in Area T1, T2, T3, H, H1, I, J																																		
S14P7T-3000	Construct temporary noise barrier along Castle Peak Road in Area T2 and T3 (100m)	24	26-Apr-21 A	23-Jul-22	49	WD(6d)																												
S14P7T-3010	Construct temporary noise barrier along Castle Peak Road in Area T1 (50m)	170	31-Aug-22*	25-Mar-23	17	WD(6d)																												
Portion 1b in Area S2 (Soil Treatment)																																		
Preparation work/Tree Survey/Site Clearance/GI																																		
S14P1b-1020	Site Clearance & Tree Felling	16	28-Mar-22 A	14-Jul-22	631	WD(6d)																												
S14P1b-1030	Environmental ground investigation and laboratory test(0 / 1 EGI completed)	36	15-Jul-22	25-Aug-22	631	WD(6d)																												
S14P1b-1040	Prepare Arsenic Assessment Report	36	26-Aug-22	10-Oct-22	631	WD(6d)																												
Portion 1c & 9a in Area S2 (Soil Treatment)																																		
Preparation work/Tree Survey/Site Clearance/GI																																		
S14P1c-1000	Potential Late Access to and Use of the Site (Portions 1c & 9a) (EWN 49)	0		25-Jun-22	767	CD(7d)	◆ Potential Late Access to and Use of the Site (Portions 1c & 9a) (EWN 49)																											
S14P1c-1001	Temporary Stockpile for High Arsenic-Containing (HAC) Soil from HKHS & HD Sites at Portion 1c (EWN 52)	0		25-Jun-22	767	CD(7d)	◆ Temporary Stockpile for High Arsenic-Containing (HAC) Soil from HKHS & HD Sites at Portion 1c (EWN 52)																											
S14P1c-1010	Tree survey and prepare tree felling and transplant report Portion 9a (No Tree Report)	0	25-May-22 A	08-Jun-22 A		WD(6d)																												
S14P1c-1012	Tree survey and prepare tree felling and transplant report Portion 1c (No Tree Report)	30	25-Jun-22	24-Jul-22	767	CD(7d)																												
S14P1c-1032	Remianing Environmental ground investigation and laboratory test (0 / 2 completed)	12	25-Jun-22	09-Jul-22	709	WD(6d)																												



Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	2	June 2022					July 2022					August 2022					September 2022					October 2022				
							29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23				
	S14P1c-1040	Prepare Arsenic Assessment Report	36	25-Jul-22	03-Sep-22	625	WD(6d)																									
	S14P1c-1050	Arsenic Treatment Plan	36	05-Sep-22	19-Oct-22	625	WD(6d)																									
Portion 6a in Area S2 (Soil Treatment)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S14P6a-1040	Prepare Arsenic Assessment Report	36	25-Jun-22	06-Aug-22	683	WD(6d)																									
	S14P6a-1050	Arsenic Treatment Plan	36	08-Aug-22	19-Sep-22	683	WD(6d)																									
Portion 6b in Area S2 (Soil Treatment)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S14P6b-1017	Tree felling	30	25-Jun-22	30-Jul-22	647	WD(6d)																									
	S14P6b-1025	Ground investigation (0 / 1 GI completed)	6	01-Aug-22	06-Aug-22	647	WD(6d)																									
	S14P6b-1040	Prepare Arsenic Assessment Report	36	08-Aug-22	19-Sep-22	647	WD(6d)																									
	S14P6b-1050	Arsenic Treatment Plan	36	20-Sep-22	02-Nov-22	647	WD(6d)																									
Portion 1f in Area R (Soil Treatment & Construction of Interim CLC)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S14P1f-1040	Prepare Arsenic Assessment Report	36	25-Jun-22	06-Aug-22	743	WD(6d)																									
	S14P1f-1050	Arsenic Treatment Plan	36	08-Aug-22	19-Sep-22	743	WD(6d)																									
Interim Community Liaison Centre (CLC)																																
	S14P1f-2030	Occupation of interim CLC	20	18-May-20 A	14-Jul-22	890	CD(7d)																									
	S14P1f-2040	Dismantling of interim CLC	12	15-Jul-22	28-Jul-22	727	WD(6d)																									
Portion 9c in Area S1 (Soil Treatment)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S14P9c-1014	Tree felling	15	19-Jul-21 A	13-Jul-22	764	WD(6d)																									
Soil Treatment																																
	S14P9c-2000	Construct & maintain Temporary drainage	26	25-Jun-22	26-Jul-22	1023	WD(6d)																									
	S14P9c-2020	Backfilling to the formation levels	26	18-Oct-21 A	26-Jul-22	1023	WD(6d)																									
Portion 13 in Area S4 (Soil Treatment)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S14P13-1000	Potential Late Access to and Use of the Site (Portions 13) (EWN 50)	0		25-Jun-22	1657	CD(7d)																									
	S14P13-1010	Tree survey and prepare tree felling and transplant report	60	25-Jun-22	03-Sep-22	41	WD(6d)																									
	S14P13-1012	Approval & Acceptance of Tree felling Application	30	05-Sep-22	12-Oct-22	41	WD(6d)																									
Cycle Track from Area H to Area N																																
	S14CT-0100	Suspension of Precast Concrete Manhole Supply due to the Severe Outbreak of COVID-19 in Mainland China (EWN 060)	0		25-Jun-22	797	CD(7d)																									
Underground Utilities underneath Cycle Track																																
	S14CT-1000	Construct & maintain Temporary drainage	428	25-Jun-22	29-Nov-23	621	WD(6d)																									
	S14CT-1020	Underground Utilities in Portion 1a	90	29-Jul-22	14-Nov-22	651	WD(6d)																									
	S14CT-1030	Underground Utilities in Portion 5 (Stage 2)	240	29-Jul-22	19-May-23	621	WD(6d)																									
	S14CT-1036	Underground Utilities in Portion 5 (Stage 1) (SMHKT 3002 to 3005)	28	01-Dec-21 A	28-Jul-22	621	WD(6d)																									
Portion 1b (Soil Treatment & Civil Works)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S14P1b-1104	Site clearance & Tree felling	10	12-Mar-22 A	07-Jul-22	235	WD(6d)																									
	S14P1b-1108	Environmental ground investigation and laboratory test(0 / 2 EGI) MTRC Zone	30	08-Jul-22	11-Aug-22	235	WD(6d)																									
	S14P1b-1110	Prepare Arsenic Assessment Report	30	12-Aug-22	16-Sep-22	235	WD(6d)																									
	S14P1b-1112	Arsenic Treatment Plan	30	12-Aug-22	16-Sep-22	235	WD(6d)																									
Civil Works																																
	S14P1b-1300	Underground Drainage (100m Approx) Stage 1	69	25-Jan-22 A	15-Sep-22	790	WD(6d)																									
	S14P1b-1302	Divert Nullah for Underground Drainage Works	140	04-Jul-22*	16-Dec-22	791	WD(6d)																									
	S14P1b-1304	Underground Sewerage (100m Approx) Stage 1	42	16-Sep-22	05-Nov-22	790	WD(6d)																									
Portion 3 (Soil Treatment & Civil Works)																																
Soil Treatment																																

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	June 2022					July 2022					August 2022					September 2022					October 2022				
							2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23		
	S14P3-1200	Construct & maintain Temporary drainage	45	25-Jun-22	17-Aug-22	914	WD(6d)																								
	S14P3-1204	Backfilling to the formation levels	45	15-Nov-21 A	17-Aug-22	914	WD(6d)																								
Civil Works																															
	S14P3-1300	Underground Drainage (Deleted in latest drawing R10/130/0262 Rev K)	1	25-Jun-22	25-Jun-22	958	WD(6d)																								
	S14P3-1302	Underground Fresh & Flushing watermains (around 100m)	60	18-Aug-22	29-Oct-22	914	WD(6d)																								
Portion 5 (Soil Treatment & Civil Works)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S14P5-1108	Prepare Arsenic Assessment Report	30	25-Jun-22	30-Jul-22	715	WD(6d)																								
	S14P5-1110	Arsenic Treatment Plan	30	25-Jun-22	30-Jul-22	715	WD(6d)																								
Portion 1e (Soil Treatment)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S14P1e-2010	Approval & Acceptance of Tree felling Application	0	11-Nov-21 A	11-Jun-22 A		CD(7d)																								
	S14P1e-2020	Site clearance & Tree felling	11	25-Jun-22 A	08-Jul-22	704	WD(6d)																								
	S14P1e-2050	Prepare Arsenic Assessment Report	30	09-Jul-22	12-Aug-22	704	WD(6d)																								
	S14P1e-2060	Arsenic Treatment Plan	30	09-Jul-22	12-Aug-22	704	WD(6d)																								
Soil Treatment																															
	S14P1e-2070	Remove soil (original assumed 860m3) (0 / 1 EGI completed, interim soil to be excavated / treated : 0m3 / 0m3)	34	13-Aug-22	22-Sep-22	704	WD(6d)																								
	S14P1e-2080	Backfilling to the formation levels	90	23-Sep-22	10-Jan-23	884	WD(6d)																								
	S14P1e-3000	Construct & maintain Temporary drainage	124	13-Aug-22	10-Jan-23	884	WD(6d)																								
Section 15																															
	S15-1000	Presevation and protection of tree	1265	06-Dec-19 A	10-Dec-25	27	CD(7d)																								
Section 18 (Subject to excision)																															
	S18-1030	Watermain laying work in Portion 3	173	20-Sep-22	21-Apr-23	153	WD(6d)																								
	S18-1040	Watermain laying work in Portion 5	265	20-Sep-21 A	16-May-23	0	WD(6d)																								
	S18-1050	Watermain laying work in Portion 6a & 6b	380	25-Jun-22	03-Oct-23	-41	WD(6d)																								
	S18-1075	Watermain laying work in Portion 8a	350	01-Aug-22	03-Oct-23	-135	WD(6d)																								
Section 20 (Subject to excision)																															
	S20-1012	Part of Portion 2 Occupied by YL/2015/01 (EWN No. 016)	0		25-Jun-22	-366	CD(7d)																								
	S20-1016	Opening Cycle Track at Portion 2 (EWN No. 017)	0		25-Jun-22	-366	CD(7d)																								
	S20-1018	Excavation Permit (XP) for New Cycle Path (EWN No. 021) (CNE No. 022)	0		25-Jun-22	-366	CD(7d)																								
	S20-1020	Suspension of Works at Part of Portion 2 (EWN No. 019)	0		25-Jun-22	-366	CD(7d)																								
	S20-1022	Increased Difficulty for the Construction of Pak Shek Au Pedestrian Subway Cum Cycle Track at Portion 2 (EWN 068)	0		25-Jun-22	-366	CD(7d)																								
	S20-1024	Removal of Existing CLP cables & Facilities (ND/2019/01)/M30/600.7/D04093	0		25-Jun-22	-346	CD(7d)																								
Construction of Pedestrian Subway cum Cycle Track Stage 2 (South of Castle Peak Road)																															
Civil and Structural Work																															
	S20S2-7320	ELS, Excavation & UU suspension works for subway	178	28-Apr-22 A	28-Jan-23	-297	WD(6d)																								
	S20S2-7330	Access ramp and tunnel in Portion 1a	310	15-Jul-22	29-Jul-23	-297	WD(6d)																								
	S20S2-7350	Access ramp and tunnel in Portion 2	310	15-Jul-22	29-Jul-23	-297	WD(6d)																								
	S20S2-7370	Raft Foundation Construction CSD	170	15-Jul-22	07-Feb-23	-292	WD(6d)																								
Section 21 (Subject to excision)																															
	S21-1013	Late Possession of Site of Portions 1d & 11a (CNE No. 009)	0		25-Jun-22	675	CD(7d)																								
Portion 1b in Area M (Soil Treatment)																															
Preparation work																															
	S21P1b-1010	Tree survey and prepare tree felling and transplant report	30	25-Jun-22	30-Jul-22	548	WD(6d)																								
	S21P1b-1012	Approval & Acceptance of Tree felling Application	30	01-Aug-22	03-Sep-22	548	WD(6d)																								
	S21P1b-1020	Site Clearance & Tree Felling	60	05-Sep-22	16-Nov-22	548	WD(6d)																								
Portion 1d in Area M (Soil Treatment & Demolition of Existing CLC)																															
Preparation work																															
	S21P1d-1010	Tree survey and prepare tree felling and transplant report	30	25-Jun-22	30-Jul-22	548	WD(6d)																								
	S21P1d-1012	Approval & Acceptance of Tree felling Application	30	01-Aug-22	03-Sep-22	548	WD(6d)																								

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar		June 2022					July 2022					August 2022					September 2022				October 2022			
							2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23	
S21P1d-1020	Site Clearance & Tree Felling	60	05-Sep-22	16-Nov-22	548	WD(6d)																								
	Portion 11a in Area M (Soil Treatment)																													
	Preparation work																													
	S21P11a-1010	Tree survey and prepare tree felling and transplant report	30	25-Jun-22	30-Jul-22	543																						WD(6d)		
	S21P11a-1012	Approval & Acceptance of Tree felling Application	30	01-Aug-22	03-Sep-22	543																						WD(6d)		
S21P11a-1020	Site Clearance & Tree Felling	60	05-Sep-22	16-Nov-22	543	WD(6d)																								
8.0 - PMI / CE																														
PC-1012	Change to the Area of Area M (PMI 160, CE 168)	0	22-Dec-21 A	25-Jun-22	548	WD(6d)																								
9.0 - Major EWN / CNE																														
EC-1006	Strong Objection on the Construction of Service Reservoirs at Portions 8a & 8b (CNE No. 006) (EWN No. 005)	0	18-Mar-20 A	25-Jun-22	-329	CD(7d)																								
EC-1014	Part of Portion 2 Occupied by YL/2015/01 (EWN No. 016) (CNE No. 022)	0	23-Dec-19 A	25-Jun-22	-589	CD(7d)																								
EC-1018	Opening of Cycle Track at Portion 2 and 10a (EWN No. 017) (CNE No. 022)	0	04-Aug-20 A	25-Jun-22	-589	CD(7d)																								
EC-1021	Removal of Existing CLP Facilities - (both Overhead and Underground) within Portion 5, 6a, 7, 9b and 10a (EWN No. 018)	0	02-Apr-20 A	25-Jun-22	-211	CD(7d)																								
EC-1026	Handling of Unlawful Occupied Property Affected by the Works (CNE No. 014)	0	21-Aug-20 A	25-Jun-22	1657	CD(7d)																								
EC-1027	Handling of Unlawful Occupied Property Affected by the Works within the Site (CNE No. 015)	0	31-Aug-20 A	25-Jun-22	1657	CD(7d)																								
EC-1028	Suspension of Works at Part of Portion 2 (CNE No. 016) (EWN No. 019)	0	31-Aug-20 A	25-Jun-22	-589	CD(7d)																								
EC-1030	Excavation Permit (XP) for New Cycle Path (EWN No. 021) (CNE No. 022)	0	19-Oct-20 A	25-Jun-22	-589	CD(7d)																								
EC-1036	Suspension of EGI works and withdrawal of TTA on Ho Sheung Heung Rd (CNE No.24)	0	08-Jan-21 A	25-Jun-22	-329	CD(7d)																								
EC-1039	Design Change on Road W1 (EWN 025)	0	22-Mar-21 A	25-Jun-22	-227	CD(7d)																								
EC-1042	Details of DCS pipe at D4-1 & D5 Road (EWN 030)	0	21-May-21 A	25-Jun-22	-328	CD(7d)																								
EC-1043	Strong Objection on the Construction of Fresh and Flushing Reservoir at Portions 8a and 8b (EWN 031) Maintenance Access	0	09-Jun-21 A	25-Jun-22	-196	CD(7d)																								
EC-1046	Delay in the Access to and Use of Portions 1a & 12 of the Site (CNE 034)	0	06-Jul-21 A	25-Jun-22	-404	CD(7d)																								
EC-1049	Entrustment of Works for Installation of District Cooling System (DCS) pipelines along Road D4-1 (EWN 033)	0	18-Aug-21 A	25-Jun-22	11	CD(7d)																								
EC-1050	Design Layout and Profile for the Water Supply Pipework (EWN 034)	0	17-Sep-21 A	25-Jun-22	-192	CD(7d)																								
EC-1051	Unstable Supply of Cement for HAC Soil Treatment (EWN 036, 038) (CNE 049)	0	27-Sep-21 A	25-Jun-22	818	CD(7d)																								
EC-1052	Shortage of Cement Supply due to "Energy Consumption Dual Control Policy" (EWN 039) (CNE 049)	0	06-Oct-21 A	25-Jun-22	1657	CD(7d)																								
EC-1053	Potential Delay on Production and Supply of Precast Concrete Pipes (EWN 040) (CNE 047)	0	06-Oct-21 A	25-Jun-22	-211	CD(7d)																								
EC-1054	Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)	0	11-Oct-21 A	25-Jun-22	-246	CD(7d)																								
EC-1055	Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)	0	16-Oct-21 A	25-Jun-22	-246	CD(7d)																								
EC-1056	Indement Weather on 8th October 2021 (CNE 036)	0	08-Oct-21 A	25-Jun-22	1657	CD(7d)																								
EC-1057	Tropical Cyclone Warning Signal No.8 on 9th October 2021 (CNE 039)	0	09-Oct-21 A	25-Jun-22	1657	CD(7d)																								
EC-1058	Tropical Cyclone Warning Signal No.8 on 13th October 2021 (CNE 040)	0	13-Oct-21 A	25-Jun-22	1657	CD(7d)																								
EC-1059	The footing detail for Roadside Directional Sign ADS30 at Portion 5 (EWN 043)	0	22-Oct-21 A	25-Jun-22	1657	CD(7d)																								
EC-1061	Suspension of Concretes Supply due to Cement Shortage (EWN 045) (CNE 046)	0	02-Nov-21 A	25-Jun-22	1657	CD(7d)																								
EC-1062	Potential Late Access to and Use of the Site (Portions 1c & 9a) (EWN 49) (CNE 058)	0	13-Dec-21 A	25-Jun-22	227	CD(7d)																								
EC-1063	Potential Late Access to and Use of the Site (Portions 13) (EWN 50) (CNE 057)	0	13-Dec-21 A	25-Jun-22	1657	CD(7d)																								
EC-1064	Extra Time on Production and Delivery of Road Lighting Products (EWN 51)	0	13-Dec-21 A	25-Jun-22	-145	CD(7d)																								
EC-1065	Temporary Stockpile for High Arsenic-Containing (HAC) Soil from HKHS & HD Sites at Portion 1c (EWN 052)	0	04-Jan-22 A	25-Jun-22	767	CD(7d)																								
EC-1066	Shortage of Aggregate Supply before Chinese New Year 2022 (CNE 048) (EWN 001.6, 001.8)	0	29-Nov-21 A	25-Jun-22	1657	CD(7d)																								
EC-1067	Conflict between Drainage Works and Existing Twin DN2200 Dongjiang Water Mains (CNE 051)	0	29-Nov-21 A	25-Jun-22	-192	CD(7d)																								
EC-1068	Conflict between Drainage Works and Water Mains in Road W1 (CNE 052)	0	02-Dec-21 A	25-Jun-22	-192	CD(7d)																								
EC-1069	Level Different between Road A3 and Road D4-1 (CNE 055)	0	08-Dec-21 A	25-Jun-22	-192	CD(7d)																								
EC-1070	Insufficient Width of Road W1 for Accommodation of All Underground Utilities (CNE 056)	0	04-Jan-22 A	25-Jun-22	-227	CD(7d)																								
EC-1071	Revised Construction Drawings of Fresh Water Service Reservoir (CNE 067, 067a)	0	14-Dec-21 A	25-Jun-22	-39	CD(7d)																								
EC-1072	Unavailability of Vehicular Access and Movement towards Receiving Pit (CNE 068)	0	29-Dec-21 A	25-Jun-22	-147	CD(7d)																								
EC-1074	Works affected by the New Constructed 1650mm dia. Drain Pipe along Ho Sheung Heung Road at Portion 8b (CNE 072, 72a)	0	21-Feb-22 A	25-Jun-22	-516	CD(7d)																								
EC-1075	Works affected by the Sever Outbreak of Omicron (CNE 073) (EWN 058)	0	25-Feb-22 A	25-Jun-22	1657	CD(7d)																								
EC-1076	Potential Delay on Supply of Steel Moulds for Construction of Fresh Water Service Reservoir(FWSR) (EWN 053)	0	18-Feb-22 A	25-Jun-22	-23	CD(7d)																								
EC-1077	Disruption of Precast Concrete Pipe (Jacking Pipe) Supply due to the Severe Outbreak of Omicron (EWN 054)	0	25-Feb-22 A	25-Jun-22	-149	CD(7d)																								
EC-1078	Delay in Fabrication & Supply of Structural Steel Members for NB 35 due to the Severe Outbreak of Omicron (EWN 055)	0	01-Mar-22 A	25-Jun-22	-144	CD(7d)																								
EC-1079	Delay in Supply of Precast Concrete Pipe due to the Severe Outbreak of Omicron (EWN 056)	0	16-Feb-22 A	25-Jun-22	1657	CD(7d)																								
EC-1080	Possible Suspension of Concrete Supply due to the Severe Outbreak of COVID-19 (EWN 059)	0	02-Mar-22 A	25-Jun-22	1657	CD(7d)																								
EC-1081	Suspension of Precast Concrete Manhole Supply due to the Severe Outbreak of COVID-19 in Mainland China (EWN 060)	0	14-Mar-22 A	25-Jun-22	-192	CD(7d)																								



**Build King – Richwell Engineering**  
Joint Venture

Planned Work

Critical Work

Actual Work

◆

◆ Milestone

◆

◆ Milestone Critical

ND/2019/01 - 3 Month Rolling Programme (2022-06)

Data Date: 25-Jun-22

Run Date: 28-June-22

Project ID: ND201901-RP-28.0

Layout: ND201901-3MRP with logo

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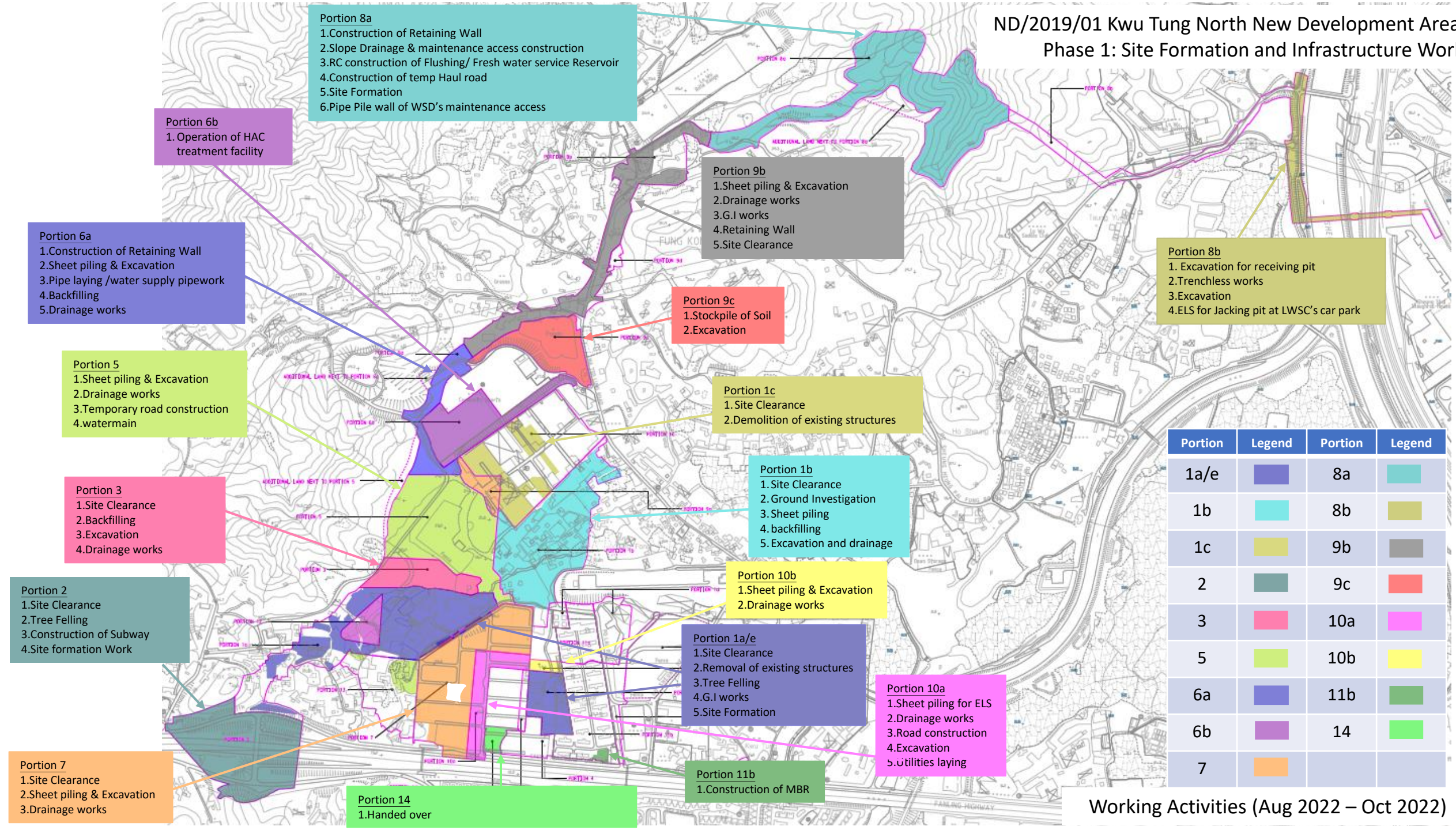
THE 3-MONTH ROLLING PROGRAMME

Date	Revision	Checked	Approved
28-Jun-22	Rev.0	SC	BY

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	June 2022					July 2022					August 2022					September 2022					October 2022				
							2	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23		
EC-1082	Clarification of Road Profile for the South Roundabout at Portion 2 in Pak Shek Au (EWN 061)	0	25-Mar-22 A	25-Jun-22	-29	CD(7d)																									
	New Formed Feature KW18 L-Shape Retaining Wall abutting Road D4-1 and A3 (EWN 062) Cancelled	0	29-Mar-22 A	25-May-22 A		CD(7d)																									
	Strong Objection from the Local Villager for the Construction of L-Shape Retaining Wall KW02 at Road D4-1 (EWN 063)	0	11-Apr-22 A	25-Jun-22	-185	CD(7d)																									
	Requesting for Additional Concrete Vehicular Access by the Local Villager adjacent 9b of the Site (EWN 064)	0	25-Apr-22 A	25-Jun-22	-161	CD(7d)																									
	Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWMs) (CNE 060)	0	31-Mar-22 A	25-Jun-22	-82	CD(7d)																									
	Change of Road Layout of Ho Sheung Heung Road after the Works by DSD Contract DC/2019/06 (CNE 072b)	0	20-Apr-22 A	25-Jun-22	-516	CD(7d)																									
	Design Changes to the Permanent Street Lighting Works (CNE 074)	0	04-Mar-22 A	25-Jun-22	1657	CD(7d)																									
	Additional Sewerage Pipes clash with the Proposed Watermains along Road D4 and D5 (EWN 065)	0	27-Apr-22 A	25-Jun-22	-245	CD(7d)																									
	Part of Portion 9b of the Site (near eastern end of Road D5) occupied by the Local Villagers (EWN 066)	0	03-May-22 A	25-Jun-22	-63	CD(7d)																									
	Obstruction for the Construction of Proposed Footpath and Cycle Track along Road L1 in Area H at Portion 7 (EWN 067)	0	19-May-22 A	25-Jun-22	-126	CD(7d)																									
	Increased Difficulty for the Construction of Pak Shek Au Pedestrian Subway Cum Cycle Track at Portion 2 (EWN 068)	0	25-May-22 A	25-Jun-22	-366	CD(7d)																									
	DN200 Fresh Watermain to Existing Watermain for MWSC Site between Po Lau Road and Castle Peak Road (CNE 075)	0	25-May-22 A	25-Jun-22	-211	CD(7d)																									
	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0	23-May-22 A	25-Jun-22	-126	CD(7d)																									
	Design Change to the Proposed Roads and New Features at Area A in Portion 9b of the Site (EWN 069)	0	07-Jun-22 A	25-Jun-22	20	CD(7d)																									
	Later Supply and Installation of Traffic Signal and Ducting at the Junction of Road D1 and Road L1 in Area H (EWN 070)	0	09-Jun-22 A	25-Jun-22	-126	CD(7d)																									
EC-1097	Early Open Road D1-1 and Road L-1 for General Public Use and Access (EWN 071)	0	19-May-22 A	25-Jun-22	-211	CD(7d)																									



# ND/2019/01 Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work



Portion	Legend	Portion	Legend
1a/e		8a	
1b		8b	
1c		9b	
2		9c	
3		10a	
5		10b	
6a		11b	
6b		14	
7			

Working Activities (Aug 2022 – Oct 2022)

## **Construction Programme of ND/2019/02**



ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Original Duration	Remaining Duration	BL1 Start	BL1 Finish	Start	Finish	Total Float	Time Risk Allowance	2022				
										Jul	Aug	Sep	Oct	Nov
ND-2019-02 KTNDA Phase 1:Roads and Drains between		1912.0	1130.0	10-Apr-20	04-Jul-25	10-Apr-20 A	03-Sep-25	483.0						
Programme Data		1912.0	1130.0	10-Apr-20	04-Jul-25	10-Apr-20 A	03-Sep-25	483.0						
Preliminaries		1739.0	1130.0	30-Sep-20	04-Jul-25	30-Sep-20 A	03-Sep-25	106.0						
Works in Section 2		1422.0	726.0	10-Apr-20	24-Dec-24	10-Apr-20 A	24-Dec-24	605.8						
Portion 2 - Road & Drains		1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	0.0						
Pre-construction works		1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	0.0						
P2-1070	Tree Protection and Preservation	1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	0.0	4					
Sewer Installation from KT1.29A to KT1.30A by pipejacking		1.0	1.0	29-Sep-22	29-Sep-22	29-Sep-22	29-Sep-22	106.0						
ELS of Launching shaft at FMH_KT1.30A		1.0	1.0	29-Sep-22	29-Sep-22	29-Sep-22	29-Sep-22	106.0						
P2-3140	Set up works area for tree felling & ELS works	1.0	1.0	29-Sep-22	29-Sep-22	29-Sep-22	29-Sep-22	106.0	0					
Pipe Jacking		40.0	38.0	29-Jul-22	13-Sep-22	29-Jul-22 A	13-Sep-22	387.0						
(KT6003A to KT2003) (IL: 6.0-6.4mPD) 2100mm dia		40.0	38.0	29-Jul-22	13-Sep-22	29-Jul-22 A	13-Sep-22	387.0						
P2-8200	Pre-treatment grouting at receiving pit, set up exit ring and form opening	6.0	6.0	29-Jul-22	04-Aug-22	29-Jul-22 A	06-Aug-22	-34.0	0					
P2-8375	Lift Out TBM at receiving pit	1.0	1.0	08-Aug-22	08-Aug-22	08-Aug-22	08-Aug-22	-34.0	0					
P2-8385	Pushing the remaining pipeline to designated location at receiving pit	1.0	1.0	09-Aug-22	09-Aug-22	09-Aug-22	09-Aug-22	-34.0	0					
P2-8395	Demolish and remove slurry pipe, power cable, lubrication pipe	7.0	7.0	10-Aug-22	17-Aug-22	10-Aug-22	17-Aug-22	387.0	0					
P2-8405	Lining Welding works	13.0	13.0	18-Aug-22	01-Sep-22	18-Aug-22	01-Sep-22	387.0	0					
P2-8415	Air Test	2.0	2.0	02-Sep-22	03-Sep-22	02-Sep-22	03-Sep-22	387.0	0					
P2-8425	Demolish and removal of Guide Rail and Working Platform, breaking thrust wall	5.0	5.0	05-Sep-22	09-Sep-22	05-Sep-22	09-Sep-22	387.0	0					
P2-8435	Cleaning of Launching pit	3.0	3.0	10-Sep-22	13-Sep-22	10-Sep-22	13-Sep-22	387.0	0					
Manhole Construction		74.0	13.0	19-May-22	15-Aug-22	19-May-22 A	15-Aug-22	-39.0						
FMH_KT1.23		74.0	13.0	19-May-22	15-Aug-22	19-May-22 A	15-Aug-22	-39.0						
P2-8290	Manhole FMH_KT1.23 construction	21.0	13.0	19-May-22	13-Jun-22	19-May-22 A	15-Aug-22	-39.0	1					
P2-8293	Handover cofferdam to C1	0.0	0.0		15-Aug-22		15-Aug-22*	-39.0	1					
Portion 3 - Road & Drains		1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	605.8						
Pre-construction works		1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	0.0						
P3-1060	Tree Protection and Preservation	1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	0.0	4					
Drainage Outfall_6013 constuction by Open Cut (By CE-067)		44.0	39.0	26-Jul-22	14-Sep-22	26-Jul-22 A	14-Sep-22	438.0						
Manhole SMH_KT6013A & FMH_KT1.36A		44.0	39.0	26-Jul-22	14-Sep-22	26-Jul-22 A	14-Sep-22	438.0						
Drainage Installation		44.0	39.0	26-Jul-22	14-Sep-22	26-Jul-22 A	14-Sep-22	438.0						
P3-5680	Laying of 3m dia. Mild Steel drain	10.0	8.0	26-Jul-22	05-Aug-22	26-Jul-22 A	09-Aug-22	438.0	2					
P3-5690	Backfill drain trench to Base Level of manhole KT6013A	6.0	6.0	10-Aug-22	16-Aug-22	10-Aug-22	16-Aug-22	438.0	2					
P3-5700	Dismantle 2nd & 1st layer strut	10.0	10.0	17-Aug-22	27-Aug-22	17-Aug-22	27-Aug-22	438.0	2					
P3-6250	Formwork erection of manhole KT6013A (Upper portion)	4.0	4.0	29-Aug-22	01-Sep-22	29-Aug-22	01-Sep-22	438.0	2					
P3-6260	Rebar fixing of manhole KT6013A (Upper portion)	5.0	5.0	02-Sep-22	07-Sep-22	02-Sep-22	07-Sep-22	438.0	2					

ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Original Duration	Remaining Duration	BL1 Start	BL1 Finish	Start	Finish	Total Float	Time Risk Allowance	2022				
										Jul	Aug	Sep	Oct	Nov
P3-6270	Concreting of manhole KT6013A (Upper portion)	1.0	1.0	08-Sep-22	08-Sep-22	08-Sep-22	08-Sep-22	438.0	2					
P3-6280	Backfill to original ground level and remove Sheet Pile	5.0	5.0	09-Sep-22	14-Sep-22	09-Sep-22	14-Sep-22	438.0	2					
Sewer Pipeline Installation (KT1.33A to KT1.41A)		150.0	98.0	30-May-22	25-Nov-22	30-May-22 A	25-Nov-22	1233.8						
KT1.39A - KT1.38A (99m) (Pipe Jacking by CE-074)		78.0	79.0	02-Aug-22	03-Nov-22	29-Jul-22 A	03-Nov-22	487.0						
P3-5800	Pre- treatment grouting, setup the exit ring, cutting sheet pile	5.0	5.0	02-Aug-22	06-Aug-22	29-Jul-22 A	05-Aug-22	378.0	0					
P3-5810	TBM break through, setup guide rail, lifting out the TBM, jacking the remaining pipe to designated location, air	2.0	2.0	06-Aug-22	08-Aug-22	06-Aug-22	08-Aug-22	378.0	0					
P3-5820	Demolish & removal of the slurry pipe, power cable inside the jacking pipe,	10.0	10.0	09-Aug-22	19-Aug-22	09-Aug-22	19-Aug-22	378.0	0					
P3-5830	Demolish the guide rail, Breaking the thrust wall at Jacking Pit	7.0	7.0	20-Aug-22	27-Aug-22	20-Aug-22	27-Aug-22	378.0	0					
P3-5835	Modify the hoisting frame at Jacking Pit	3.0	3.0	29-Aug-22	31-Aug-22	29-Aug-22	31-Aug-22	378.0	0					
P3-5840	Construction of Manhole KT1.39A	12.0	12.0	01-Sep-22	14-Sep-22	01-Sep-22	14-Sep-22	487.0	2					
P3-5842	Backfilling to at grade level KT1.39A	40.0	40.0	15-Sep-22	03-Nov-22	15-Sep-22	03-Nov-22	487.0	2					
P3-5844	Construction of Manhole KT1.38A	30.0	30.0	15-Sep-22	22-Oct-22	15-Sep-22	22-Oct-22	497.0	2					
KT1.39A - KT1.40A (99m) (Pipe Jacking by CE-074)		63.0	63.0	01-Sep-22	16-Nov-22	01-Sep-22	16-Nov-22	378.0						
P3-5550	Set up Pipe Jacking Equipment (1st pipe)	30.0	30.0	01-Sep-22	08-Oct-22	01-Sep-22	08-Oct-22	378.0	2					
P3-5560	Pipe Jacking of 800 Concrete Pipe (1.39A to 1.40A) (99m ~3m/d)	33.0	33.0	10-Oct-22	16-Nov-22	10-Oct-22	16-Nov-22	378.0	2					
KT1.38A - KT1.37A (99m) (Open Cut by CE-075)		106.0	54.0	30-May-22	05-Oct-22	30-May-22 A	05-Oct-22	1277.8						
P3-2265	Backfilling of drain to at grade level KT1.37A	40.0	13.0	30-May-22	16-Jul-22	30-May-22 A	15-Aug-22	-32.0	2					
P3-2270	Construction of Manhole KT1.37A	27.0	27.0	01-Aug-22	31-Aug-22	13-Jun-22 A	31-Aug-22	-38.0	2					
P3-2280	Backfilling of manhole to at grade level KT1.37A	27.0	27.0	01-Sep-22	05-Oct-22	01-Sep-22	05-Oct-22	1277.8	2					
P3-6240	Extract Sheetpile Along trench	39.0	1.0	07-Jul-22	20-Aug-22	07-Jul-22 A	01-Sep-22	-38.0	2					
KT1.37A - KT1.36A (90m) (Open Cut by CE-068)		98.0	98.0	01-Aug-22	25-Nov-22	01-Aug-22	25-Nov-22	469.0						
After Tree Removal		98.0	98.0	01-Aug-22	25-Nov-22	01-Aug-22	25-Nov-22	469.0						
P3-2020	Soft Excavation to 2nd strut level	30.0	30.0	01-Aug-22	03-Sep-22	01-Aug-22	03-Sep-22	469.0	2					
P3-2020.1	Installation of strut S2	32.0	32.0	29-Aug-22	07-Oct-22	29-Aug-22	07-Oct-22	469.0	2					
P3-2070	Soft Excavation to F.L ; (approx. 8.5m depth)	24.0	24.0	09-Sep-22	10-Oct-22	09-Sep-22	10-Oct-22	469.0	2					
P3-2110	Bedding & Pipe Laying (Twins 800 Concrete Pipe)	20.0	20.0	24-Sep-22	19-Oct-22	24-Sep-22	19-Oct-22	469.0	2					
P3-2115	Backfilling of drain to at grade level KT1.36A	40.0	40.0	11-Oct-22	25-Nov-22	11-Oct-22	25-Nov-22	469.0	2					
Portion 4 - Road & Drains		1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	0.0						
Pre-construction works		1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	0.0						
P4-1050	Tree Protection and Preservation	1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	0.0	4					
Rising Main Installation by Open Cut (CHB 0 to 493 & CHB515 to 943.4)		168.0	111.0	24-May-22	10-Dec-22	24-May-22 A	10-Dec-22	396.0						



ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Original Duration	Remaining Duration	BL1 Start	BL1 Finish	Start	Finish	Total Float	Time Risk Allowance	2022				
										Jul	Aug	Sep	Oct	Nov
Rising Main CHB255 to CHB370 (120M)		168.0	111.0	24-May-22	10-Dec-22	24-May-22 A	10-Dec-22	347.0						
P4-3210	Sheet Pile Installation for open trench (600 pcs)	49.0	20.0	24-May-22	21-Jul-22	24-May-22 A	23-Aug-22	-209.2						
P4-3212	Soft Excavation to 1st strut level	57.0	35.0	01-Aug-22	08-Oct-22	04-Jul-22 A	09-Sep-22	347.0						
P4-3214	Installation of strut S1	58.0	38.0	01-Aug-22	10-Oct-22	11-Jul-22 A	13-Sep-22	347.0						
P4-3216	Soft Excavation to 2nd strut level	42.0	42.0	01-Aug-22	17-Sep-22	01-Aug-22	17-Sep-22	347.0						
P4-3218	Installation of strut S2	44.0	44.0	17-Aug-22	10-Oct-22	17-Aug-22	10-Oct-22	347.0						
P4-3220	Soft Excavation to F.L.	39.0	39.0	26-Aug-22	13-Oct-22	26-Aug-22	13-Oct-22	347.0						
P4-3222	Bedding and Pipe Laying (Twins DN700)	20.0	20.0	30-Sep-22	25-Oct-22	30-Sep-22	25-Oct-22	347.0						
P4-3224	Backfilling of drain to at grade level	45.0	45.0	20-Oct-22	10-Dec-22	20-Oct-22	10-Dec-22	347.0						
Rising Main CHB50 to CHB150 (100M)		49.0	49.0	29-Sep-22	26-Nov-22	29-Sep-22	26-Nov-22	-209.2						
P4-6080	Sheet Pile Installation for open trench	49.0	49.0	29-Sep-22	26-Nov-22	29-Sep-22	26-Nov-22	-209.2						
Rising Main CHB150 to CHB255 (105M)		49.0	49.0	11-Oct-22	06-Dec-22	11-Oct-22	06-Dec-22	198.0						
P4-6000	Sheet Pile Installation for open trench	49.0	49.0	11-Oct-22	06-Dec-22	11-Oct-22	06-Dec-22	198.0						
Rising Main CHB515 to CHB615 (100M)		49.0	49.0	03-Oct-22	29-Nov-22	03-Oct-22	29-Nov-22	406.0						
P4-5600	Sheet Pile Installation for open trench	49.0	49.0	03-Oct-22	29-Nov-22	03-Oct-22*	29-Nov-22	406.0						
Sewage Rising Main Installation by Pipe Jacking CHB493 to CHB514 (2		34.0	34.0	31-Aug-22	13-Oct-22	31-Aug-22	13-Oct-22	151.0						
P4-5405	Tentative Completion Date of Ho Sheung Heung Pai Lau	0.0	0.0		31-Aug-22		31-Aug-22*	151.0	6					
P4-5407	Haul Road Modification	14.0	14.0	01-Sep-22	16-Sep-22	01-Sep-22	16-Sep-22	151.0	6					
P4-5410	Site Setup, Set up TTA & Plant Mobilization	14.0	14.0	17-Sep-22	06-Oct-22	17-Sep-22	06-Oct-22	151.0	6					
P4-5420	Instrumentation Installation and Monitoring Works	6.0	6.0	07-Oct-22	13-Oct-22	07-Oct-22	13-Oct-22	151.0	3					
Portion 5 - Sewage Rising Main		1422.0	726.0	10-Apr-20	24-Dec-24	10-Apr-20 A	24-Dec-24	0.0						
Preparation Works		1422.0	726.0	10-Apr-20	24-Dec-24	10-Apr-20 A	24-Dec-24	0.0						
P5-5010	Application for the relocation of existing Board Band Cable and Street Light	85.0	85.0	01-Aug-22	10-Nov-22	01-Aug-22*	10-Nov-22	0.0	0					
P5-5015	Application of excavation Permit for the relocation of existing Board Band Cable and Street Light	85.0	85.0	01-Aug-22	10-Nov-22	01-Aug-22	10-Nov-22	0.0	0					
P5-5030	Tree Protection and Preservation	1422.0	726.0	10-Apr-20	24-Dec-24	10-Apr-20 A	24-Dec-24	0.0	4					
Portion 7 - Kwu Tung North Sewage Pumping station		1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	605.8						
Sewage Pumping Station		1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	605.8						
Site Preparation		1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	0.0						
P7-1040	Tree Protection and Preservation	1327.0	726.0	03-Aug-20	24-Dec-24	03-Aug-20 A	24-Dec-24	0.0	4					
Excavation		53.0	50.0	28-Jul-22	28-Sep-22	28-Jul-22 A	28-Sep-22	1281.8						
4th Stage Portion 3-6 3rd level (-0.5mPD)		40.0	37.0	28-Jul-22	12-Sep-22	28-Jul-22 A	12-Sep-22	1294.8						
P7-3162	Plant mobilization of Grout Curtain Installation	0.0	0.0	20-Aug-22		20-Aug-22		1294.8	1					

ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Original Duration	Remaining Duration	BL1 Start	BL1 Finish	Start	Finish	Total Float	Time Risk Allowance	2022				
										Jul	Aug	Sep	Oct	Nov
P7-3164	Grout Curtain Installation at Portion 3 (23nos)	20.0	20.0	20-Aug-22	12-Sep-22	20-Aug-22	12-Sep-22	1294.8	1					
P7-3166	Grout Curtain Installation at Portion 4 (11nos)	10.0	10.0	20-Aug-22	31-Aug-22	20-Aug-22	31-Aug-22	1301.8	1					
P7-3168	Installation of Dewatering Well (6nos)	3.0	3.0	01-Sep-22	03-Sep-22	01-Sep-22	03-Sep-22	1301.8	1					
P7-3190	Installation of strut S3 (-0.5mPD) at Portion 4	16.0	13.0	28-Jul-22	15-Aug-22	28-Jul-22 A	15-Aug-22	-265.2	5					
P7-3210	Installation of strut S3 (-0.5mPD) at Portion 5-6	15.0	5.0	29-Jul-22	15-Aug-22	29-Jul-22 A	20-Aug-22	-265.2	1					
5th Stage Portion 3-6 4th level (-1.5mPD)		36.0	36.0	01-Aug-22	10-Sep-22	01-Aug-22	10-Sep-22	-265.2						
P7-3220	Soft Excavation from -1.5mPD to -2.5mPD at Portion 3 (~600 cu.m)	7.0	7.0	01-Aug-22	08-Aug-22	01-Aug-22	08-Aug-22	-257.2	5					
P7-3230	Installation of strut S4 (-1.5mPD) at Portion 3	6.0	6.0	22-Aug-22	27-Aug-22	22-Aug-22	27-Aug-22	-265.2	5					
P7-3280	Soft Excavation from -1.5mPD to -2.5mPD at Portion 4(~600 cu.m)	7.0	7.0	09-Aug-22	16-Aug-22	09-Aug-22	16-Aug-22	-257.2	5					
P7-3290	Installation of strut S4 (-1.5mPD) at Portion 4	6.0	6.0	29-Aug-22	03-Sep-22	29-Aug-22	03-Sep-22	-265.2	5					
P7-3300	Soft Excavation from -1.5mPD to -2.5mPD at Portion 5-6(~600 cu.m)	7.0	7.0	17-Aug-22	24-Aug-22	17-Aug-22	24-Aug-22	-257.2	5					
P7-3310	Installation of strut S4 (-1.5mPD) at Portion 5-6	6.0	6.0	05-Sep-22	10-Sep-22	05-Sep-22	10-Sep-22	-265.2	5					
6th Stage Portion 3-6 5th level (-4.8mPD)		29.0	29.0	25-Aug-22	28-Sep-22	25-Aug-22	28-Sep-22	-265.2						
P7-3320	Soft Excavation from -2.5mPD to -5.8mPD at Portion 3 (~600 cu.m)	7.0	7.0	25-Aug-22	01-Sep-22	25-Aug-22	01-Sep-22	-257.2	5					
P7-3330	Installation of strut S5 (-1.5mPD) at Portion 3	6.0	6.0	12-Sep-22	17-Sep-22	12-Sep-22	17-Sep-22	-265.2	5					
P7-3500	Soft Excavation from -5.53mPD to -8.1mPD at Portion 3 (~4000 cu.m)	7.0	7.0	19-Sep-22	27-Sep-22	19-Sep-22	27-Sep-22	-265.2	5					
P7-3510	Concrete Blinding at Portion 3	1.0	1.0	28-Sep-22	28-Sep-22	28-Sep-22	28-Sep-22	-265.2	5					
Station Structure		7.0	7.0	01-Aug-22	08-Aug-22	01-Aug-22	08-Aug-22	-222.2						
Basement to G/F Wall & G/F Slab		7.0	7.0	01-Aug-22	08-Aug-22	01-Aug-22	08-Aug-22	-222.2						
+1.55mPD (1st Pour)		7.0	7.0	01-Aug-22	08-Aug-22	01-Aug-22	08-Aug-22	-222.2						
P7-BF1340	Base Slab Shutters	6.0	6.0	01-Aug-22	06-Aug-22	01-Aug-22	06-Aug-22	-222.2	1					
P7-BF1350	Base Slab (+1.55mPD) Concreting (+2.7mPD) (312m3)	1.0	1.0	08-Aug-22	08-Aug-22	08-Aug-22	08-Aug-22	-222.2	1					
Works in Section 3		1327.0	177.0	03-Aug-20	24-Dec-24	03-Aug-20 A	03-Mar-23	-0.2						
Portion 8 - Roads & Drains		1327.0	177.0	03-Aug-20	24-Dec-24	03-Aug-20 A	03-Mar-23	-0.2						
Pre-construction works		1327.0	177.0	03-Aug-20	24-Dec-24	03-Aug-20 A	03-Mar-23	-0.2						
P8-1055	Tree Protection and Preservation	1327.0	177.0	03-Aug-20	24-Dec-24	03-Aug-20 A	03-Mar-23	-0.2	4					
CLP Cable Relocation		221.0	28.0	09-Dec-21	01-Sep-22	09-Dec-21 A	01-Sep-22	-19.0						
P8-1060	KT1.40 - KT1.41 Application & Approval for the relocation of existing power cables by CLP	90.0	6.0	09-Dec-21	28-Mar-22	09-Dec-21 A	06-Aug-22	-19.0	2					
P8-1070	KT1.40 - KT1.41 Relocation of existing power cables by CLP	22.0	22.0	08-Aug-22	01-Sep-22	08-Aug-22	01-Sep-22	-19.0	2					
HyD Pillar Box / Lighting Relocation		119.0	47.0	06-May-22	24-Sep-22	06-May-22 A	24-Sep-22	-37.0						
P8-9050	Approval of proposal for temp traffic / pedestrian route lighting KT1.40 - KT1.41	48.0	26.0	06-May-22	02-Jul-22	06-May-22 A	30-Aug-22	-37.0	2					

ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Original Duration	Remaining Duration	BL1 Start	BL1 Finish	Start	Finish	Total Float	Time Risk Allowance	2022				
										Jul	Aug	Sep	Oct	Nov
P8-9060	Relocation works of existing streetlight and pillar boxes	21.0	21.0	31-Aug-22	24-Sep-22	31-Aug-22	24-Sep-22	-37.0	2					
Sewer Pipeline Installation		119.0	78.0	15-Jul-22	03-Dec-22	15-Jul-22 A	03-Dec-22	-38.0						
KT1.40A - KT1.43.8 (50m)		119.0	78.0	15-Jul-22	03-Dec-22	15-Jul-22 A	03-Dec-22	-38.0						
P8-5140	Sheet Pile Installation for open trench (Open Trench from 1.40A to 1.43.8)	49.0	8.0	15-Jul-22	09-Sep-22	15-Jul-22 A	09-Sep-22	-38.0						
P8-5150	Soft Excavation to 1st strut level	57.0	57.0	01-Sep-22	09-Nov-22	01-Sep-22	09-Nov-22	-38.0						
P8-5160	Installation of strut S1	58.0	58.0	05-Sep-22	14-Nov-22	05-Sep-22	14-Nov-22	-38.0						
P8-5170	Soft Excavation to 2nd strut level	42.0	42.0	27-Sep-22	16-Nov-22	27-Sep-22	16-Nov-22	-38.0						
P8-5180	Installation of strut S2	44.0	44.0	11-Oct-22	30-Nov-22	11-Oct-22	30-Nov-22	-38.0						
P8-5190	Soft Excavation to F.L.	39.0	39.0	20-Oct-22	03-Dec-22	20-Oct-22	03-Dec-22	-38.0						
Portion 9 - Footbridge		71.0	63.0	13-Aug-22	07-Nov-22	02-Aug-22 A	07-Nov-22	-211.2						
Footbridge Construction		71.0	63.0	13-Aug-22	07-Nov-22	02-Aug-22 A	07-Nov-22	-211.2						
South River Embankment		35.0	35.0	23-Aug-22	05-Oct-22	23-Aug-22	05-Oct-22	-293.2						
Superstructure		35.0	35.0	23-Aug-22	05-Oct-22	23-Aug-22	05-Oct-22	-293.2						
P9-1664	Erection of Falsework and Soffit Formwork for Bridge Deck	18.0	18.0	23-Aug-22	12-Sep-22	23-Aug-22*	12-Sep-22	-293.2	5					
P9-1670	Rebar Fixing of Bridge Deck	8.0	8.0	13-Sep-22	21-Sep-22	13-Sep-22	21-Sep-22	-293.2	2					
P9-1680	Formwork for Bridge Deck	7.0	7.0	23-Sep-22	30-Sep-22	23-Sep-22	30-Sep-22	-293.2	2					
P9-1690	Concreting of Bridge Deck	2.0	2.0	03-Oct-22	05-Oct-22	03-Oct-22	05-Oct-22	-293.2	0					
North River Embankment		46.0	34.0	13-Aug-22	08-Oct-22	02-Aug-22 A	08-Oct-22	-291.2						
Superstructure		46.0	34.0	13-Aug-22	08-Oct-22	02-Aug-22 A	08-Oct-22	-291.2						
P9-1620	Concreting the Pier	1.0	0.0	13-Aug-22	13-Aug-22	02-Aug-22 A	02-Aug-22 A		0					
P9-1624	Erection of Falsework and Soffit Formwork for Bridge Deck	18.0	18.0	27-Aug-22	16-Sep-22	27-Aug-22	16-Sep-22	-291.2	5					
P9-1625	Rebar Fixing of Bridge Deck	8.0	8.0	17-Sep-22	27-Sep-22	17-Sep-22	27-Sep-22	-291.2	2					
P9-1635	Formwork for Bridge Deck	7.0	7.0	28-Sep-22	07-Oct-22	28-Sep-22	07-Oct-22	-291.2	2					
P9-1645	Concreting of Bridge Deck	1.0	1.0	08-Oct-22	08-Oct-22	08-Oct-22	08-Oct-22	-291.2	0					
Middle Bridge Deck		25.0	25.0	06-Oct-22	03-Nov-22	06-Oct-22	03-Nov-22	-293.2						
P9-1590	Erection of middle truss for Middle Deck construction	16.0	16.0	06-Oct-22	24-Oct-22	06-Oct-22	24-Oct-22	-293.2	5					
P9-1710	Soffit Formwork Erection	9.0	9.0	25-Oct-22	03-Nov-22	25-Oct-22	03-Nov-22	-293.2	2					
Remaining Footbridge Works		12.0	12.0	25-Oct-22	07-Nov-22	25-Oct-22	07-Nov-22	-211.2						
Southern Footway Ramp / Staircase		12.0	12.0	25-Oct-22	07-Nov-22	25-Oct-22	07-Nov-22	-211.2						
P9-SR1000	Excavate to formation level +5.2mPD	4.0	4.0	25-Oct-22	28-Oct-22	25-Oct-22	28-Oct-22	-211.2	5					
P9-SR1010	RC Works for Lower Portion of ramp foundation	8.0	8.0	29-Oct-22	07-Nov-22	29-Oct-22	07-Nov-22	-211.2	5					
Works in Section 4		1327.0	354.0	03-Aug-20	24-Dec-24	03-Aug-20 A	29-Sep-23	0.0						
Portion 10 - Visitor Centre		1327.0	354.0	03-Aug-20	24-Dec-24	03-Aug-20 A	29-Sep-23	0.0						

Primary Baseline

Actual Work

Remaining Work

Critical Remaining Work

Baseline Milestone

Critical ...

Non-Crit...

Data Date: 31-Jul-22

Project Start: 03-Feb-20

Project End: 30-Dec-26

Baseline: Monthly Markup Programme (Feb 2021) (Accepted on 15 April 2021)

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Three Months Rolling Programme








(Jul to Oct 2022)

Date	Revision	Checked	Approved
12-Aug-22	Rev 1 (Three Months Rolling Progr...	TW	

ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

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Activity ID	Activity Name	Original Duration	Remaining Duration	BL1 Start	BL1 Finish	Start	Finish	Total Float	Time Risk Allowance	2022				
										Jul	Aug	Sep	Oct	Nov
Pre-construction works		1327.0	354.0	03-Aug-20	24-Dec-24	03-Aug-20 A	29-Sep-23	0.0						
P10-1040	Tree Protection and Preservation	1327.0	354.0	03-Aug-20	24-Dec-24	03-Aug-20 A	29-Sep-23	0.0	4					
Visitor Centre		100.0	86.0	15-Jul-22	11-Nov-22	15-Jul-22 A	11-Nov-22	-64.0						
Substructure		78.0	64.0	15-Jul-22	17-Oct-22	15-Jul-22 A	17-Oct-22	-70.0						
Basement Walls		54.0	40.0	15-Jul-22	15-Sep-22	15-Jul-22 A	15-Sep-22	-86.0						
Column C4, C5, C8, C9, C12, C13 & C17		20.0	9.0	15-Jul-22	06-Aug-22	15-Jul-22 A	10-Aug-22	-79.0						
P10-2120.656	Concreting of Columns to +7.6mPD	20.0	9.0	15-Jul-22	06-Aug-22	15-Jul-22 A	10-Aug-22	-79.0	2					
Basement Retaining Wall Bay 3 (Incl. Staircase)		9.0	9.0	11-Aug-22	20-Aug-22	11-Aug-22	20-Aug-22	-64.0						
P10-2120.846	Concrete rectification and Touch Up works	3.0	3.0	11-Aug-22	13-Aug-22	11-Aug-22	13-Aug-22	-64.0	2					
P10-2120.856	Basement Wall Waterproofing & Testing	6.0	6.0	15-Aug-22	20-Aug-22	15-Aug-22	20-Aug-22	-64.0	2					
Basement Water Tank		28.0	28.0	15-Aug-22	15-Sep-22	15-Aug-22	15-Sep-22	-95.0						
Rain water Tank and Irrigation water Tank		28.0	28.0	15-Aug-22	15-Sep-22	15-Aug-22	15-Sep-22	-95.0						
P10-2120.446	Dismantle formwork for retaining wall	4.0	4.0	15-Aug-22	18-Aug-22	15-Aug-22*	18-Aug-22	-95.0	2					
P10-2120.456	Water Tanks Slab formwork	5.0	5.0	19-Aug-22	24-Aug-22	19-Aug-22	24-Aug-22	-95.0	2					
P10-2120.466	Water Tanks Slab Rebar Fixing	4.0	4.0	23-Aug-22	26-Aug-22	23-Aug-22	26-Aug-22	-95.0	2					
P10-2120.486	Water Tanks Wall formwork	3.0	3.0	27-Aug-22	30-Aug-22	27-Aug-22	30-Aug-22	-95.0	2					
P10-2120.536	Water Tanks Wall Rebar Fixing	3.0	3.0	31-Aug-22	02-Sep-22	31-Aug-22	02-Sep-22	-95.0	2					
P10-2120.546	Concreting of Water Tanks Base Slab & Wall	1.0	1.0	03-Sep-22	03-Sep-22	03-Sep-22	03-Sep-22	-95.0	2					
P10-2120.556	Erect Props for supporting water tank top slab soffit formwork	5.0	5.0	05-Sep-22	09-Sep-22	05-Sep-22	09-Sep-22	-95.0	2					
P10-2120.566	Water tank top slab Rebar Fixing	4.0	4.0	10-Sep-22	14-Sep-22	10-Sep-22	14-Sep-22	-95.0	2					
P10-2120.576	Water tank wall and top slab concreting	1.0	1.0	15-Sep-22	15-Sep-22	15-Sep-22	15-Sep-22	-95.0	2					
FS water Tanks		28.0	28.0	15-Aug-22	15-Sep-22	15-Aug-22	15-Sep-22	-96.0						
P10-2120.496	Dismantle formwork for retaining wall	4.0	4.0	15-Aug-22	18-Aug-22	15-Aug-22*	18-Aug-22	-96.0	2					
P10-2120.506	Water Tanks Slab formwork	5.0	5.0	19-Aug-22	24-Aug-22	19-Aug-22	24-Aug-22	-96.0	2					
P10-2120.516	Water Tanks Slab Rebar Fixing	4.0	4.0	23-Aug-22	26-Aug-22	23-Aug-22	26-Aug-22	-96.0	2					
P10-2120.526	Water Tanks Wall formwork	3.0	3.0	27-Aug-22	30-Aug-22	27-Aug-22	30-Aug-22	-96.0	2					
P10-2120.586	Water Tanks Wall Rebar Fixing	3.0	3.0	31-Aug-22	02-Sep-22	31-Aug-22	02-Sep-22	-96.0	2					
P10-2120.596	Concreting of Water Tanks Slab	1.0	1.0	03-Sep-22	03-Sep-22	03-Sep-22	03-Sep-22	-96.0	2					
P10-2120.606	Erect Props for supporting water tank top slab soffit formwork	5.0	5.0	05-Sep-22	09-Sep-22	05-Sep-22	09-Sep-22	-96.0	2					
P10-2120.616	Water tank top slab Rebar Fixing	4.0	4.0	10-Sep-22	14-Sep-22	10-Sep-22	14-Sep-22	-96.0	2					
P10-2120.626	Water tank wall and top slab concreting	1.0	1.0	15-Sep-22	15-Sep-22	15-Sep-22	15-Sep-22	-96.0	2					

	Primary Baseline		Critical ...
	Actual Work		Non-Crit...
	Remaining Work		
	Critical Remaining Work		
	Baseline Milestone		

Data Date: 31-Jul-22  
Project Start: 03-Feb-20  
Project End: 30-Dec-26  
Baseline: Monthly Markup Programme (Feb 2021) (Accepted on 15 April 2021)  
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**Three Months Rolling Programme  
(Jul to Oct 2022)**


Date	Revision	Checked	Approved
12-Aug-22	Rev 1 (Three Months Rolling Progr...	TW	





ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui


Activity ID	Activity Name	Original Duration	Remaining Duration	BL1 Start	BL1 Finish	Start	Finish	Total Float	Time Risk Allowance	2022				
										Jul	Aug	Sep	Oct	Nov
High Level Pile Cap & Column		75.0	64.0	19-Jul-22	17-Oct-22	19-Jul-22 A	17-Oct-22	-70.0						
C19 to C22		71.0	60.0	19-Jul-22	12-Oct-22	19-Jul-22 A	12-Oct-22	-66.0						
P10-2120.176	Basement Wall Waterproofing & Testing	6.0	12.0	19-Jul-22	25-Jul-22	19-Jul-22 A	13-Aug-22	-66.0	2					
P10-2120.196	Backfill of Temp. Slope & level formation of high level slab	10.0	10.0	15-Aug-22	25-Aug-22	15-Aug-22	25-Aug-22	-66.0	2					
P10-2120.206	Grout Breaking of Socket H Piles	3.0	3.0	26-Aug-22	29-Aug-22	26-Aug-22	29-Aug-22	-66.0	2					
P10-2120.216	High Level Pile Head treatment and Capping Plate Installation	6.0	6.0	30-Aug-22	05-Sep-22	30-Aug-22	05-Sep-22	-66.0	2					
P10-2120.226	Backfill with Grade 200 Rockfill	10.0	10.0	06-Sep-22	16-Sep-22	06-Sep-22	16-Sep-22	-66.0	1					
P10-2120.266	Rebar fixing of Pile Cap and Columns	5.0	5.0	17-Sep-22	23-Sep-22	17-Sep-22	23-Sep-22	-66.0	1					
P10-2120.276	Pile Cap Formwork erection	4.0	4.0	20-Sep-22	24-Sep-22	20-Sep-22	24-Sep-22	-66.0	1					
P10-2120.286	High Level Pile Cap Concreting	1.0	1.0	26-Sep-22	26-Sep-22	26-Sep-22	26-Sep-22	-66.0	1					
P10-2120.366	Erect Working Platform from Pile Cap Level to 1/F	4.0	4.0	27-Sep-22	30-Sep-22	27-Sep-22	30-Sep-22	-66.0	1					
P10-2120.376	Columns Rebar Fixing from Pile Cap Level to 1/F	4.0	4.0	03-Oct-22	07-Oct-22	03-Oct-22	07-Oct-22	-66.0	1					
P10-2120.386	Columns formwork from Pile Cap Level to 1/F	3.0	3.0	08-Oct-22	11-Oct-22	08-Oct-22	11-Oct-22	-66.0	1					
P10-2120.396	Concreting of Columns to 1/F	1.0	1.0	12-Oct-22	12-Oct-22	12-Oct-22	12-Oct-22	-66.0	1					
C3, C6, C10, C14 & C18		55.0	64.0	11-Aug-22	17-Oct-22	27-Jul-22 A	17-Oct-22	-75.0						
P10-2120.316	Basement Wall Waterproofing & Testing	6.0	16.0	11-Aug-22	17-Aug-22	27-Jul-22 A	18-Aug-22	-75.0	2					
P10-2120.317	Backfill of Temp. Slope & level formation of high level slab	10.0	10.0	19-Aug-22	30-Aug-22	19-Aug-22	30-Aug-22	-75.0	2					
P10-2120.318	Grout Breaking of Socket H Piles	3.0	3.0	31-Aug-22	02-Sep-22	31-Aug-22	02-Sep-22	-75.0	2					
P10-2120.319	High Level Pile Head treatment and Capping Plate Installation	6.0	6.0	03-Sep-22	09-Sep-22	03-Sep-22	09-Sep-22	-75.0	2					
P10-2120.326	Backfill with Grade 200 Rockfill	10.0	10.0	10-Sep-22	21-Sep-22	10-Sep-22	21-Sep-22	-75.0	1					
P10-2120.336	Rebar fixing of Pile Cap and Columns	5.0	5.0	23-Sep-22	28-Sep-22	23-Sep-22	28-Sep-22	-75.0	1					
P10-2120.346	Pile Cap Formwork erection	4.0	4.0	26-Sep-22	29-Sep-22	26-Sep-22	29-Sep-22	-75.0	1					
P10-2120.356	High Level Pile Cap & column kickers Concreting	1.0	1.0	30-Sep-22	30-Sep-22	30-Sep-22	30-Sep-22	-75.0	1					
P10-2120.406	Erect Working Platform from Pile Cap Level to 1/F	4.0	4.0	03-Oct-22	07-Oct-22	03-Oct-22	07-Oct-22	-75.0	1					
P10-2120.416	Columns Rebar Fixing from Pile Cap Level to 1/F	4.0	4.0	08-Oct-22	12-Oct-22	08-Oct-22	12-Oct-22	-75.0	1					
P10-2120.426	Columns formwork from Pile Cap Level to 1/F	3.0	3.0	13-Oct-22	15-Oct-22	13-Oct-22	15-Oct-22	-75.0	1					
P10-2120.436	Concreting of Columns to 1/F	1.0	1.0	17-Oct-22	17-Oct-22	17-Oct-22	17-Oct-22	-75.0	1					
Superstructure		68.0	68.0	11-Aug-22	01-Nov-22	11-Aug-22	01-Nov-22	-66.0						
Ground Floor to Roof Floor		68.0	68.0	11-Aug-22	01-Nov-22	11-Aug-22	01-Nov-22	-66.0						


 Primary Baseline


 Actual Work

 Remaining Work

 Critical Remaining Work

 Baseline Milestone

 Critical ...

 Non-Crit...

Data Date: 31-Jul-22

Project Start: 03-Feb-20

Project End: 30-Dec-26

Baseline: Monthly Markup Programme (Feb 2021) (Accepted on 15 April 2021)

























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Three Months Rolling Programme















(Jul to Oct 2022)

Date	Revision	Checked	Approved
12-Aug-22	Rev 1 (Three Months Rolling Progr...	TW	











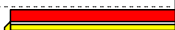
ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Original Duration	Remaining Duration	BL1 Start	BL1 Finish	Start	Finish	Total Float	Time Risk Allowance	2022				
										Jul	Aug	Sep	Oct	Nov
B/F to G/F Wall and G/F Slab		63.0	63.0	11-Aug-22	26-Oct-22	11-Aug-22	26-Oct-22	-93.0						
Bay 1		30.0	30.0	16-Sep-22	24-Oct-22	16-Sep-22	24-Oct-22	-95.0						
P10-2350	Erection of falsework and working platform for B/F to G/F wall	3.0	3.0	16-Sep-22	19-Sep-22	16-Sep-22	19-Sep-22	-95.0	1					
P10-2360	Erection of One Side Formwork for B/F to G/F Wall	3.0	3.0	20-Sep-22	23-Sep-22	20-Sep-22	23-Sep-22	-95.0	1					
P10-2370	Rebar Fixing for B/F to G/F Wall	3.0	3.0	24-Sep-22	27-Sep-22	24-Sep-22	27-Sep-22	-95.0	1					
P10-2380	Erection of remaining side formwork for B/F to G/F Wall	3.0	3.0	28-Sep-22	30-Sep-22	28-Sep-22	30-Sep-22	-95.0	1					
P10-2390	Erection of falsework and working platform for G/F Slab	4.0	4.0	03-Oct-22	07-Oct-22	03-Oct-22	07-Oct-22	-95.0	1					
P10-2400	Erection of Formwork for G/F Slab	5.0	5.0	08-Oct-22	13-Oct-22	08-Oct-22	13-Oct-22	-95.0	1					
P10-2410	Rebar Fixing for G/F Slab	5.0	5.0	14-Oct-22	19-Oct-22	14-Oct-22	19-Oct-22	-95.0	1					
P10-2420	G/F Slab Shutters	3.0	3.0	20-Oct-22	22-Oct-22	20-Oct-22	22-Oct-22	-95.0	1					
P10-2430	G/F Slab & B/F to G/F wall Concreting	1.0	1.0	24-Oct-22	24-Oct-22	24-Oct-22	24-Oct-22	-95.0	1					
Bay 2		42.0	42.0	11-Aug-22	29-Sep-22	11-Aug-22	29-Sep-22	-72.0						
Tx Room Cable Trench		16.0	16.0	11-Aug-22	29-Aug-22	11-Aug-22	29-Aug-22	-72.0						
P10-2120.716	Trench base slab formwork supporting cable trench	4.0	4.0	11-Aug-22	15-Aug-22	11-Aug-22	15-Aug-22	-79.0	2					
P10-2120.726	Trench base slab Rebar fixing supporting cable trench	3.0	3.0	16-Aug-22	18-Aug-22	16-Aug-22	18-Aug-22	-72.0	2					
P10-2120.736	Trench base slab concreting supporting cable trench	1.0	1.0	19-Aug-22	19-Aug-22	19-Aug-22	19-Aug-22	-72.0	2					
P10-2120.746	Cable trench Wall / Cover slab formwork	4.0	4.0	20-Aug-22	24-Aug-22	20-Aug-22	24-Aug-22	-72.0	2					
P10-2120.756	Cable trench Wall / Cover slab Rebar fixing	3.0	3.0	25-Aug-22	27-Aug-22	25-Aug-22	27-Aug-22	-72.0	2					
P10-2120.766	Cable trench Wall / Cover slab Concreting	1.0	1.0	29-Aug-22	29-Aug-22	29-Aug-22	29-Aug-22	-72.0	2					
Beam and Slab		26.0	26.0	30-Aug-22	29-Sep-22	30-Aug-22	29-Sep-22	-72.0						
P10-2440	Erection of falsework and working platform for B/F to G/F wall	3.0	3.0	30-Aug-22	01-Sep-22	30-Aug-22	01-Sep-22	-72.0	1					
P10-2450	Erection of One Side Formwork for B/F to G/F Wall	3.0	3.0	02-Sep-22	05-Sep-22	02-Sep-22	05-Sep-22	-72.0	1					
P10-2460	Rebar Fixing for B/F to G/F Wall	3.0	3.0	06-Sep-22	08-Sep-22	06-Sep-22	08-Sep-22	-72.0	1					
P10-2470	Erection of remaining side formwork for B/F to G/F Wall	3.0	3.0	09-Sep-22	12-Sep-22	09-Sep-22	12-Sep-22	-72.0	1					
P10-2480	Erection of falsework and working platform for G/F Slab	4.0	4.0	13-Sep-22	16-Sep-22	13-Sep-22	16-Sep-22	-72.0	1					
P10-2490	Erection of Formwork for G/F Slab	4.0	4.0	17-Sep-22	21-Sep-22	17-Sep-22	21-Sep-22	-72.0	1					
P10-2500	Rebar Fixing for G/F Slab	3.0	3.0	23-Sep-22	26-Sep-22	23-Sep-22	26-Sep-22	-72.0	1					
P10-2510	G/F Slab Shutters	2.0	2.0	27-Sep-22	28-Sep-22	27-Sep-22	28-Sep-22	-72.0	1					
P10-2520	G/F Slab & B/F to G/F wall Concreting	1.0	1.0	29-Sep-22	29-Sep-22	29-Sep-22	29-Sep-22	-72.0	1					

ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Original Duration	Remaining Duration	BL1 Start	BL1 Finish	Start	Finish	Total Float	Time Risk Allowance	2022				
										Jul	Aug	Sep	Oct	Nov
Bay 3		46.0	46.0	31-Aug-22	26-Oct-22	31-Aug-22	26-Oct-22	-96.0						
Tx Room Cable Trench		16.0	16.0	31-Aug-22	17-Sep-22	31-Aug-22	17-Sep-22	-96.0						
P10-2120.776	Trench base slab formwork supporting cable trench	4.0	4.0	31-Aug-22	03-Sep-22	31-Aug-22	03-Sep-22	-96.0	2					
P10-2120.786	Trench base slab Rebar fixing supporting cable trench	3.0	3.0	05-Sep-22	07-Sep-22	05-Sep-22	07-Sep-22	-96.0	2					
P10-2120.796	Trench base slab concreting supporting cable trench	1.0	1.0	08-Sep-22	08-Sep-22	08-Sep-22	08-Sep-22	-96.0	2					
P10-2120.806	Cable trench Wall / Cover slab formwork	4.0	4.0	09-Sep-22	13-Sep-22	09-Sep-22	13-Sep-22	-96.0	2					
P10-2120.816	Cable trench Wall / Cover slab Rebar fixing	3.0	3.0	14-Sep-22	16-Sep-22	14-Sep-22	16-Sep-22	-96.0	2					
P10-2120.826	Cable trench Wall / Cover slab Concreting	1.0	1.0	17-Sep-22	17-Sep-22	17-Sep-22	17-Sep-22	-96.0	2					
Beam and Slab		30.0	30.0	19-Sep-22	26-Oct-22	19-Sep-22	26-Oct-22	-96.0						
P10-2530	Erection of falsework and working platform for B/F to G/F wall	4.0	4.0	19-Sep-22	23-Sep-22	19-Sep-22	23-Sep-22	-96.0	1					
P10-2540	Erection of One Side Formwork for B/F to G/F Wall	4.0	4.0	24-Sep-22	28-Sep-22	24-Sep-22	28-Sep-22	-96.0	1					
P10-2550	Rebar Fixing for B/F to G/F Wall	4.0	4.0	29-Sep-22	05-Oct-22	29-Sep-22	05-Oct-22	-96.0	1					
P10-2560	Erection of remaining side formwork for B/F to G/F Wall	4.0	4.0	06-Oct-22	10-Oct-22	06-Oct-22	10-Oct-22	-96.0	1					
P10-2570	Erection of falsework and working platform for G/F Slab	4.0	4.0	11-Oct-22	14-Oct-22	11-Oct-22	14-Oct-22	-96.0	1					
P10-2580	Erection of Formwork for G/F Slab	4.0	4.0	15-Oct-22	19-Oct-22	15-Oct-22	19-Oct-22	-96.0	1					
P10-2590	Rebar Fixing for G/F Slab	3.0	3.0	20-Oct-22	22-Oct-22	20-Oct-22	22-Oct-22	-96.0	1					
P10-2600	G/F Slab Shutters	2.0	2.0	24-Oct-22	25-Oct-22	24-Oct-22	25-Oct-22	-96.0	1					
P10-2610	G/F Slab & B/F to G/F wall Concreting	1.0	1.0	26-Oct-22	26-Oct-22	26-Oct-22	26-Oct-22	-96.0	1					
G/F to 1/F Wall and 1/F Slab		26.0	26.0	30-Sep-22	01-Nov-22	30-Sep-22	01-Nov-22	-66.0						
Bay 1		6.0	6.0	25-Oct-22	31-Oct-22	25-Oct-22	31-Oct-22	-95.0						
P10-2620	Erection of falsework and working platform for G/F to 1/F wall	3.0	3.0	25-Oct-22	27-Oct-22	25-Oct-22	27-Oct-22	-95.0	1					
P10-2630	Erection of One Side Formwork for G/F to 1/F Wall	3.0	3.0	28-Oct-22	31-Oct-22	28-Oct-22	31-Oct-22	-95.0	1					
Bay 2		24.0	24.0	30-Sep-22	29-Oct-22	30-Sep-22	29-Oct-22	-72.0						
P10-2710	Erection of falsework and working platform for G/F to 1/F wall	3.0	3.0	30-Sep-22	05-Oct-22	30-Sep-22	05-Oct-22	-72.0	1					
P10-2720	Erection of One Side Formwork for G/F to 1/F Wall	2.0	2.0	06-Oct-22	07-Oct-22	06-Oct-22	07-Oct-22	-72.0	1					
P10-2730	Rebar Fixing for G/F to 1/F Wall	2.0	2.0	08-Oct-22	10-Oct-22	08-Oct-22	10-Oct-22	-72.0	1					
P10-2740	Erection of remaining side formwork for G/F to 1/F Wall	2.0	2.0	11-Oct-22	12-Oct-22	11-Oct-22	12-Oct-22	-72.0	1					
P10-2750	Erection of falsework and working platform for 1/F Slab	3.0	3.0	13-Oct-22	15-Oct-22	13-Oct-22	15-Oct-22	-72.0	1					
P10-2760	Erection of Formwork for 1/F Slab	5.0	5.0	17-Oct-22	21-Oct-22	17-Oct-22	21-Oct-22	-72.0	1					

ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

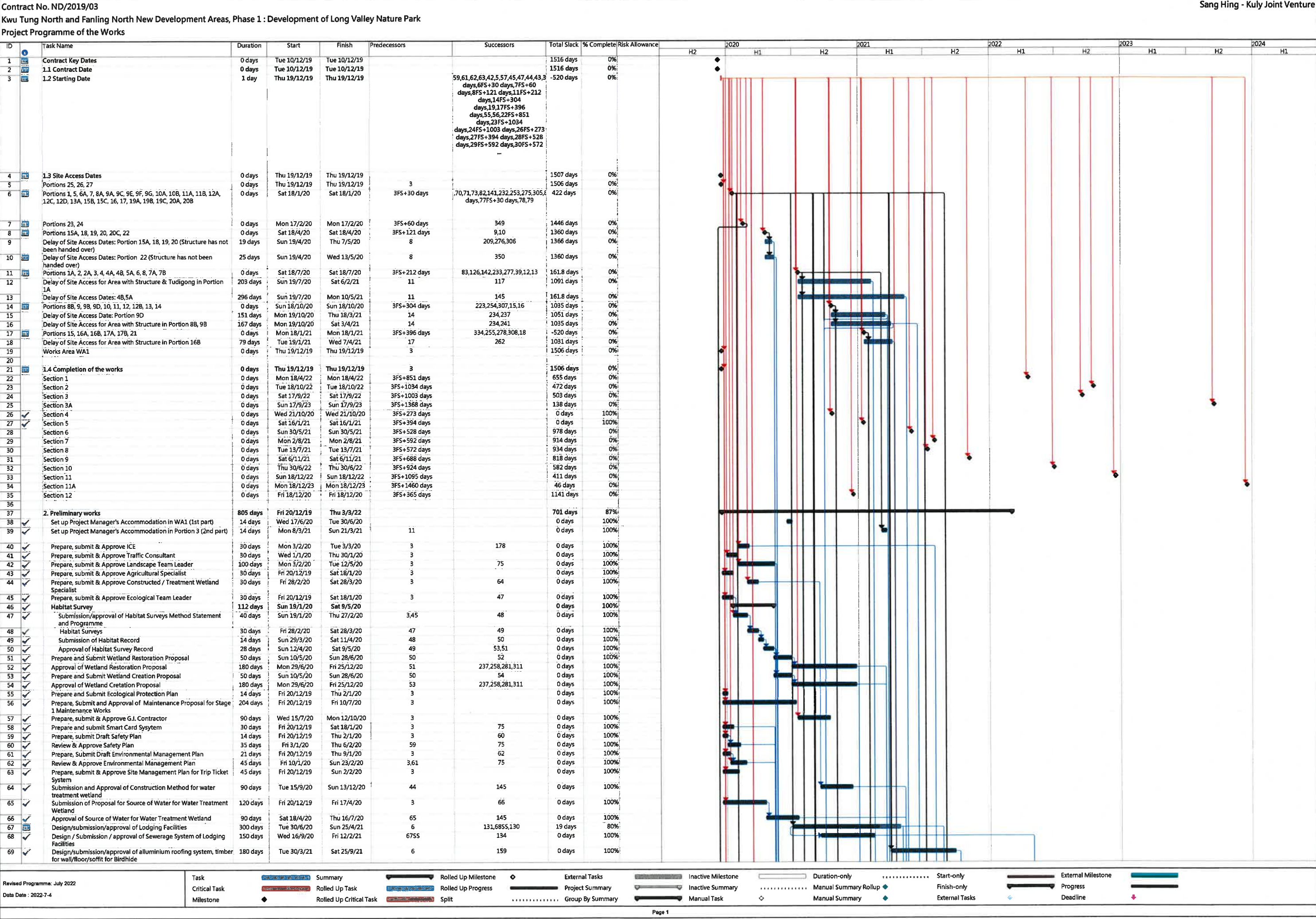
Activity ID	Activity Name	Original Duration	Remaining Duration	BL1 Start	BL1 Finish	Start	Finish	Total Float	Time Risk Allowance	2022				
										Jul	Aug	Sep	Oct	Nov
P10-2770	Rebar Fixing for 1/F Slab	4.0	4.0	22-Oct-22	26-Oct-22	22-Oct-22	26-Oct-22	-72.0	1					
P10-2780	1/F Slab Shutters	2.0	2.0	27-Oct-22	28-Oct-22	27-Oct-22	28-Oct-22	-72.0	1					
P10-2790	1/F Slab & G/F to 1/F wall Concreting	1.0	1.0	29-Oct-22	29-Oct-22	29-Oct-22	29-Oct-22	-72.0	1					
Bay 3		3.0	3.0	27-Oct-22	29-Oct-22	27-Oct-22	29-Oct-22	-96.0						
P10-2800	Erection of falsework and working platform for G/F to 1/F wall	3.0	3.0	27-Oct-22	29-Oct-22	27-Oct-22	29-Oct-22	-96.0	1					
Bay 4		17.0	17.0	13-Oct-22	01-Nov-22	13-Oct-22	01-Nov-22	-66.0						
P10-2890	Erection of falsework and working platform for G/F to 1/F wall	3.0	3.0	13-Oct-22	15-Oct-22	13-Oct-22	15-Oct-22	-66.0	1					
P10-2900	Erection of One Side Formwork for G/F to 1/F Wall	2.0	2.0	17-Oct-22	18-Oct-22	17-Oct-22	18-Oct-22	-66.0	1					
P10-2910	Rebar Fixing for G/F to 1/F Wall	4.0	4.0	19-Oct-22	22-Oct-22	19-Oct-22	22-Oct-22	-66.0	1					
P10-2920	Erection of remaining side formwork for G/F to 1/F Wall	3.0	3.0	24-Oct-22	26-Oct-22	24-Oct-22	26-Oct-22	-66.0	1					
P10-2930	Erection of falsework and working platform for 1/F Slab	5.0	5.0	27-Oct-22	01-Nov-22	27-Oct-22	01-Nov-22	-66.0	1					
External Works		68.0	68.0	22-Aug-22	11-Nov-22	22-Aug-22	11-Nov-22	-64.0						
Retaining wall		48.0	48.0	22-Aug-22	19-Oct-22	22-Aug-22	19-Oct-22	-64.0						
P10-4140	Construction of U trough Structure KW-09 (6 Bays @ 7.5m / Bay)	48.0	48.0	22-Aug-22	19-Oct-22	22-Aug-22	19-Oct-22	-64.0	3					
Underground Utilities Connection		20.0	20.0	20-Oct-22	11-Nov-22	20-Oct-22	11-Nov-22	-64.0						
P10-2311	Underground Drainage and sewerage installation near U trough Structure KW-09	20.0	20.0	20-Oct-22	11-Nov-22	20-Oct-22	11-Nov-22	-64.0	2					
Works in Section 5		595.0	1.0	30-Dec-20	19-Dec-22	30-Dec-20 A	21-Dec-22	1.8						
Portion 11 - Village Resite Area		595.0	1.0	30-Dec-20	19-Dec-22	30-Dec-20 A	21-Dec-22	1.8						
Preliminary Works		595.0	1.0	30-Dec-20	19-Dec-22	30-Dec-20 A	21-Dec-22	1.8						
P11-1005	Temporary Storage Area	595.0	1.0	30-Dec-20	19-Dec-22	30-Dec-20 A	21-Dec-22	1.8	0					







## **Construction Programme of ND/2019/03**



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### Project Programme of the Works

Revised Programme: July 2022	Task		Summary		Rolled Up Milestone		External Tasks		Inactive Milestone		Duration-only		Start-only		External Milestone	
Data Date : 2022-7-4	Critical Task		Rolled Up Task		Rolled Up Progress		Project Summary		Inactive Summary		Manual Summary Rollup		Finish-only		Progress	
	Milestone		Rolled Up Critical Task		Split		Group By Summary		Manual Task		Manual Summary		External Tasks		Deadline	

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Kwu Tung North and Fanling North New Development Areas, Phase 1 : Development of Long Valley Nature Park

Project Programme of the Works

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Complete	Risk Allowance	H2	2020	H1	H2	2021	H1	H2	2022	H1	H2	2023	H1	H2	2024	H1
151	Bedding preparation	45 days	Tue 15/3/22	Thu 28/4/22	150	152,201	-138 days	0%																
152	Excavation for open water zone	115 days	Fri 29/4/22	Sun 21/8/22	151	154	96 days	50%																
153	Construction of wetland broadwalk	205 days	Thu 18/11/21	Fri 10/6/22	146	202	99 days	70%																
154	Construction of Inlet and outlet structures	120 days	Mon 22/8/22	Mon 19/12/22	152	202	-93 days	80%																
155	Construction of birdhide	528 days	Mon 21/12/20	Wed 1/6/22			611 days	22%																
156	Excavation and formation preparation	21 days	Mon 21/12/20	Sun 10/1/21	142,143	157	0 days	100%																
157	Construction of base slab	120 days	Mon 12/4/21	Mon 9/8/21	156	158	0 days	100%																
158	Installation of steel structural frame	60 days	Tue 10/8/21	Fri 8/10/21	157	159,186,161,193	134 days	0%																
159	Installation of timber wall / roof	120 days	Sat 9/10/21	Sat 5/2/22	158,69	160	627 days	0%	4 days															
160	Installation of timber rised flooring	100 days	Sun 6/2/22	Mon 16/5/22	159		627 days	0%																
161	Installation of E&M, Fire Services System	120 days	Sat 9/10/21	Sat 5/2/22	158,70,74	162	134 days	0%																
162	Testing & commissioning	90 days	Fri 4/3/22	Wed 1/6/22	70,71,161	202	108 days	0%																
163	Construction of farmer's forum / open area	251 days	Sun 31/10/21	Fri 8/7/22			71 days	39%																
164	Construction of tea house pavilion	251 days	Sun 31/10/21	Fri 8/7/22			71 days	59%																
165	Construction of base slab	21 days	Sun 31/10/21	Sat 20/11/21	143,180,73	166	0 days	100%																
166	Construction of walls with columns	35 days	Sun 21/11/21	Sat 25/12/21	165	167	0 days	100%																
167	Installation of roof steel structure	45 days	Sun 26/12/21	Tue 8/2/22	166	168,172	0 days	100%																
168	Installation of recycled timber strip for roof	30 days	Wed 9/2/22	Thu 10/3/22	167	169	116 days	70%																
169	Installation of recycled timber strip for walls	30 days	Fri 11/3/22	Sat 9/4/22	168	17055	116 days	0%																
170	Supply and installation of bench	30 days	Fri 11/3/22	Sat 9/4/22	16955	171	116 days	0%																
171	Installation of plumbing works / E&M works with testing & commissioning	90 days	Sun 10/4/22	Fri 8/7/22	170,70,71,74	202	71 days	50%																
172	Construction of paving slab for open area	90 days	Wed 9/2/22	Mon 9/5/22	167	173	71 days	0%	4 days															
173	Construction of entrance gantry signages	60 days	Tue 10/5/22	Fri 8/7/22	172,77	202	71 days	0%	4 days															
174	Construction of Type 1 storage house	469 days	Tue 3/8/21	Mon 14/11/22			445 days	33%																
175	Compensation Event No. 58 (PMI-059)-Type 1 Storage House Revision	0 days	Thu 21/10/21	Thu 21/10/21		176,177	0 days	100%																
176	Design of Fire Services (CE No. 058)	150 days	Thu 21/10/21	Sat 19/3/22	175		685 days	50%																
177	Design of Plumbing Works (CE No. 058) & Approval by WSD	150 days	Thu 21/10/21	Sat 19/3/22	175	183	-58 days	50%																
178	Excavation and formation preparation	21 days	Tue 3/8/21	Mon 23/8/21	40,196	179	0 days	100%																
179	Construction of base slab	28 days	Tue 24/8/21	Mon 20/9/21	178	180	0 days	100%																
180	Construction of walls and roof	40 days	Tue 21/9/21	Sat 30/10/21	179	181,165,200	0 days	100%																
181	Installation of aluminium louvre / GMS door	28 days	Sun 31/10/21	Sat 27/11/21	180	182	-19 days	0%																
182	Installation of recycled timber strip / external finishing	73 days	Sun 28/11/21	Tue 8/2/22	181	190,183	-19 days	0%	3 days															
183	Installation of Plumbing Works (CE No. 058)	60 days	Sun 20/3/22	Wed 18/5/22	182,177	184	-58 days	0%																
184	Installation of E&M works & Fire Services with testing & commissioning	180 days	Thu 19/5/22	Mon 14/11/22	70,74,183	202	-58 days	0%																
185	Construction of outdoor classroom shelter	455.2 days	Mon 26/4/21	Mon 25/7/22			54.8 days	69%																
186	Excavation and formation preparation	21 days	Mon 26/4/21	Wed 13/10/21	158	187	0 days	100%																
187	Construction of base slab	42 days	Wed 13/10/21	Wed 24/11/21	186	188	0 days	100%																
188	Construction of concrete columns	63 days	Wed 24/11/21	Wed 26/1/22	187	189	0 days	100%	3 days															
189	Installation of steel roof frame with corrugated sheet	30 days	Wed 26/1/22	Fri 25/2/22	188	190	0 days	100%																
190	Installation of recycled timber strip roofing	60 days	Fri 25/2/22	Tue 26/4/22	189,182	191	108.8 days	0%																
191	Installation of E&M works and Fire Services with testing & commissioning	90 days	Tue 26/4/22	Mon 25/7/22	190,74	202	54.8 days	60%																
192	Construction of storage composting facility	319 days	Mon 15/2/21	Thu 30/12/21			261 days	49%																
193	Excavation and formation preparation	22 days	Mon 15/2/21	Mon 8/3/21	158	194	0 days	100%																
194	Construction of base slab	54 days	Tue 9/3/21	Sat 1/5/21	193	195	0 days	100%																
195	Construction of concrete columns	63 days	Sun 2/5/21	Sat 3/7/21	194	196	0 days	100%	3 days															
196	Installation of steel roof frame with corrugated sheet	30 days	Sun 4/7/21	Mon 2/8/21	195	197,178	261 days	60%																
197	Installation of recycled timber strip roofing	60 days	Tue 3/8/21	Fri 1/10/21	196	198,199	261 days	0%																
198	Installation of E&M works & Fire Services with testing & commissioning	90 days	Sat 2/10/21	Thu 30/12/21	197,74	202	261 days	0%																
199	Construction of entry landing with drop bar	90 days	Sat 2/10/21	Thu 30/12/21	197	202	261 days	0%																
200	Construction of walkway	210 days	Sun 31/10/21	Sat 28/5/22	180	202	112 days	0%																
201	Landscaping softworks	280 days	Fri 29/4/22	Thu 2/2/23	151	202,205	-138 days	0%																
202	Completion of Section 3 of the works	0 days	Sat 17/9/22	Sat 17/9/22	162,171,173,184,191,198,199		-138 days	0%																
203																								
204	6. Section 3A of the works ( Establishment works for Section 2 and 3 )	365 days	Fri 3/2/23	Fri 2/2/24			-138 days	0%																
205	Establishment works for landscape softworks	365 days	Fri 3/2/23	Fri 2/2/24	201	206FF	-138 days	0%																
206	Completion of Section 3A of the Works	0 days	Sun 17/9/23	Sun 17/9/23	205FF		-138 days	0%																
207																								
208	7. Section 4 of the works ( Portion 18 )	167 days	Thu 7/5/20	Wed 21/10/20			0 days	100%																
209	Site Access in Portion 18	0 days	Thu 7/5/20	Thu 7/5/20	9	210,211,216,217,212	0 days	100%																
210	General site clearance / demolition work / Removal of Asbestos Containing Material & Dioxin Contaminated	20 days	Fri 8/5/20	Wed 27/5/20	209	211	0 days	100%																
211	General maintenance to existing wetland	80 days	Thu 28/5/20	Sat 15/8/20	209,210	218	0 days	100%	7 days															
212	Compensation Event No. 020 - Inclement Weather Conditions in August 2020	8.5 days	Fri 18/9/20	Sat 26/9/20	209	213	0 days	100%																
213	Compensation Event No. 021 - Inclement Weather Conditions in September 2020	14.5 days	Sat 26/9/20	Sat 10/10/20	212	214	0 days	100%																
214	Compensation Event No. 028 - Inclement Weather Conditions in October 2020	3 days	Sun 11/10/20	Tue 13/10/20	213	218	0 days	100%																
215	Compensation Event No. 026 - Provision of Root Barriers behind Gabion Walls of Irrigation Channel	8 days	Wed 14/10/20	Wed 21/10/20	216	218	0 days	100%																
216	Construction of Irrigation Channel	56 days	Wed 19/8/20	Tue 13/10/20	209	215	0 days	100%																
217	Construction of Metal Wire Railing	65 days	Mon 10/8/20	Tue 13/10/20	209	218	0 days	100%																
218	Completion of Section 4 of the works	0 days	Wed 21/10/20	Wed 21/10/20	211,217,214,215		0 days	100%																
219	Compensation Event No. 69 (PMI-055)- Additional Stairway at Portion 18	0 days	Tue 14/12/21	Tue 14/12/21		220	0 days	100%																
220	Additional Stairway at Portion 18	90 days	Tue 14/12/21	Sun 13/3/22	219		691 days	0%																
221																								
222	8. Section 5 of the works ( Portion 14 )	90 days	Sun 18/10/20	Sat 16/1/21			0 days	100%																
223	Site Access in Portion 14	0 days	Sun 18/10/20	Sun 18/10/20	14	226,224,225	0 days	100%																
224	General site clearance / demolition work / Removal of Asbestos Containing Material	60 days	Mon 19/10/20	Thu 17/12/20	223	227	0 days	100%																
225	General maintenance to existing wetland	45 days	Mon 19/10/20	Wed 2/12/20	223	227FF	0 days	100%																
226	Boundary Structure - Metal Wire Railing	90 days	Mon 19/10/20	Sat 16/1/21	223	227FF	0 days	100%																
227	Completion of Section 5 of the works	0 days	Sat 16/1/21	Sat 16/1/21	226FF,225FF,224		0 days	0%																
228	Compensation Event No. 32 (PMI-032) - Soil Replacement Works in Portion 14	0 days	Sat 16/10/21	Sat 16/10/21		229	0 days	100%																
229	Soil Replacement Works	10 days	Sat 16/10/21	Mon 25/10																				



Kwu Tung North and Fanling North New Development Areas, Phase 1 : Development of Long Valley Nature Park

Project Programme of the Works

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Complete	Risk Allowance	H2	2020	H1	H2	2021	H1	H2	2022	H1	H2	2023	H1	H2	2024	H1
230																								
231	9. Section 6 of the works ( Portions 8,8A,8B and 9,9A-9G )	728 days	Sat 18/1/20	Sat 15/1/22			0 days	100%																
232	Site Access in Portions 8A, 9A, 9C, 9E, 9F, 9G	0 days	Sat 18/1/20	Sat 18/1/20	6	237,235SS	0 days	100%																
233	Site Access in Portion 8	0 days	Sat 18/7/20	Sat 18/7/20	11	235FF+10 days,237	0 days	100%																
234	Site Access in Portions 8B, 9, 9B, 9D	0 days	Sun 18/10/20	Sun 18/10/20	15,16	235FF+10 days,237,241	0 days	100%																
235	General site clearance / demolition work / Removal of Asbestos Containing Material & Dioxin Contaminated	150 days	Fri 3/7/20	Sun 29/11/20	232SS,233FF+10 days,234FF+10 days	250	0 days	100%																
236	Wetland Restoration / Wetland Creation	200 days	Fri 19/3/21	Mon 4/10/21			0 days	100%																
237	Excavation	90 days	Fri 19/3/21	Wed 16/6/21	232,54,52,233,234,15	238SS+30 days	0 days	100%																
238	Backfilling	60 days	Sun 18/4/21	Wed 16/6/21	237SS+30 days	239SS+90 days,241,244,247	0 days	100%																
239	Agricultural Planting	80 days	Sat 17/7/21	Mon 4/10/21	238SS+90 days	250	0 days	100%																
240	Construction of Storage Sheds	190 days	Thu 17/6/21	Thu 23/12/21			0 days	100%																
241	Construction of concrete structure	150 days	Thu 17/6/21	Sat 13/11/21	238,234,16	242FS-30 days,243	0 days	100%	4 days															
242	Installation of Aluminium Window/Louvre and GMS Door with recycle timber decoration	60 days	Fri 15/10/21	Mon 13/12/21	241FS-30 days	250	0 days	100%																
243	Installation of GMS roofing structure with recycle timber	40 days	Sun 14/11/21	Thu 23/12/21	241	250	0 days	100%																
244	Construction of Channel	70 days	Thu 17/6/21	Wed 25/8/21	238,79	250	0 days	100%	7 days															
245	Compensation Event No. 49 (PMI-048) - Provision of Additional Catchpits in Irrigation Channel and Modification of Existing Catchpits in Existing Concrete Rectangular Channel	0 days	Tue 19/10/21	Tue 19/10/21		246	0 days	100%																
246	Provision of Additional Catchpits in Irrigation Channel and Modification of Existing Catchpits in Existing Concrete Rectangular Channel	50 days	Tue 19/10/21	Tue 7/12/21	245	250	0 days	100%																
247	Construction of walkway	100 days	Thu 17/6/21	Fri 24/9/21	238	250	0 days	100%	7 days															
248	Compensation Event No. 61 (PMI-052)- Construction of Drainage Ditches at Long Valley	0 days	Mon 18/10/21	Mon 18/10/21		249	0 days	100%																
249	Construction of Drainage Ditches in Section 6	90 days	Mon 18/10/21	Sat 15/1/22	248	250	0 days	100%																
250	Completion of Section 6 of the works	0 days	Sun 30/5/21	Sun 30/5/21	9,243,244,247,235,242,249,2		-230 days	0%																
251																								
252	10. Section 7 of the works ( Portions 10,10A,10B, 13,13A and 16,16A,16B )	728 days	Sat 18/1/20	Sat 15/1/22			0 days	96%																
253	Site Access in Portions 10A, 10B, 13A, 16	0 days	Sat 18/1/20	Sat 18/1/20	6	258,256SS	0 days	100%																
254	Site Access in Portions 10, 13	0 days	Sun 18/10/20	Sun 18/10/20	14	256FF+20 days	0 days	100%																
255	Site Access in Portions 16A, 16B	0 days	Mon 18/1/21	Mon 18/1/21	17	256FF+20 days	0 days	100%																
256	General site clearance / demolition work / Removal of Asbestos Containing Material & Dioxin Contaminated	300 days	Tue 14/4/20	Sun 7/2/21	253SS,254FF+20 days,255FF+20 days	272	0 days	100%																
257	Wetland Restoration / Wetland Creation	167 days	Sat 26/12/20	Thu 10/6/21			0 days	100%																
258	Excavation	100 days	Sat 26/12/20	Sun 4/4/21	253,54,52	259SS+47 days,265	0 days	100%																
259	Backfilling	60 days	Thu 11/2/21	Sun 11/4/21	258SS+47 days	260SS+60 days	0 days	100%																
260	Agricultural Planting	60 days	Mon 12/4/21	Thu 10/6/21	259SS+60 days	272	0 days	100%																
261	Construction of storage sheds	180 days	Sat 3/4/21	Wed 29/9/21			0 days	100%																
262	Construction of concrete structure	150 days	Sat 3/4/21	Mon 30/8/21	18	263SS+90 days,264	0 days	100%																
263	Installation of Aluminium Window/Louvre and GMS Door with recycle timber decoration	30 days	Fri 2/7/21	Sat 31/7/21	262SS+90 days	264SS+30 days	0 days	100%																
264	Installation of GMS roofing structure with recycle timber	30 days	Tue 31/8/21	Wed 29/9/21	263SS+30 days,262	272	0 days	100%																
265	Construction of Channel	80 days	Mon 5/4/21	Wed 23/6/21	79,258	268SS,272	0 days	100%	7 days															
266	Compensation Event No. 49 (PMI-048) - Provision of Additional Catchpits in Irrigation Channel and Modification of Existing Catchpits in Existing Concrete Rectangular Channel	0 days	Tue 19/10/21	Tue 19/10/21		267	0 days	100%																
267	Provision of Additional Catchpits in Irrigation Channel and Modification of Existing Catchpits in Existing Concrete Rectangular Channel	50 days	Tue 19/10/21	Tue 7/12/21	266	272	0 days	100%																
268	Construction of walkway	90 days	Mon 5/4/21	Sat 3/7/21	265SS	269FF-15 days,272	0 days	100%	6 days															
269	Construction of entry landing with drop bar	45 days	Wed 5/5/21	Fri 18/6/21	268FF-15 days	272	45 days	0%																
270	Compensation Event No. 61 (PMI-052)- Construction of Drainage Ditches at Long Valley	0 days	Mon 18/10/21	Mon 18/10/21		271	0 days	100%																
271	Construction of Drainage Ditches in Section 7	90 days	Mon 18/10/21	Sat 15/1/22	270	272	0 days	100%																
272	Completion of Section 7 of the works	0 days	Mon 2/8/21	Mon 2/8/21	0,264,265,268,269,256,271,2		-166 days	0%																
273																								
274	11. Section 8 of the works ( Portions 7,7A,7B, 17,17A,17B, 19,19A,19B,19C, 20,20A,20B&20C )	728 days	Sat 18/1/20	Sat 15/1/22			748 days	90%																
275	Site Access in Portions 7, 17, 19A, 19B, 19C, 20A, 20B	0 days	Sat 18/1/20	Sat 18/1/20	6	281,279SS	0 days	100%																
276	Site Access in Portions 19, 20, 20C	0 days	Thu 7/5/20	Thu 7/5/20	9	279FF+20 days	0 days	100%																
277	Site Access in Portions 7A, 7B	0 days	Sat 18/7/20	Sat 18/7/20	11	279FF+20 days	0 days	100%																
278	Site Access in Portions 17A, 17B	0 days	Mon 18/1/21	Mon 18/1/21	17	279FF+20 days	0 days	100%																
279	General site clearance / demolition work / Removal of Asbestos Containing Material & Dioxin Contaminated	350 days	Mon 24/2/20	Sun 7/2/21	275SS,276FF+20 days,277FF+20 days,278FF+20 days		0 days	100%																
280	Wetland Restoration / Wetland Creation	135 days	Sat 26/12/20	Sun 9/5/21			0 days	100%																
281	Excavation	80 days	Sat 26/12/20	Mon 15/3/21	275,54,52	282SS+25 days,292SS+60 days,285SS,295SS	0 days	100%																
282	Backfilling	80 days</																						



Kwu Tung North and Fanling North New Development Areas, Phase 1 : Development of Long Valley Nature Park

Project Programme of the Works

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Complete	Risk Allowance	H2	2020	H1	H2	2021	H1	H2	2022	H1	H2	2023	H1	H2	2024	H1
299	Construction of entry landing with drop bar	45 days	Tue 23/2/21	Thu 8/4/21	298FF		1030 days	0%																
300	Compensation Event No. 61 (PMI-052)- Construction of Drainage Ditches at Long Valley	0 days	Mon 18/10/21	Mon 18/10/21		301	0 days	100%																
301	Construction of Drainage Ditches in Section 8	90 days	Mon 18/10/21	Sat 15/1/22	300	302	0 days	100%																
302	Completion of Section 8 of the works	0 days	Tue 13/7/21	Tue 13/7/21	283,290,294,295,298,301,297		-186 days	0%																
303																								
304	12. Section 9 of the works ( Portions 11,11A,11B, 12,12A~12D, and 15,15A~15C )	854 days	Sat 18/1/20	Sat 21/5/22			622 days	92%																
305	Site Access in Portions 11A, 11B, 12A, 12C, 12D, 15B, 15C	0 days	Sat 18/1/20	Sat 18/1/20	6	311,309SS	0 days	100%																
306	Site Access in Portion 15A	0 days	Thu 7/5/20	Thu 7/5/20	9	309FF+20 days	0 days	100%																
307	Site Access in Portions 11, 12, 12B	0 days	Sun 18/10/20	Sun 18/10/20	14	309FF+20 days	0 days	100%																
308	Site Access in Portion 15	0 days	Mon 18/1/21	Mon 18/1/21	17	309FF+20 days	0 days	100%																
309	General site clearance / demolition work / Removal of Asbestos Containing Material & Dioxin Contaminated	320 days	Wed 25/3/20	Sun 7/2/21	305SS,306FF+20 days,307FF+20 days,308FF+20 days	331	0 days	100%																
310	Wetland Restoration / Wetland Creation	265 days	Sat 26/12/20	Thu 16/9/21			51 days	98%																
311	Excavation	150 days	Sat 26/12/20	Mon 24/5/21	305,54,52	312SS+45 days,315SS+80 days	0 days	100%																
312	Backfilling	150 days	Tue 9/2/21	Thu 8/7/21	311SS+45 days	313SS+120 days,324SS+100 days	0 days	100%																
313	Agricultural Planting	100 days	Wed 9/6/21	Thu 16/9/21	312SS+120 days	331	51 days	90%																
314	Construction of storage sheds	432 days	Tue 16/3/21	Sat 21/5/22			0 days	95%																
315	Construction of concrete structure	180 days	Tue 16/3/21	Sat 11/9/21	311SS+80 days	316SS+45 days,317	0 days	100%																
316	Installation of Alluminium Window/Louvre and GMS Door with recycle timber decoration	100 days	Fri 30/4/21	Sat 7/8/21	315SS+45 days	317SS+21 days	0 days	100%																
317	Installation of GMS roofing structure with recycle timber	30 days	Sun 12/9/21	Mon 11/10/21	316SS+21 days,315	331	0 days	100%	3 days															
318	Compensation Event No. 59 (PMI-060) - Provision of Dangerous Goods Store at Storage Shed 30	0 days	Fri 24/9/21	Fri 24/9/21		319	0 days	100%																
319	Design of Fire Services	150 days	Fri 24/9/21	Sun 20/2/22	318	323	0 days	100%																
320	Compensation Event No. 76 (PMI-070) - Additional Fill Slope Foundation Works for Storage Shed 30	0 days	Mon 3/1/22	Mon 3/1/22		321	0 days	100%																
321	Construction of Fill Slope Foundation Works for Storage Shed SS30	20 days	Mon 3/1/22	Sat 22/1/22	320	322	0 days	100%																
322	Construction of Storage Shed SS30	20 days	Sun 23/1/22	Fri 11/2/22	321	323	0 days	100%																
323	Installation of E&M works & Fire Services with testing & commissioning	90 days	Mon 21/2/22	Sat 21/5/22	319,322	331	-196 days	70%																
324	Construction of Channel	150 days	Thu 20/5/21	Sat 16/10/21	312SS+100 days,79	327SS,331	0 days	100%	4 days															
325	Compensation Event No. 49 (PMI-048) - Provision of Additional Catchpits in Irrigation Channel and Modification of Existing Catchpits in Existing Concrete Rectangular Channel	0 days	Tue 19/10/21	Tue 19/10/21		326	0 days	100%																
326	Provision of Additional Catchpits in Irrigation Channel and Modification of Existing Catchpits in Existing Concrete Rectangular Channel	90 days	Tue 19/10/21	Sun 16/1/22	325	331	0 days	100%																
327	Construction of walkway	150 days	Thu 20/5/21	Sat 16/10/21	324SS	328FF,331	21 days	60%	4 days															
328	Construction of entry landing with drop bar	45 days	Thu 2/9/21	Sat 16/10/21	327FF	330	839 days	0%																
329	Compensation Event No. 61 (PMI-052)- Construction of Drainage Ditches at Long Valley	0 days	Mon 18/10/21	Mon 18/10/21			0 days	100%																
330	Construction of Drainage Ditches in Section 9	90 days	Sun 17/10/21	Fri 14/1/22	328	331	0 days	100%																
331	Completion of Section 9 of the works	0 days	Sat 6/11/21	Sat 6/11/21	3,317,324,327,309,330,326,3		-196 days	0%																
332																								
333	13. Section 10 of the works ( Portion 21 )	1048 days	Mon 18/1/21	Sat 2/12/23			-520 days	0%																
334	Site Access in Portion 21	0 days	Mon 18/1/21	Mon 18/1/21	17	335	-520 days	0%																
335	Local Objection for commencement of Works	530 days	Tue 19/1/21	Sat 2/7/22	334	336	-520 days	0%																
336	General site clearance / demolition work / Removal of Asbestos Containing Material	14 days	Sun 3/7/22	Sat 16/7/22	335	337	-520 days	0%																
337	Erect site hoarding	14 days	Sun 17/7/22	Sat 30/7/22	336	339	-520 days	0%																
338	Archaeological Impacts Mitigation Measures	180 days	Sun 31/7/22	Thu 26/1/23			-520 days	0%																
339	Archaeological survey	120 days	Sun 31/7/22	Sun 27/11/22	337	340	-520 days	0%																
340	Archaeological impact assessment	60 days	Mon 28/11/22	Thu 26/1/23	339	342	-520 days	0%																
341	Site formation work and infrastructure works at Wa Shan	310 days	Fri 27/1/23	Sat 2/12/23			-520 days	0%																
342	Site formation / slope works	150 days	Fri 27/1/23	Sun 25/6/23	340	343	-520 days	0%	4 days															
343	Drainage works	100 days	Mon 26/6/23	Tue 3/10/23	342	344	-520 days	0%	4 days															
344	Paving block on footway	30 days	Wed 4/10/23	Thu 2/11/23	343	345	-520 days	0%																
345	bituminous pavement on carriageway	30 days	Fri 3/11/23	Sat 2/12/23	344	346FF	-520 days	0%																
346	Completion of Section 10 of the works	0 days	Thu 30/6/22	Thu 30/6/22	345FF		-520 days	0%																
347																								
348	14. Section 11 of the works ( Portions 22, 23, 24 and remainder works )	706 days	Tue 31/12/19	Sun 5/12/21			560 days	95%																
349	Site Access in Portions 23, 24	0 days	Tue 31/12/19	Tue 31/12/19	7	352	0 days	100%																

Kwu Tung North and Fanling North New Development Areas, Phase 1 : Development of Long Valley Nature Park

Project Programme of the Works

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Complete	Risk Allowance	H2	2020	H1	H2	2021	H1	H2	2022	H1	H2	2023	H1	H2	2024	H1
372																								
373	16. Section 12 of the works ( Portions 25, 26 and 27 )	284 days	Wed 18/3/20	Sun 27/12/20			0 days	100%																
374	Site Access in Portions 25, 26, 27	0 days	Wed 18/3/20	Wed 18/3/20	3FS+90 days	375FS+60 days	0 days	100%																
375	Boundary Site Area	60 days	Mon 18/5/20	Thu 16/7/20	374FS+60 days		0 days	100%																
376	Preparation for translocation works	4 days	Fri 4/12/20	Mon 7/12/20	356	380,377	0 days	100%																
377	Compensation Event No. 11 - Translocation of Rose Bitterling	20 days	Tue 8/12/20	Sun 27/12/20	376	357	0 days	100%																
378	Collection site C1 ( Portion 25 )	5 days	Mon 14/12/20	Fri 18/12/20	379	381FF	0 days	100%																
379	Collection site C2 ( Portion 26 )	3 days	Fri 11/12/20	Sun 13/12/20	380	381FF,378	0 days	100%																
380	Collection site C3 ( Portion 27 )	3 days	Tue 8/12/20	Thu 10/12/20	376	381FF,379	0 days	100%																
381	Completion of Section 12 of the works	0 days	Fri 18/12/20	Fri 18/12/20	378FF,379FF,380FF		0 days	100%																





## Legend

- |              |   |  |                                      |
|--------------|---|--|--------------------------------------|
| <b>W/W</b>   | Intensive Wet Agricultural Land<br>- Watercress/Water Spinach               |  | Mitigation Plantation                |
| <b>WC/CA</b> | Less Intensive Wet Agricultural Land<br>- Water Chestnut/ Chinese Arrowhead |  | Village Area/ Urban/Residential Area |
| <b>L/WL</b>  | Less Intensive Wet Agricultural Land<br>- Lotus/Water Lily                  |  | Water Treatment Wetland              |
| <b>PA</b>    | Intensive Wet Agricultural Land<br>- Paddy Field                            |  | Irrigation Channel                   |
|              | Marsh - Open Water  |  | Flow direction                       |
|              | Marsh   |  |                                      |
|              | Marsh - Reedbed   |  |                                      |
|              | Pond  |  |                                      |
|              | Water Flea Pond   |  |                                      |
|              | Mitigation Wetland  |  |                                      |
|              | Dry Agricultural Land   |  |                                      |
|              | Plantation  |  |                                      |
- (\*) Habitat planted with low density of wet crops (<20% coverage) that concentrate at the centre

Figure 3. LVNP proposed layout plan











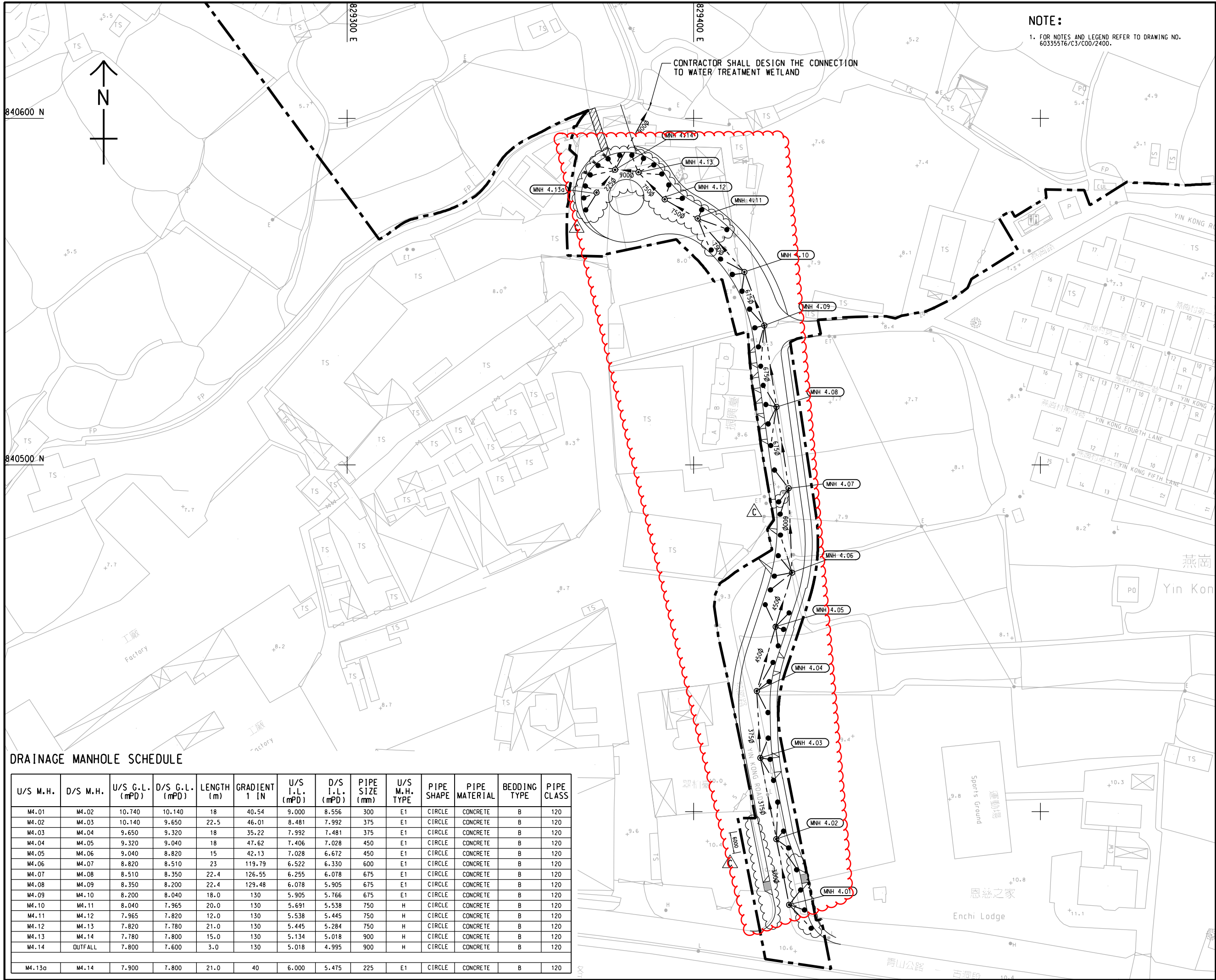




Figure 3c. Designated wetland habitats in Appendix 35.2









C	21/05/21	LAYOUT AMENDED	HLH	DT	WT
B	7/12/20	ROAD ALIGNMENT AMENDED	KLC	DT	WT
A	15/07/20	RUN IN ADDED AND MANHOLE RE-ARRANGED	KLC	DF	PY
REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.
CLIENT					
		土木 工程 拓展 署 Civil Engineering and Development Department			
CONSULTANT					
					
PROJECT					
DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1					
CONTRACT TITLE					
KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1: DEVELOPMENT OF LONG VALLEY NATURE PARK					
REMARK :					
1. SUPERSEDE DRG NO. 60335576/C3/C00/2410					
TITLE					
YIN KONG ROAD - ROAD DRAINAGE LAYOUT					
PROJECT NO. 60335576			CONTRACT NO. ND/2019/03		
SCALE 1:500 (A1)			DATE 4-JUN-20		
DRAWN KLC		PREPARED DF		APPROVED PY	
SKETCH NO. ND/2019/03/R10/130/0052					REV. C

## **Construction Programme of ND/2019/04**

Activity ID	Activity Name	Original Duration	Start	Finish	Late Start	Late Finish	Total Float	Gantt Chart																																																																							
20201021 Revised 1st program submission																																																																															
Project Contractual Dates																																																																															
Contractual Dates																																																																															
CD-1000	Contract Date	0	30-Jul-20*		30-Jul-20		0	◆ 30-Jul-20*																																																																							
CD-1010	Starting Date	0	14-Aug-20*		14-Aug-20		0	◆ 14-Aug-20*																																																																							
Access Date of Each Portion																																																																															
CD-1020	Access date of Portion O (Upon PM Instruction for need of TTA)	0	14-Aug-20*		14-Aug-20		0	◆ 14-Aug-20*																																																																							
CD-1030	Contract Access date of Portion A,C,G,J,Q,R,S,T,U,V,W and X (0 days)	0	14-Aug-20*		14-Aug-20		0	◆ 14-Aug-20*																																																																							
CD-1040	Contract Access date of Portion I (63 days)	0	16-Oct-20*		15-Oct-20		0	◆ 16-Oct-20*																																																																							
CD-1050	Contract Access date of Portion D (93 days)	0	15-Nov-20*		15-Nov-20		0	◆ 15-Nov-20*																																																																							
CD-1060	Contract Access date of Portion F,H and N (154 days)	0	15-Jan-21*		15-Jan-21		0	◆ 15-Jan-21*																																																																							
CD-1070	Contract Access date of Portion B (184 days)	0	14-Feb-21*		14-Feb-21		0	◆ 14-Feb-21*																																																																							
CD-1100	Contract Access date of Portion E (246 days)	0	17-Apr-21*		17-Apr-21		0	◆ 17-Apr-21*																																																																							
CD-1120	Contract Access date of Portion L (487 days)	0	14-Dec-21*		14-Dec-21		0	◆ 14-Dec-21*																																																																							
CD-1130	Contract Access date of Portion K,K1 and K2 (518 days)	0	14-Jan-22*		14-Jan-22		0	◆ 14-Jan-22*																																																																							
CD-1140	Contract Access date of Portion M (600 days)	0	06-Apr-22*		06-Apr-22		0	◆ 06-Apr-22*																																																																							
CD-1150	Planned Access date of Portion P (60 days after Completion of Section 3)	0	01-Oct-22*		01-Oct-22		0	◆ 01-Oct-22*																																																																							
CD-1160	Contract Access date of Portion Y (900 days)	0	31-Jan-23*		31-Jan-23		0	◆ 31-Jan-23*																																																																							
CD-1190	Contract Access date of Portion P (60 days after Completion of Section 3)	0	13-Nov-23*		13-Nov-23		0	◆ 13-Nov-23*																																																																							
Key Dates																																																																															
CD-1090	Contract KD1: Formation of construction access for contractor of Contract No.ND/2019/07 (	0		12-Mar-21*	12-Mar-21		0	◆ 12-Mar-21*																																																																							
CD-1200	Contract KD2: Completion of sewage pumping station and associated rising mains and sew	0		14-Jun-24*	14-Jun-24		0	◆ 14-Jun-24*																																																																							
CD-1240	Contract KD3: Completion of all works for the opening between Lung Yeuk Tau Interchange	0		12-Sep-24*	12-Sep-24		0	◆ 12-Sep-24*																																																																							
CD-1250	Contract KD4: Completion of all works necessary for underpass and associated Stormwater	0		10-Apr-25*	10-Apr-25		0	◆ 10-Apr-25*																																																																							
CD-1260	Contract KD5: Completion of all works necessary for the traffic detection system (1700 day	0		10-Apr-25*	10-Apr-25		0	◆ 10-Apr-25*																																																																							
Contract Sectional Completion Date																																																																															
CD-1080	S1 Site clearance & fencing-off Portion I, formation of vehicular access, design & construct	0		12-Mar-21*	12-Mar-21		0	◆ 12-Mar-21*																																																																							
CD-1110	S2 All works within Portion W excluding landscape softworks (365 days)	0		13-Aug-21*	13-Aug-21		0	◆ 13-Aug-21*																																																																							
CD-1170	S3 All works within Portion K1 including landscape softworks (1125 days)	0		13-Sep-23*	13-Sep-23		0	◆ 13-Sep-23*																																																																							
CD-1180	S4 All works within Portion Q,R,S,T,U,V,X&Y, Junction improvement works at Sui Wan	0		07-Oct-23*	07-Oct-23		0	◆ 07-Oct-23*																																																																							
CD-1210	S5 All works within Portion N including landscape softworks (1490 days)	0		11-Sep-24*	11-Sep-24		0	◆ 11-Sep-24*																																																																							
CD-1220	S6 Reprovisioned public toilet and refuse collection point facility within Portion J (1490 day	0		11-Sep-24*	11-Sep-24		0	◆ 11-Sep-24*																																																																							
CD-1230	S10A Establishment works for landscape softworks in Portion K1 (1490 days)	0		11-Sep-24*	11-Sep-24		0	◆ 11-Sep-24*																																																																							
CD-1270	S8 Preservation and Protection of existing trees (1790 days)	0		09-Jul-25*	09-Jul-25		0	◆ 09-Jul-25*																																																																							
CD-1280	S7 All works necessary for the commissioning of traffic detection system along Fanling Byr	0		09-Jul-25*	09-Jul-25		0	◆ 09-Jul-25*																																																																							
CD-1290	S9 All landscape softworks not covered by other sections of the works (1790 days)	0		09-Jul-25*	09-Jul-25		0	◆ 09-Jul-25*																																																																							
CD-1300	S11 Remainder of the works not covered by other sections of the works (1790 days)	0		09-Jul-25*	09-Jul-25		0	◆ 09-Jul-25*																																																																							
CD-1310	S10B Establishment works for landscape softworks in Portion N (1855 days)	0		12-Sep-25*	12-Sep-25		0	◆ 12-Sep-25*																																																																							
CD-1320	S10C Establishment works for landscape softworks in Section 9(2155 days)	0		09-Jul-26*	09-Jul-26		0	◆ 09-Jul-26*																																																																							
Planned Key Dates & Sectional Completion Date																																																																															
Planned Key Dates																																																																															
PD-1010	Planned KD1: Formation of construction access for contractor of Contract No.ND/2019/07 (	0		09-Mar-21*	12-Mar-21		3	◆ 09-Mar-21*																																																																							
PD-1050	Planned KD2: Completion of sewage pumping station and associated rising mains (1400 da	0		26-Jan-24*	14-Jun-24		140	◆ 26-Jan-24*																																																																							
PD-1090	Planned KD3: Completion of all works necessary for opening between Interchange and Far	0		05-Sep-24*	12-Sep-24		7	◆ 05-Sep-24*																																																																							
PD-1100	Planned KD4: Completion of all works necessary for underpass and associated Stormwater	0		14-Feb-25*	10-Apr-25		55	◆ 14-Feb-25*																																																																							
PD-1110	Planned KD5: Completion of all works necessary for the traffic detection system (1700 days)	0		08-Apr-25*	10-Apr-25		1	◆ 08-Apr-25*																																																																							
Planned Sectional Completion Dates																																																																															
PD-1000	S1 Site clearance & fencing-off Portion I, formation of vehicular access, design & construct	0		11-Mar-21*	11-Mar-21		0	◆ 11-Mar-21*																																																																							
PD-1020	S2 All works within Portion W excluding landscape softworks (365 days)	0		13-Aug-21*	13-Aug-21		0	◆ 13-Aug-21*																																																																							
PD-1030	S3 All works within Portion K1 including landscape softworks (1125 days)	0		30-Dec-22*	13-Sep-23		257	◆ 30-Dec-22*																																																																							
PD-1040	S4 All works within Portion Q,R,S,T,U,V,X&Y, Junction improvement works at Sui Wan	0		16-Sep-23*	06-Oct-23		20	◆ 16-Sep-23*																																																																							
PD-1060	S5 All works within Portion N including landscape softworks (1490 days)	0		26-Jan-24*	11-Sep-24		229	◆ 26-Jan-24*																																																																							
PD-1070	S10A Establishment works for landscape softworks in Portion K1 (1490 days)	0		25-Mar-24*	11-Sep-24		170	◆ 25-Mar-24*																																																																							
PD-1080	S6 Reprovisioned public toilet and refuse collection point facility within Portion J (1490 day	0		04-Jul-24*	11-Sep-24		69	◆ 04-Jul-24*																																																																							
PD-1120	S7 All works necessary for the commissioning of traffic detection system along Fanling Byr	0		08-Apr-25*	09-Jul-25		92	◆ 08-Apr-25*																																																																							
PD-1130	S9 All landscape softworks not covered by other sections of the works (1790 days)	0		30-May-25*	09-Jul-25		40	◆ 30-May-25*																																																																							
PD-1140	S11 Remainder of the works not covered by other sections of the works (1790 days)	0		21-Jun-25*	09-Jul-25		17	◆ 21-Jun-25*																																																																							
PD-1150	S8 Preservation and Protection of existing trees (1790 days)	0		30-May-25*	09-Jul-25		40	◆ 30-May-25*																																																																							
PD-1160	S10B Establishment works for landscape softworks in Portion N (1855 days)	0		11-Sep-25*	12-Sep-25		1	◆ 11-Sep-25*																																																																							
PD-1170	S10C Establishment works for landscape softworks in Section 9(2155 days)	0		21-Jun-26*	09-Jul-26		18	◆ 21-Jun-26*																																																																							
Preliminary Works																																																																															
Subletting of Major Subcontract Package																																																																															
SU-1000	Prepare, submit & accept subletting procedure	30	15-Aug-20	18-Sep-20	15-Aug-20	18-Sep-20	0	18-Sep-20																																																																							
SU-1010	Subletting for Bored Pile Foundation Works	150	14-Aug-20	11-Feb-21	24-Dec-20	02-Jul-21	110	11-Feb-21																																																																							
SU-1020	Subletting for Socket-H Pile Foundation Works	150	14-Aug-20	11-Feb-21	24-Dec-20	02-Jul-21	110	11-Feb-21																																																																							
SU-1030	Subletting for TTA consultant	60	19-Sep-20	01-Dec-20	19-Sep-20	01-Dec-20	0	01-Dec-20																																																																							
SU-1040	Subletting for ELS & Excavation Works	150	19-Sep-20	23-Mar-21	16-Dec-20	23-Jun-21	72	23-Mar-21																																																																							
SU-1050	Subletting for RC works (Underpass, Depressed Rd, Retaining Walls)	150	19-Sep-20	23-Mar-21	30-Dec-20	06-Jul-21	82	23-Mar-21																																																																							
SU-1060	Subletting for water mains Works	150	19-Sep-20	23-Mar-21	07-Dec-20	12-Jun-21	64	23-Mar-21																																																																							
SU-1070	Subletting for Tree Specialists	30	19-Sep-20	27-Oct-20	22-Sep-20	29-Oct-20	2	27-Oct-20																																																																							
SU-1080	Subletting for Design consultant	30	19-Sep-20	27-Oct-20	19-Sep-20	27-Oct-20	0	27-Oct-20																																																																							
SU-1090	Subletting for Noise Barrier Works	150	28-Oct-20*	03-May-21	04-Jan-22	11-Jul-22	352	03-May-21																																																																							
SU-1100	Subletting for Bridge Segment	150	28-Oct-20*	03-May-21	23-Nov-23	30-May-24	910	03-May-21																																																																							
SU-1110	Subletting for Predrilling	60	14-Aug-20	24-Oct-20	28-Dec-20	11-Mar-21	111	24-Oct-20																																																																							
SU-1120	Subletting for GI works	60	14-Aug-20	24-Oct-20	28-Dec-20	11-Mar-21	111	24-Oct-20																																																																							
SU-1130	Subletting for drainage works	60	01-Dec-20	11-Feb-21	14-Jul-21	23-Sep-21	179	11-Feb-21																																																																							
SU-1140	Subletting for pre-stressing works	60	18-Aug-21	29-Oct-21	26-Jun-23	05-Sep-23	547	29-Oct-21																																																																							
SU-1150	Subletting for road lighting works	60	10-Nov-21	21-Jan-22	31-Dec-22	15-Mar-23	338	21-Jan-22																																																																							

Actual Work

Remaining Work

Critical Remaining Work

◆ Milestone

Data Date: 30-Jul-20

Project Start: 30-Jul-20

Project End: 09-Jul-26

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ND/2019/04

Preliminary Works Programme

Date	Revision	Checked	Approved
12-Aug-20	Rev. 0	JS	JS
09-Sep-20	Rev. 1	JS	JS
5-Nov-20	Rev. 2	TL	TL



Activity ID	Activity Name	Original Duration	Start	Finish	Late Start	Late Finish	Total Float	Gantt Chart																											
								ND/2019/04 Preliminary Works Programme																											
								Date				Revision				Checked				Approved															
								12-Aug-20				Rev. 0				JS				JS															
								09-Sep-20				Rev. 1				JS				JS															
								5-Nov-20				Rev. 2				TL				TL															

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Activity ID		Activity Name	Original Duration	Start	Finish	Late Start	Late Finish	Total Float	Preliminary Works Programme																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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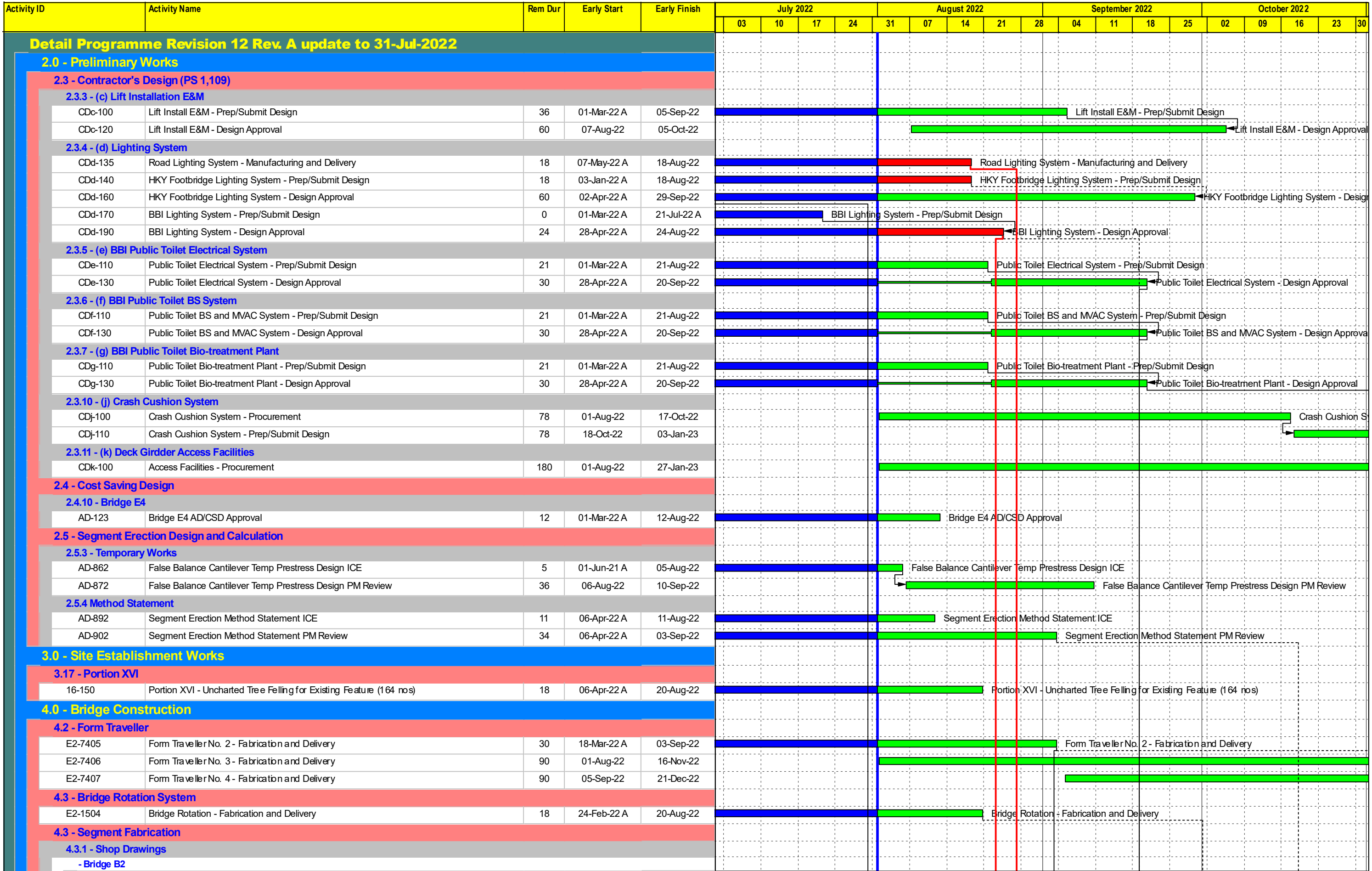


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60335576/C5A/C00/1000

## **Construction Programme of ND/2019/05**



CRCC - Paul Y.  
Joint Venture

- Remaining Level of Ef...
- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone

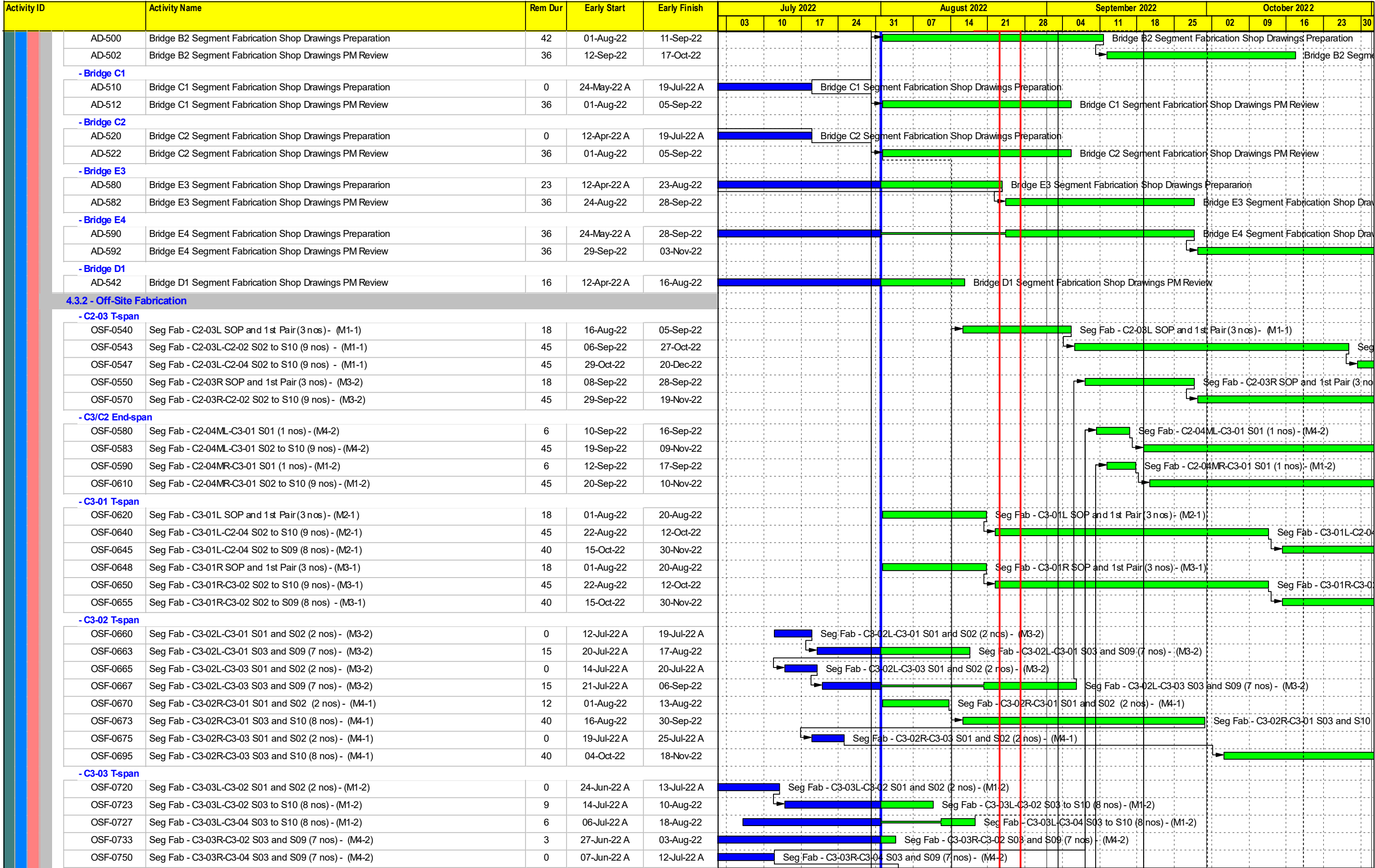
Contract ND/2019/05 - FBES (Shung Him Tong to Kau Lung Hang)  
3-Month Rolling Programme - Aug 2022

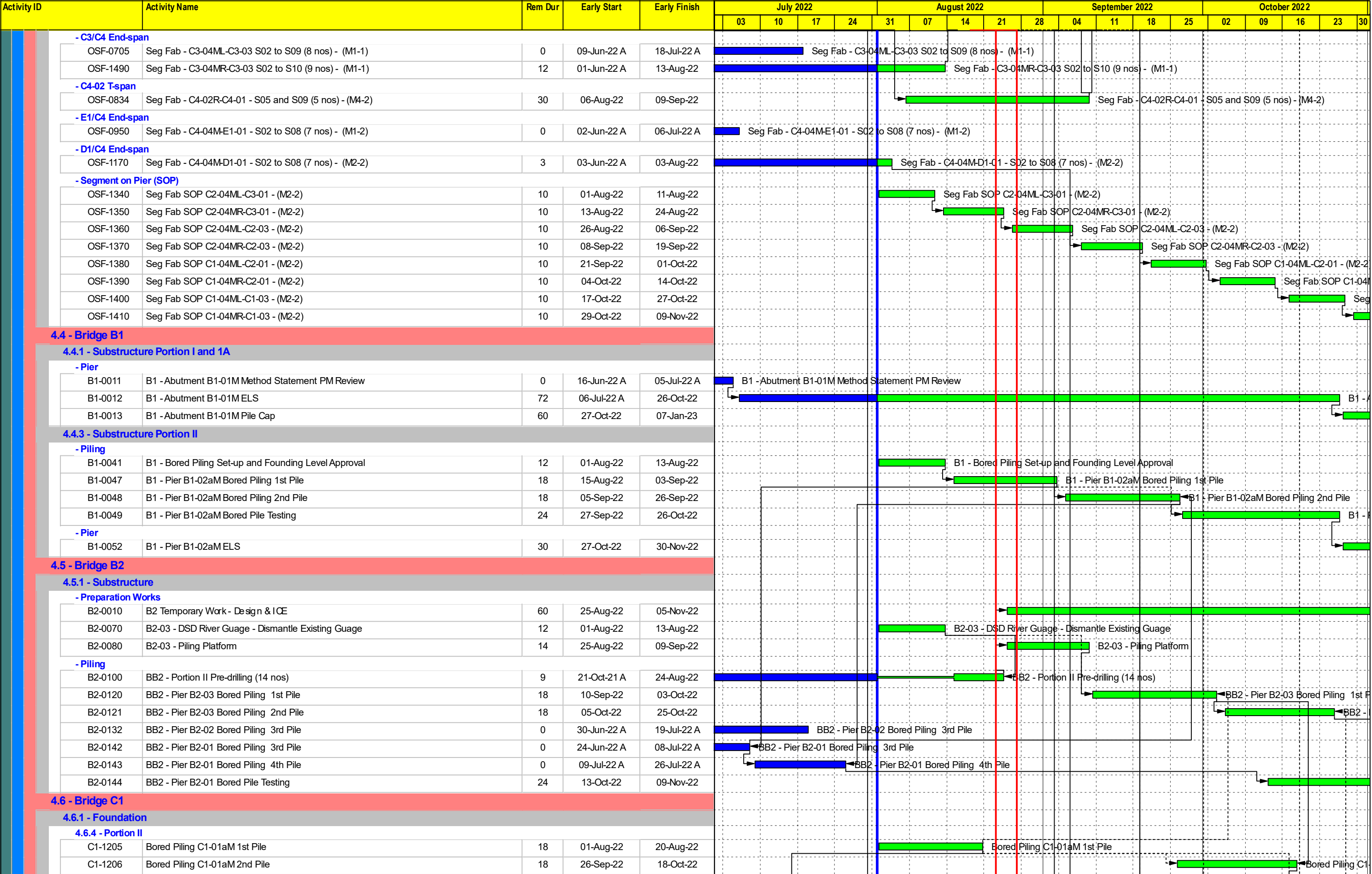
Proj ID :  
U29ADP12A  
Layout : ND201905 3MRP  
Date : Page 1 of 11

3-Month Rolling Programme

Date	Revision	Checked	Approved
01-Aug-22	Aug 2022		



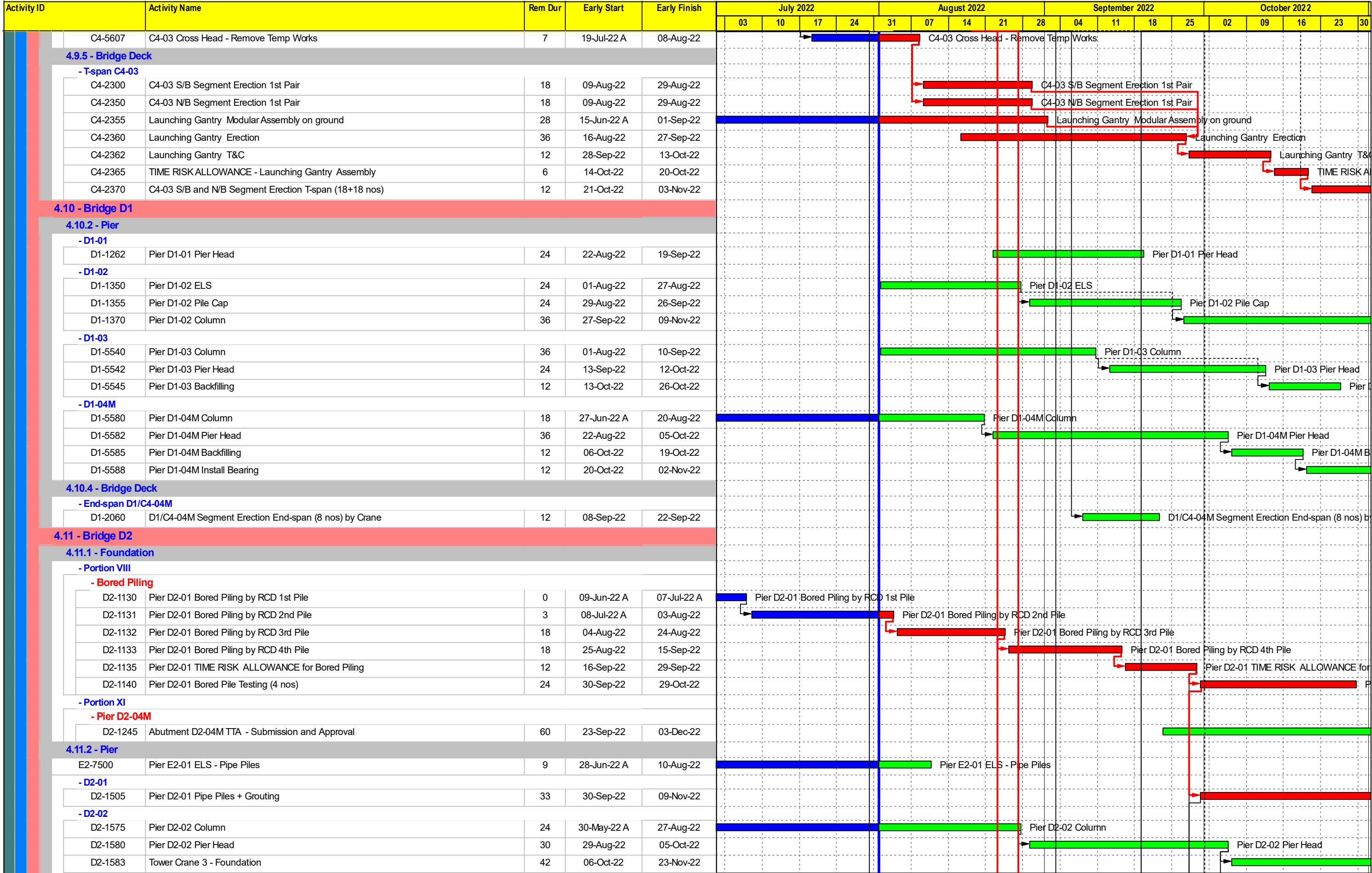












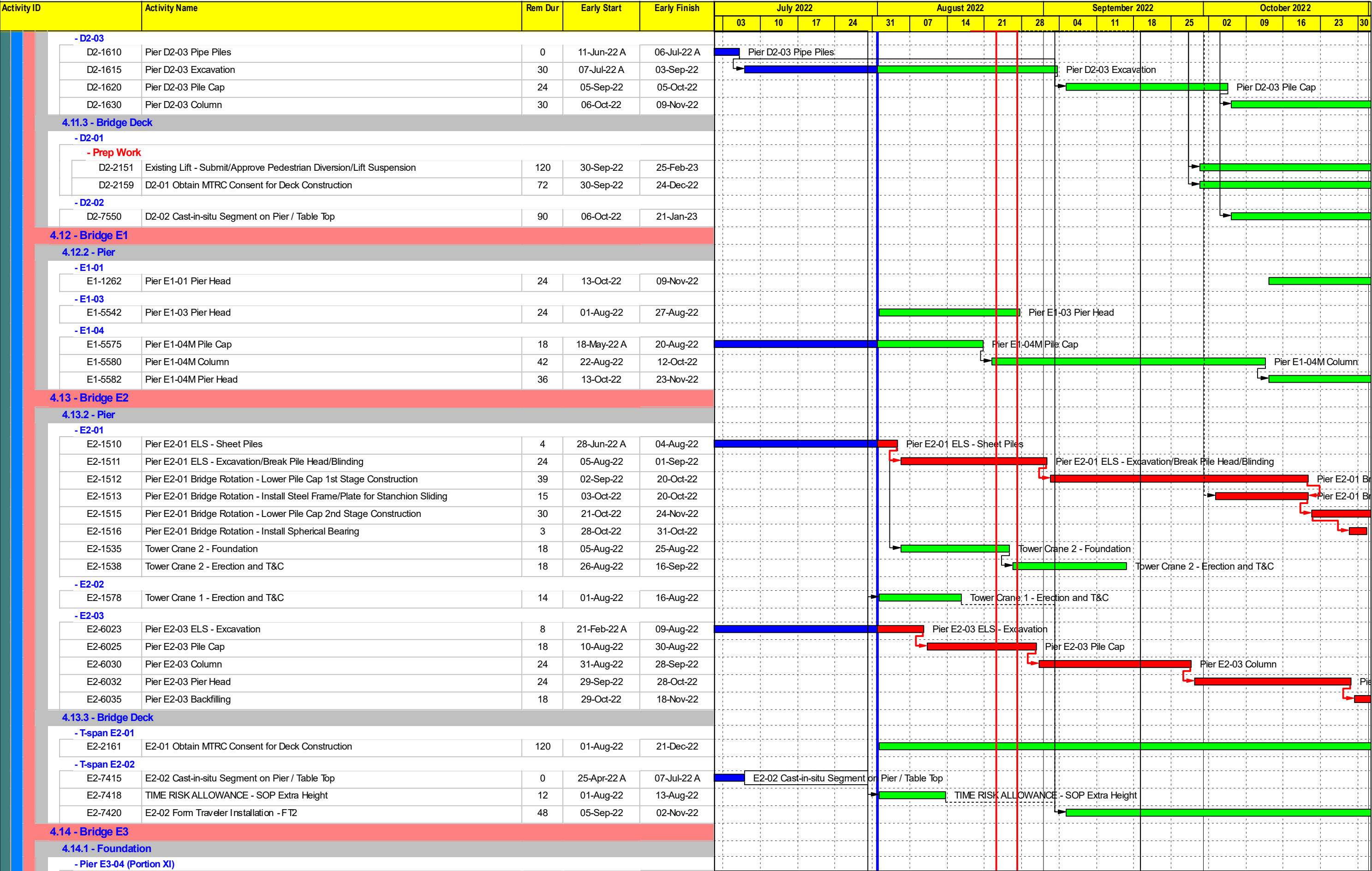
CRCC - Paul Y.  
Joint Venture

- Remaining Level of Ef...
- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone

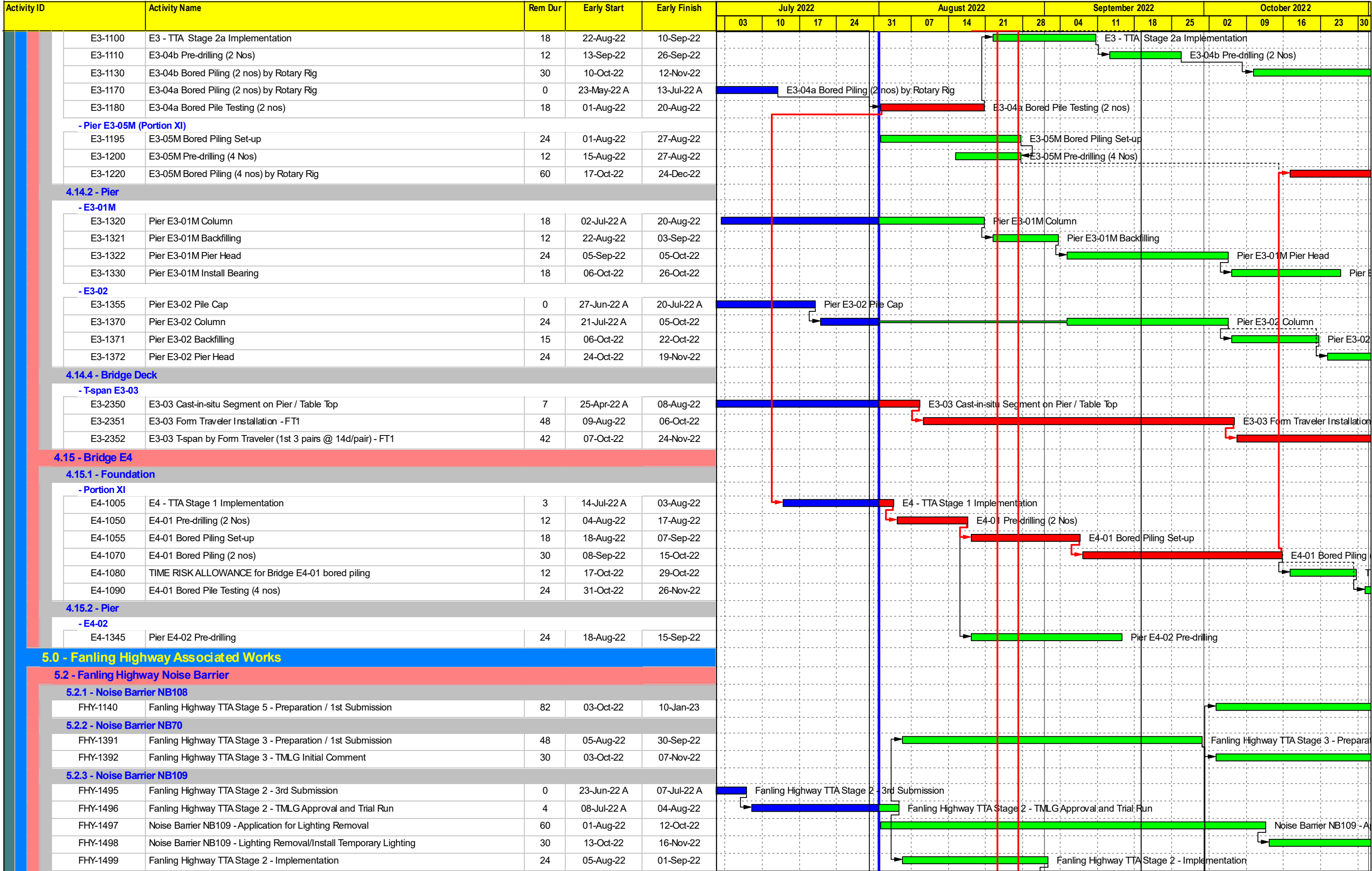
Contract ND/2019/05 - FBES (Shung Him Tong to Kau Lung Hang)  
3-Month Rolling Programme - Aug 2022

Proj ID :  
U29ADP12A  
Layout : ND201905 3MRP  
Date : Page 6 of 11

3-Month Rolling Programme			
Date	Revision	Checked	Approved
01-Aug-22	Aug 2022		







CRCC - Paul Y.  
Joint Venture


- Remaining Level of Ef...
- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone

Contract ND/2019/05 - FBES (Shung Him Tong to Kau Lung Hang)  
3-Month Rolling Programme - Aug 2022


Proj ID :  
U29ADP12A  
Layout : ND201905 3MRP  
Date : Page 8 of 11

3-Month Rolling Programme			
Date	Revision	Checked	Approved
01-Aug-22	Aug 2022		

Activity ID	Activity Name	Rem Dur	Early Start	Early Finish	July 2022				August 2022				September 2022				October 2022					
					03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23	30
	FHY-1555	Noise Barrier NB109 - Fabrication and Delivery	180	02-Sep-22	14-Apr-23																	
5.2.4 - Noise Barrier NB66																						
	FHY-1151	Fanling Highway TTA Stage 4 - Preparation / 1st Submission	72	03-Oct-22	28-Dec-22																	
5.2.5 - Fanling Bypass N/B Slip Road																						
	TSW-4171	Existing NB29 Panels near D2-04M - Evaluate to Reuse	78	03-Oct-22	05-Jan-23																	
5.3 - Tai Wo Service Road East (TWSR-East)																						
5.3.1 - TWSR-East HKY FB Extension																						
- Lift Installation																						
	FBE-1280	HKY FB East Lift - Delivery	12	13-Apr-22 A	13-Aug-22																	
- HKY FB Extension Deck																						
	FBE-1335	HKY FB East PO1 - R.C. Pier	0	29-Jun-22 A	29-Jul-22 A																	
	FBE-1340	HKY FB East Steel Deck - Off-site Fabrication/Delivery	24	18-Mar-22 A	27-Aug-22																	
	FBE-1345	HKY FB East Steel Deck - Site Assembly	24	27-Sep-22	26-Oct-22																	
	FBE-1350	HKY FB East Steel Deck - Erection	12	27-Oct-22	09-Nov-22																	
	FBE-1352	HKY FB East - Lighting System Procurement and Delivery	90	01-Aug-22	16-Nov-22																	
5.3.2 - TWSR East (1) Adjacent to Cycle Track																						
- Ch200 to Ch325																						
	TSE-2055	TWSR-East Ch200-Ch325 - New Feature FS06 Fill Slope	12	29-Mar-22 A	13-Aug-22																	
	TSE-2060	TWSR-East Ch200-Ch325 - Drainage, Sewerage and Utilities	0	15-Jan-22 A	15-Jul-22 A																	
	TSE-2070	TWSR-East Ch200-Ch325 - DN150 Watermain	0	29-Mar-22 A	15-Jul-22 A																	
	TSE-2080	TWSR-East Ch200-Ch325 - Road Works	36	16-Jul-22 A	19-Sep-22																	
	TSE-2085	TWSR-East Ch200-Ch325 - Road Lighting including Cabling	18	29-Aug-22	19-Sep-22																	
5.3.3 - TWSR-East Bus-Bus Interchange																						
- Bus-Bus Interchange Shelter																						
- Public Toilet																						
	BBI-1015	BBI Public Toilet - Bio-treatment Plant Procurement/Delivery	120	04-Aug-22	24-Dec-22																	
	BBI-1018	BBI Public Toilet - Lighting+Elec+BS+Fit-out Procurement/Delivery	120	21-Sep-22	16-Feb-23																	
- Covered Walkway																						
	BBI-1205	BBI Covered Walkway - Fabrication and Delivery	120	01-Aug-22	21-Dec-22																	
	BBI-1208	BBI Covered Walkway - Lighting Procurement and Delivery	120	25-Aug-22	18-Jan-23																	
- Bus-Bus Interchange Road Works																						
	BBI-1305	BBI - Application for Lighting Removal	24	25-Apr-22 A	26-Sep-22																	
	BBI-1308	BBI - Lighting Removal/Install Temporary Lighting	42	27-Sep-22	16-Nov-22																	
	BBI-1309	BBI - TTA Stage 2 Implementation	6	20-Sep-22	26-Sep-22																	
	BBI-1310	BBI - Road Formation	42	27-Sep-22	16-Nov-22																	
	BBI-1315	BBI - New Feature FW02 (L-Shape Ret Wall)	42	27-Sep-22	16-Nov-22																	
- TWSR East (2) Entry to BBI from Fanling Highway																						
	BBI-1415	BBI - Application for Lighting Removal	24	25-Mar-22 A	26-Sep-22																	
	BBI-1418	BBI - Lighting Removal/Install Temporary Lighting	30	27-Sep-22	02-Nov-22																	
	BBI-1420	BBI Entry from FH - Site Formation	30	27-Sep-22	02-Nov-22																	
5.3.5 - TWSR-East Noise Barrier																						
- Noise Barrier NB68																						
	TSE-1568	Noise Barrier NB68 - Fabrication and Delivery	150	25-Oct-22	28-Apr-23																	
5.3.6 - PMI 027 - DN1200 and DN600 Watermain Diversion																						
- DN1200 Watermain																						
	PMI027-190	DN1200 - Watermain Connection to Existing	0	22-Jun-22 A	08-Jul-22 A																	
- DN600 Watermain																						
	PMI027-200	DN600 - Watermain within BBI area	36	27-Sep-22	09-Nov-22																	
5.4 - Tai Wo Service Road West (TWSR-West)																						
5.4.2 - TWSR-West Ch000 to Ch200																						
	TSW-4315	TWSRW Ch100-Ch200 Sewerage DN600 - FMH TWS1.07 to TWS1.06	0	29-Mar-22 A	26-Jul-22 A																	



中国铁建



CRCC - Paul Y.  
Joint Venture

Remaining Level of Ef...

Actual Work

Remaining Work

Critical Remaining Work

Milestone

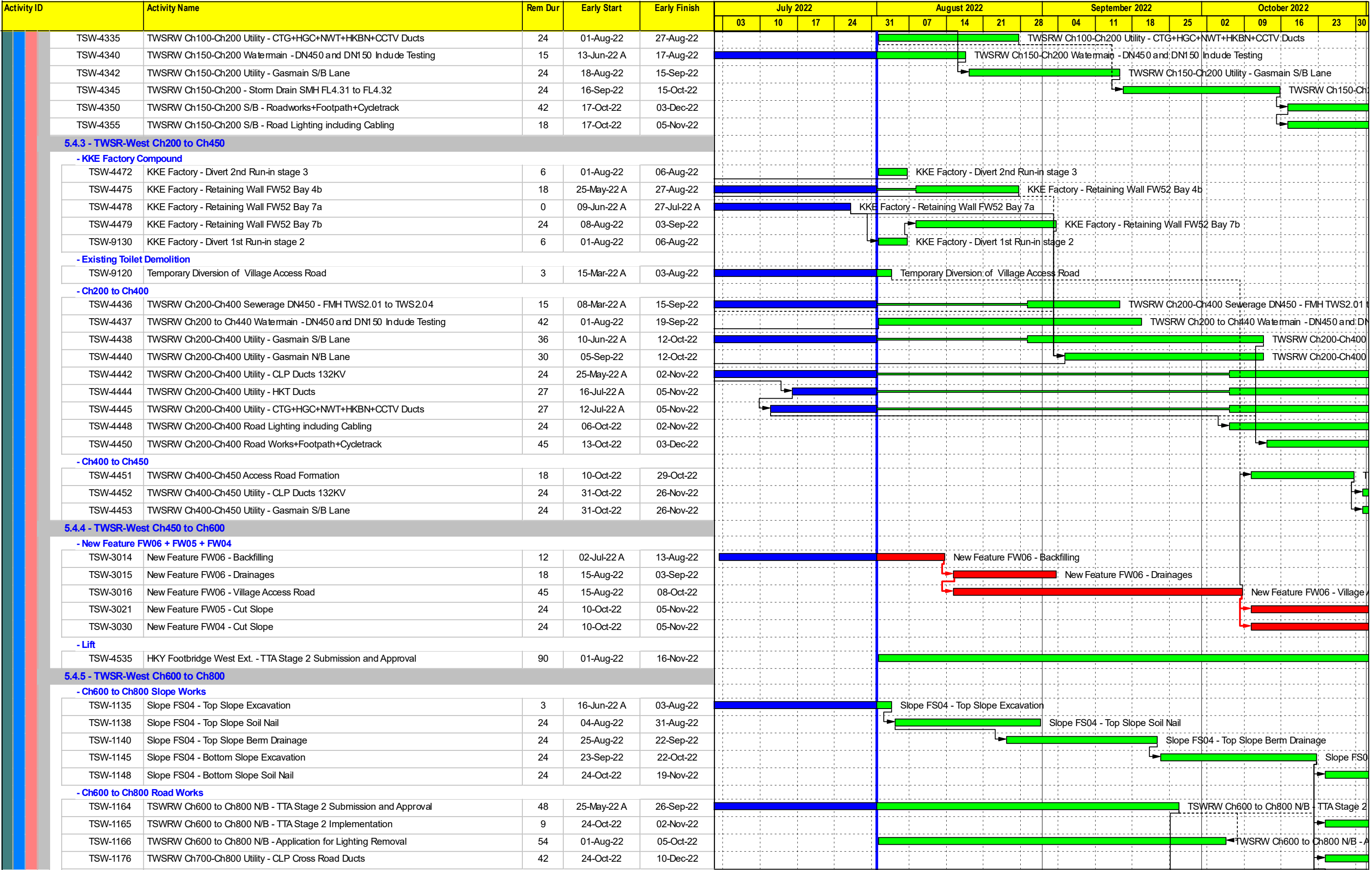
Contract ND/2019/05 - FBES (Shung Him Tong to Kau Lung Hang)

3-Month Rolling Programme - Aug 2022

Proj ID :  
U29ADP12A  
Layout : ND201905 3MRP  
Date : Page 9 of 11

3-Month Rolling Programme

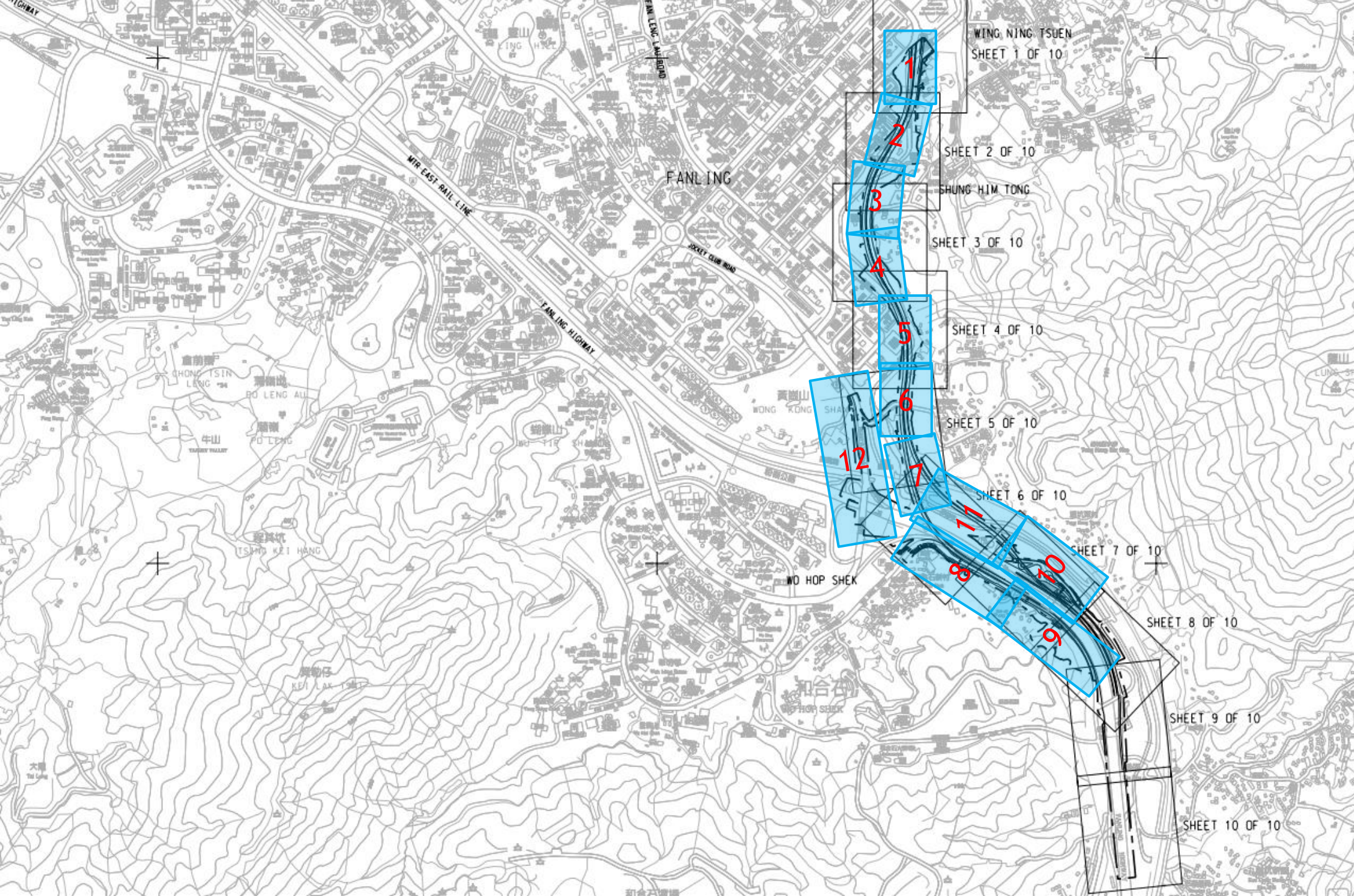
Date	Revision	Checked	Approved
01-Aug-22	Aug 2022		





Activity ID		Activity Name	Rem Dur	Early Start	Early Finish	July 2022				August 2022				September 2022				October 2022					
						03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23	30
		TSW-1177	TWSRW Ch600-Ch800 Utility - CLP Ducts 132KV	42	24-Oct-22	10-Dec-22																	
		TSW-1178	TWSRW Ch600-Ch800 Utility - CLP Ducts 11KV	42	24-Oct-22	10-Dec-22																	
		TSW-1280	TWSRW Ch600 to Ch800 S/B - TTA Stage 3 Submission and Approval	78	27-Sep-22	30-Dec-22																	
5.5 - Jockey Club Road																							
5.5.2 - Tong Hang Village Road (THV Road)																							
	JCR-2180	THV TTA Stage 1 Implementation	42	24-May-22 A	19-Sep-22																		
	JCR-2181	THV Road N/B - Application for Lighting Removal	42	24-May-22 A	19-Sep-22																		
	JCR-2182	THV Road N/B - Lighting Removal/Install Temporary Lighting	12	20-Sep-22	05-Oct-22																		
	JCR-2185	THV Road N/B Footpath - Site Clearance	12	20-Sep-22	05-Oct-22																		
	JCR-2190	THV Road N/B - Issue PMI for Ret Wall FW51	0	01-Aug-22																			
	JCR-2193	THV Road N/B - Ret Wall FW51 Preparation Work	42	01-Aug-22	19-Sep-22																		
	JCR-2195	THV Road N/B - Ret Wall FW51 Construction	90	06-Oct-22	21-Jan-23																		
5.5.3 - North Bound																							
	JCR-2360	JCR N/B - Lighting Removal/Install Temporary Lighting	18	01-Aug-22	20-Aug-22																		
	JCR-2370	JCR N/B - Slope Works FS05 - Site Clearance / Tree Felling	18	01-Aug-22	20-Aug-22																		
	JCR-2375	JCR N/B - Slope Works FS05 - Slope Excavation	24	22-Aug-22	19-Sep-22																		
	JCR-2380	JCR N/B - Slope Works FS05 - Existing Soil Nail Removal	30	20-Sep-22	26-Oct-22																		
	JCR-2410	JCR N/B - Existing Featur 3SW-C/F63 - Rockfill	42	01-Aug-22	19-Sep-22																		
	JCR-2420	JCR N/B - Road Formation	12	20-Sep-22	05-Oct-22																		
	JCR-2430	JCR N/B - Drainage Works	36	06-Oct-22	16-Nov-22																		
	JCR-2440	JCR N/B - Utility Install/Traffic Light Civil Provision	36	06-Oct-22	16-Nov-22																		
	JCR-2450	JCR N/B - Temp Road and Remove Central Barrier for TTA Stage 2	42	27-Oct-22	14-Dec-22																		
6.0 - TCSS Works																							
6.4 - Section 9C																							
	TCS-440	BCP Connecting Road TCSS - Submit /Approve Interface Management Plan	120	18-Oct-22	13-Mar-23																		
7.0 - Miscellaneous Works																							
	MIS-100	Preservation and Protection of Trees	123	28-Oct-20 A	24-Dec-22																		





**CONSULTANT**  
AECOM

AECOM Asia Company Ltd.  
www.aecom.com

**SUB-CONSULTANTS**  
AECOM

**ISSUE/REVISION**  
REV

REV	DATE	DESCRIPTION	CHK
1	JUN-19	TENDER DRAWING	P/PCM

**STATUS**  
REV

**SCALE**  
A1:1:7000

**DIMENSION UNIT**  
METRES

**KEY PLAN**  
REV

**PROJECT NO.**  
60335576

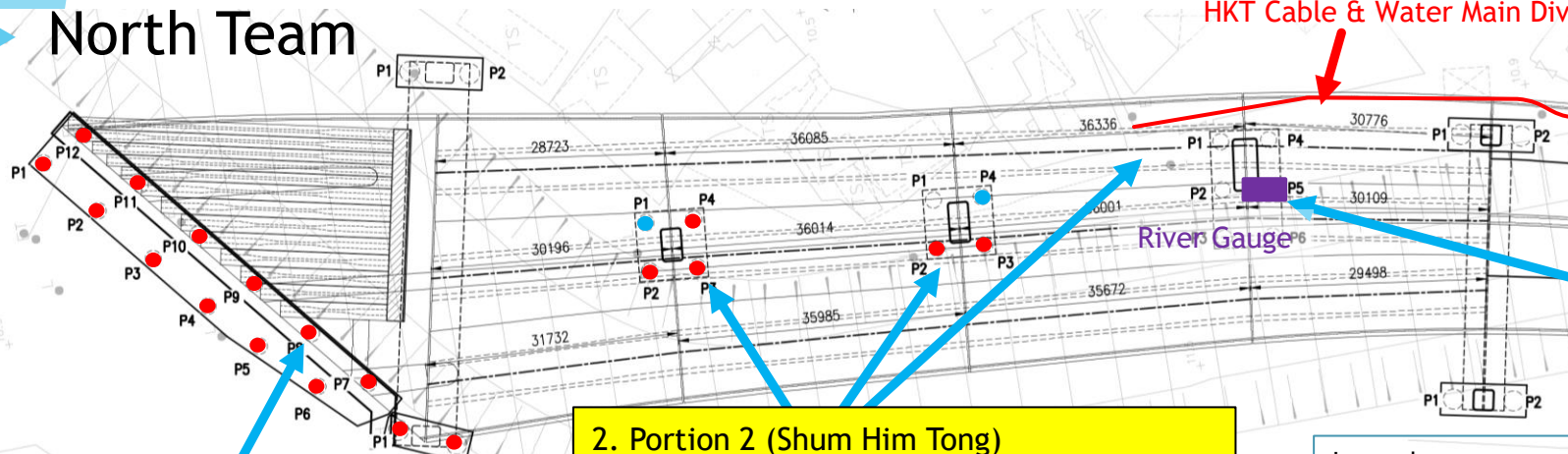
**CONTRACT NO.**  
ND/2019/05

**SHEET TITLE**  
KEY PLAN AND LOCATION PLAN



1

# North Team



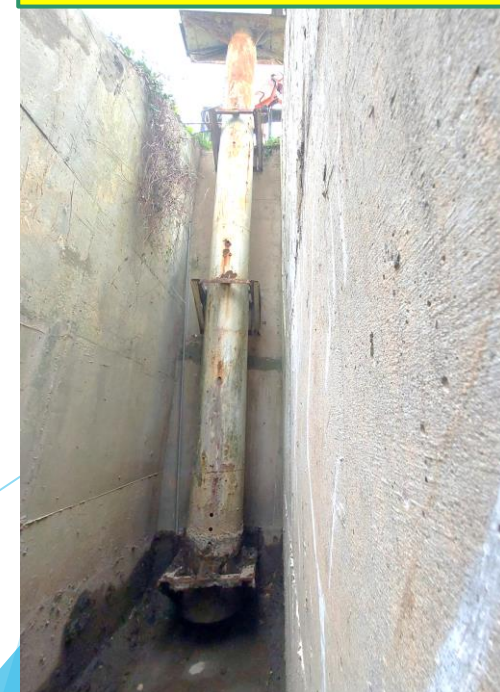
HKT Cable & Water Main Diversion

River Gauge



Portion II - Removal of Soil deposit at Concrete Wall Recess & cable cut off completed

Demolition of River Gauge scheduled 14/07/22



1. Portion 1 (On Kui St)
- Commence ELS works on 28/06/22
  - Sheet Piling Works in progress
  - Expose 132kV cable for CLP site verification of the Sheet pile location completed on 08/06/22
  - ELS - ES: 05/08/22 EF: 21/11/22
  - On track R12



Portion 1 - Sheet Piling works for Abutment B1 & Cap B1-02b in progress

2. Portion 2 (Shum Him Tong)
- Bored Piling works in progress, 5 nos. completed this month
  - Bored Piling - ES: 08/06/22 EF: 19/12/22
  - HKT Cable Diversion and Water Main Diversion completed
  - On track against R12



Portion II - Bored Piling Works in Progress

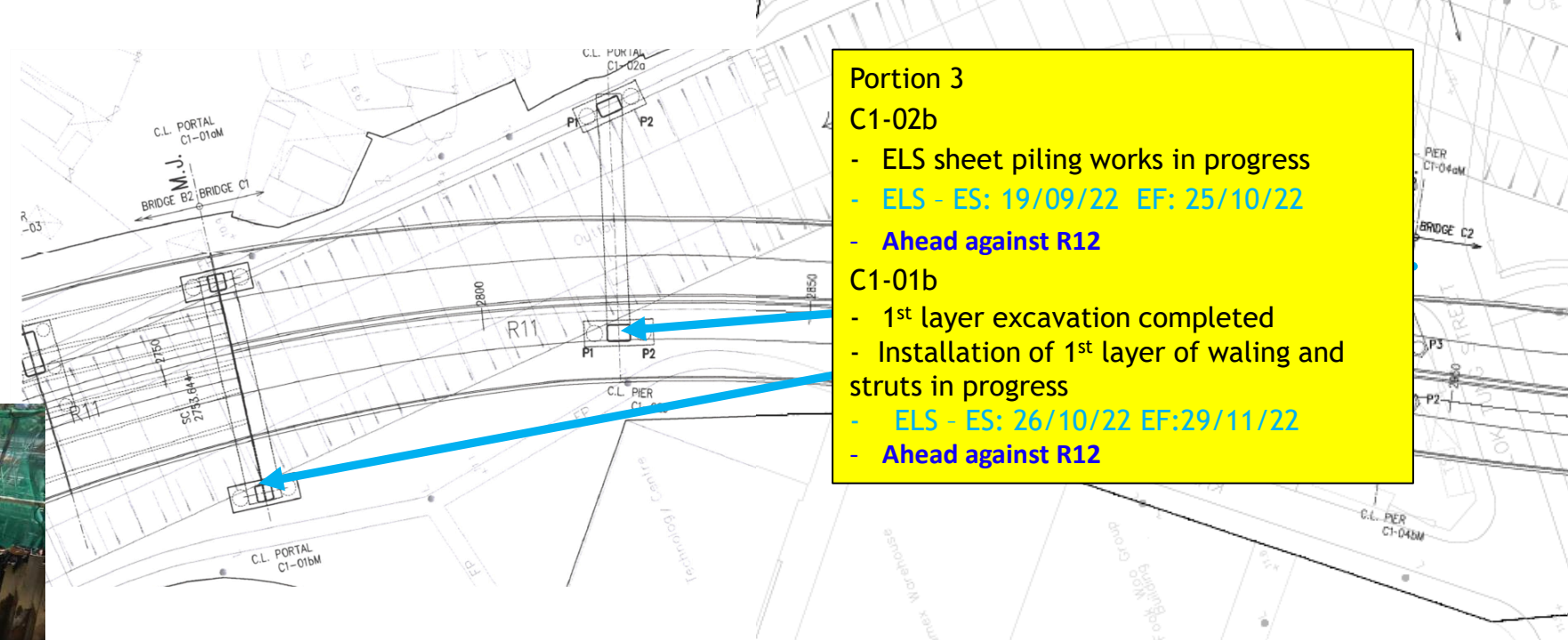
- Legend:
- Bored Pile in progress
  - Bored Pile Completed



Portion II - HKT Cable & Water Main Diversion Works completed on 28/06/22



# 2 North Team



## Portion 3

### C1-02b

- ELS sheet piling works in progress
- ELS - ES: 19/09/22 EF: 25/10/22
- Ahead against R12

### C1-01b

- 1<sup>st</sup> layer excavation completed
- Installation of 1<sup>st</sup> layer of waling and struts in progress
- ELS - ES: 26/10/22 EF: 29/11/22
- Ahead against R12



C1-01b 1<sup>st</sup> layer of ELS waling and struts Completed



C1-01b 1<sup>st</sup> layer of waling and struts



C1-02b ELS Sheet Piling Works in Progress





Wet soil mixing works in progress between C1-03 and C1-04



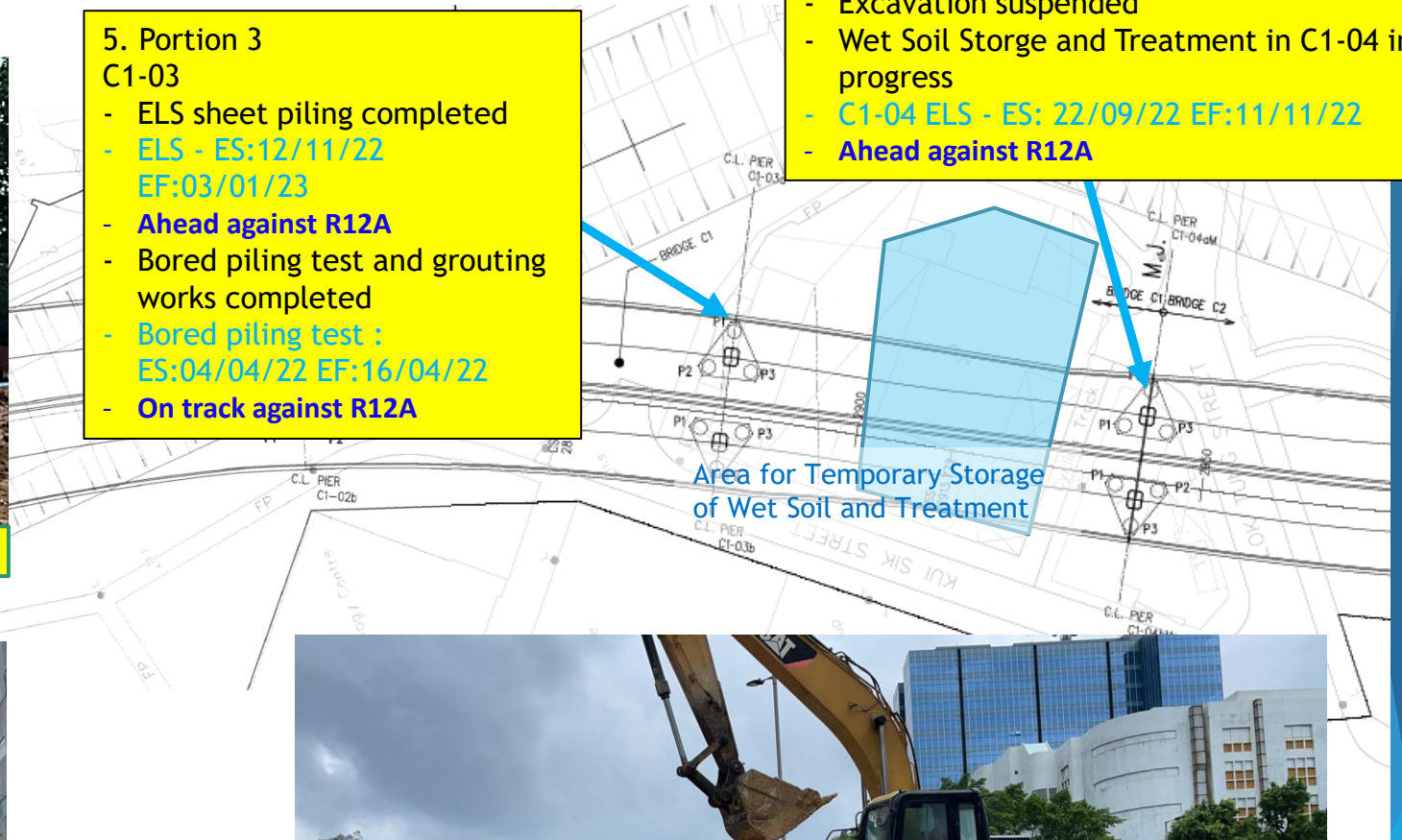
Wet Soil Storage and Treatment in C1-03

#### 5. Portion 3 C1-03

- ELS sheet piling completed
- ELS - ES:12/11/22  
EF:03/01/23
- Ahead against R12A
- Bored piling test and grouting works completed
- Bored piling test :  
ES:04/04/22 EF:16/04/22
- On track against R12A

#### 6. Portion 3 (C1-04)

- ELS Sheet Pile Completed on 28/04/22
- Excavation suspended
- Wet Soil Storage and Treatment in C1-04 in progress
- C1-04 ELS - ES: 22/09/22 EF:11/11/22
- Ahead against R12A



ELS excavation work in progress in C1-04



# 3 North Team

## 7. Portion 5 (On Lok Garden)

### C2-01

- ELS Sheet pile installation completed
- Bored piling IC & sonic test completed
- Reservation tubes grouting work in progress
- Excavation target to commence on 11/07/22.
- ELS - ES: 03/08/22 EF: 21/09/22
- Ahead against R12A

## 7. Portion 5 (On Lok Garden)

### C2-02

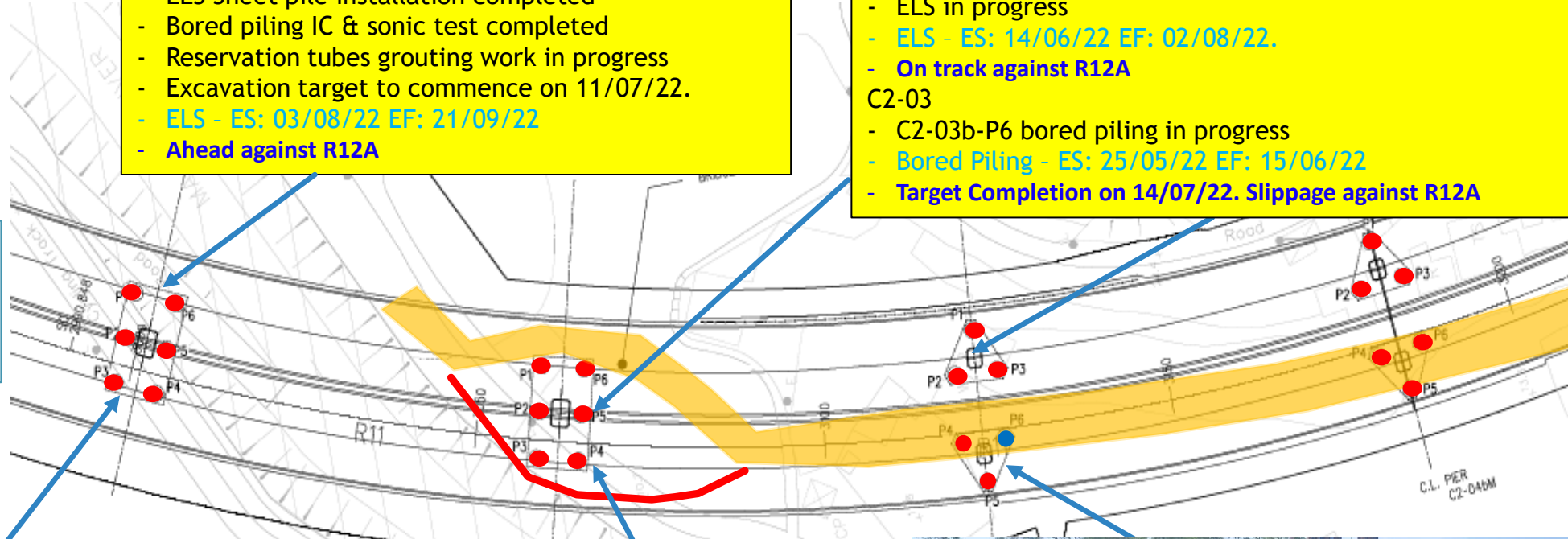
- Bored pile test completed on 31/05/22.
- ELS in progress
- ELS - ES: 14/06/22 EF: 02/08/22.
- On track against R12A

### C2-03

- C2-03b-P6 bored piling in progress
- Bored Piling - ES: 25/05/22 EF: 15/06/22
- Target Completion on 14/07/22. Slippage against R12A

#### Legend:

- Bored Pile in progress
- Bored Pile Completed



Portion 4 (C2-01) - bored pile testing in progress



C2-02 sheet piling in progress



C2-03-P6 Bored pile in progress







► North Team  
Area Highlighted  
- HD (C4-01 & C4-02)

# 10. Portion 6

## C4-01 Portal Beam

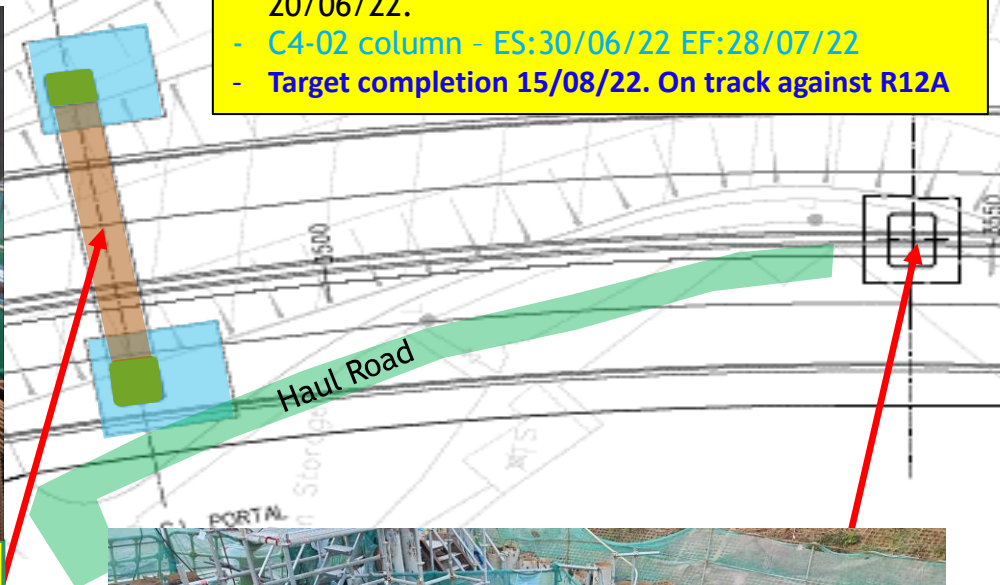
- 1<sup>st</sup> pour concreting completed on 04/05/22, Rebar Fixing (2<sup>nd</sup> pour) in progress.
- C4-01 portal beam - ES:09/12/21 EF:15/06/22
- Target completion 14/07/22. Slippage against R12A

## C4-02

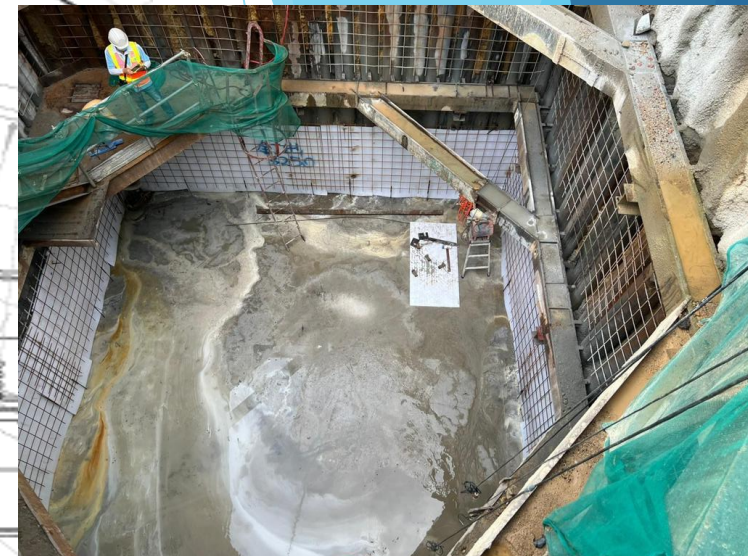
- Concreting for C4-02 Footing completed on 20/06/22.
- C4-02 column - ES:30/06/22 EF:28/07/22
- Target completion 15/08/22. On track against R12A



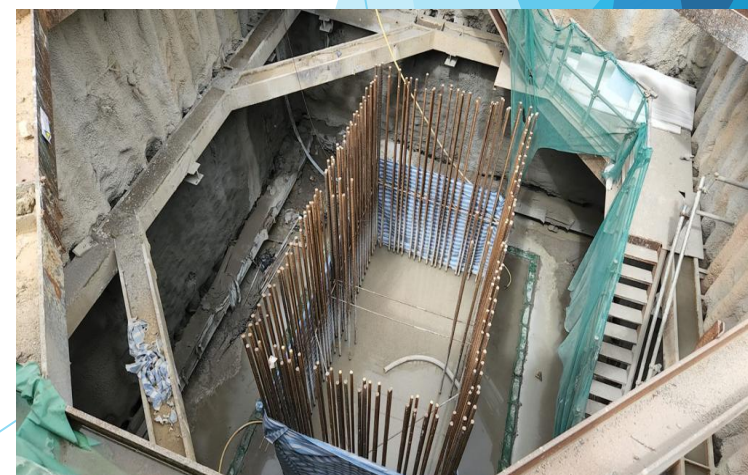
Rebar Fixing for C4-01 Portal Beam Construction (2<sup>nd</sup> pour) in progress.



Concreting for C4-02 kicker for column completed on 06/07/22.



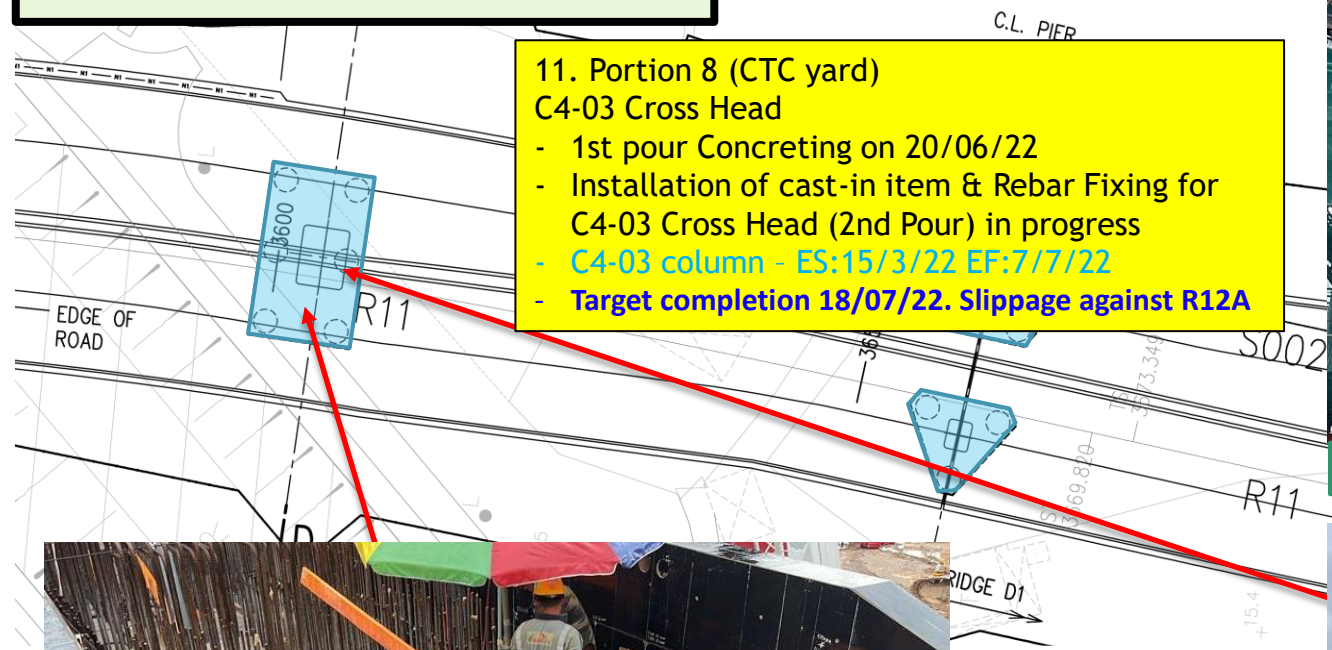
Blinding layer for C4-02 Footing completed on 15/06/22.



Concreting for C4-02 Footing completed on 20/06/22.



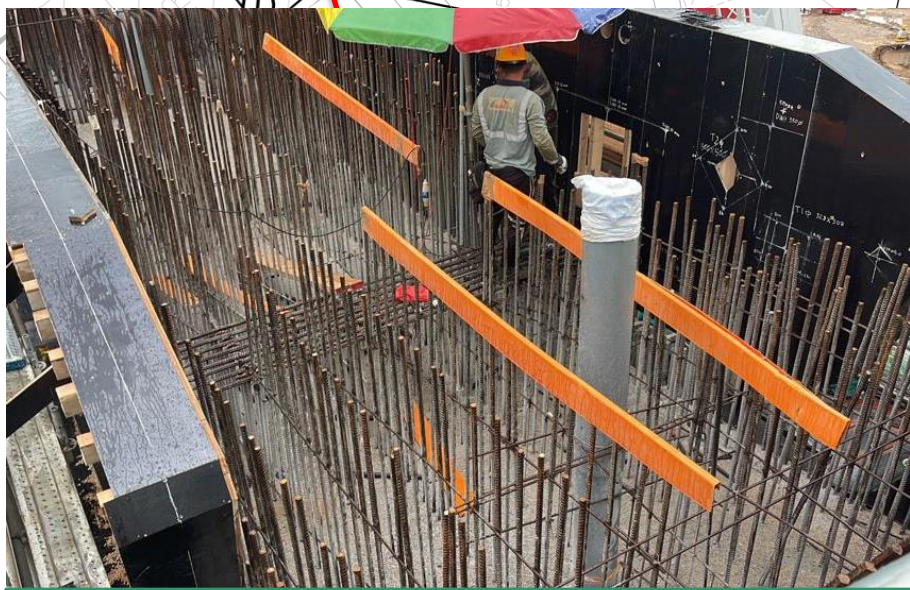
▶ North Team  
Area Highlighted - C4-03



11. Portion 8 (CTC yard)  
C4-03 Cross Head
- 1st pour Concreting on 20/06/22
  - Installation of cast-in item & Rebar Fixing for C4-03 Cross Head (2nd Pour) in progress
  - C4-03 column - ES:15/3/22 EF:7/7/22
  - Target completion 18/07/22. Slippage against R12A



Timber formwork erection for C4-03 Cross Head (2nd Pour) completed



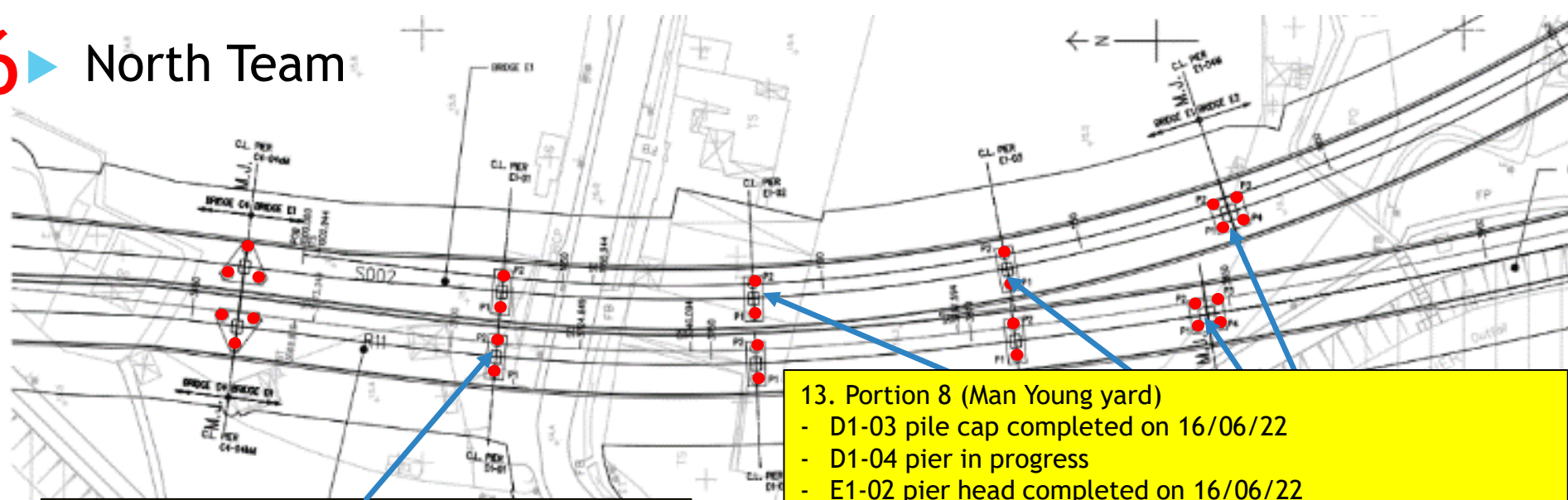
Installation of cast-in item for C4-03 Cross Head (2nd Pour) in progress



Concreting of C4-03 Cross Head (1st pour) on 20/06/22



# 6 North Team



## 12. Portion 8 (CTC yard)

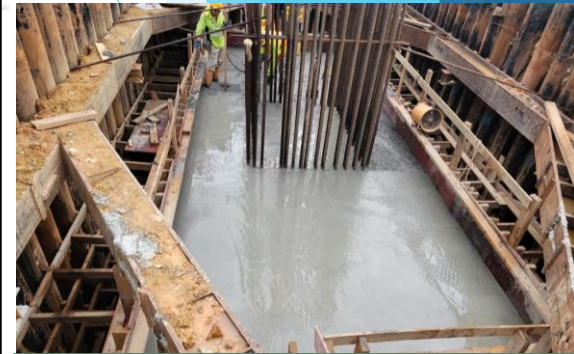
- D1-01 & E1-01 pier completed on 27/04/22
- Backfilling in progress.
- Pier & Pier head - ES: 12/08/22 EF:07/11/22
- Ahead against R12A

## 13. Portion 8 (Man Young yard)

- D1-03 pile cap completed on 16/06/22
- D1-04 pier in progress
- E1-02 pier head completed on 16/06/22
- E1-03 Pier head in progress
- E1-04 Wet Soil Storage & Treatment
- ELS - ES:22/12/21 EF:15/08/22
- Pile Cap - ES:28/01/22 EF:13/09/22
- Pier - ES:22/03/22 EF:27/10/22
- Pier Head - ES: 06/06/22 EF: 24/11/22
- E1-03, D1-04 on track, D1-03 ahead, E1-04 slippage against R12A



D1-04 Pier Construction in progress.  
Kicker concreted on 28/06/22



D1-03 Pile cap completed on 16/06/22.  
Backfilling in progress .



D1-01/ E1-01 Column completed  
Backfilling in Progress.



E1-02 Pier head completed on 16/06/22



E1-03 pier head construction in progress



E1-04 Wet Soil Storage & Treatment

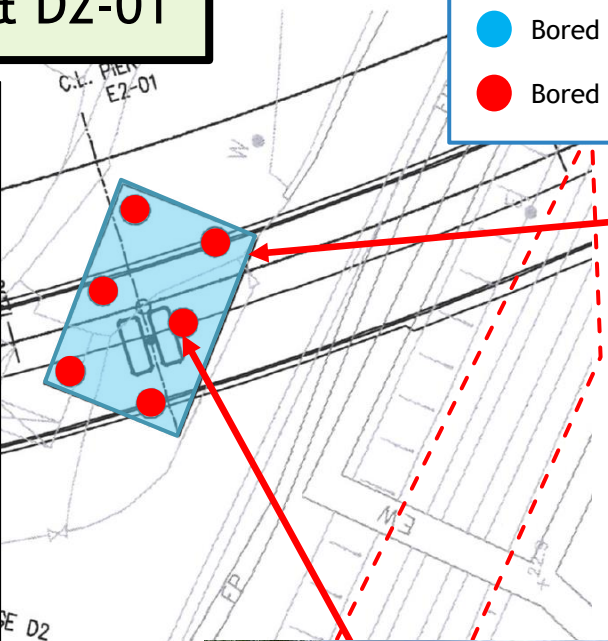


▶ North Team  
Area Highlighted - E2-01 & D2-01

14. Portion 8 (MTR trackside)  
E2-01
- Bored piling IC & sonic test completed on 14/06/22
  - Reservation tubes grouting work completed on 22/06/22
  - Sheet piling commenced on 28/06/22
  - E2-01 ELS Sheet Pile - ES:17/06/22 EF:30/06/22
  - Slippage against R12A
- D2-01
- Bored Piling commenced on 08/06/22.
  - D2-01-P4 completed on 07/07/22.
  - D2-01 Bored Piling - ES:07/06/22 EF:27/06/22
  - Slippage against R12A

Legend:

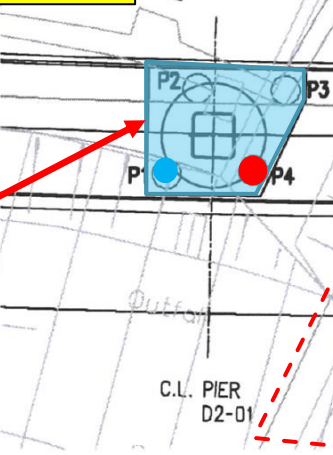
- Bored Pile in progress
- Bored Pile Completed



E2-01 sheet piling commenced on 28/06/22



D2-01-P4 concreted on 07/07/22.



E2-01 bored pile reservation tubes grouting completed on 22/06/2022.



E2-01 bored pile testing completed on 14/06/2022.



# 7 & 11

## ▶ South Team



- 1. E2-03 ELS:**  
**E2-6023 (R12A) ES: 21/02/22 EF: 12/05/22**  
**LS: 15/07/22 LF: 23/07/22**  
 • Target 26/07/22 Blinding



- 2. E3-01 Pier (3 pour + Pier head)**  
**E3-1320 (R12A) ES: 12/05/22 EF: 23/06/22**  
**LS: 13/02/23 LF: 25/03/23**  
 • 1<sup>st</sup> pour completed.  
 • Target 2<sup>nd</sup> pour on 13/07/22



2022年7月7日 08:30:49



2022年7月8日 09:35:09

- 3. D2-02 Pier (3 pour + pier head)**  
**D2-1575 (R12A) ES: 16/05/22 EF: 20/06/22**  
**LS: 28/08/23 LF: 03/10/23**  
 • Backfilling in progress  
 • Target 2<sup>nd</sup> pour Pier work resume on 14/07/22



**D2-03**



- 4. D2-03 Cap**  
**D2-1620 (R12A) ES: 06/09/22 EF: 06/10/22**  
**LS: 15/09/22 LF: 14/10/22**  
 • Target Interface Core on 13/07/22  
 • Target 25/07/22 Blinding



▶ South Team

-  Works Area
-  Access to K Kee

Area  
ready for  
132 ducts  
laying.  
CLP no  
resource



Fw52 bay 7 base slab



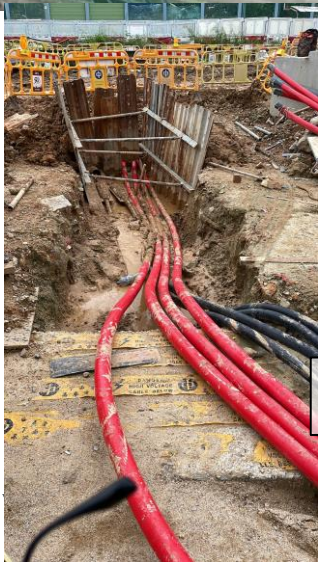
Fw52 bay 5 wall



CLP 132 & 11kv ducting



Town Gas DI  
and PE pipe



CLP 11Kv cabling



Dn600 Storm & Dn 450 Sewer



Coordinate with  
Telecom for  
future road  
connection



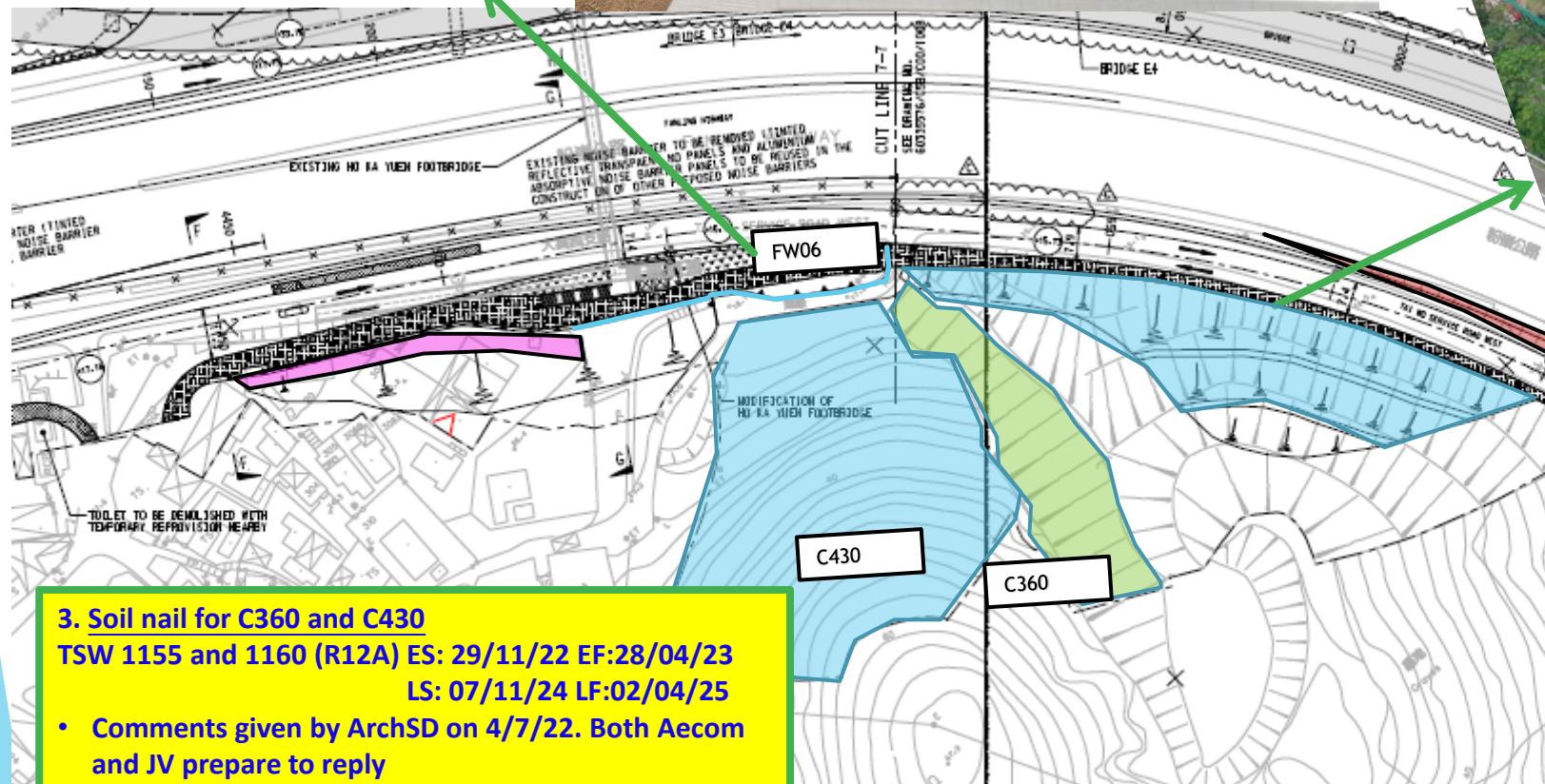
## ► South Team

### 1. FW06 – Backfilling

TSW 3014 (R12A) ES: 16/06/22 EF:21/07/22

LS: 22/06/22 LF:27/07/22

- Target 23/07/22 complete backfill



### 2. FS 04 – Top Slope Excavation

TSW 1135 (R12A) ES: 16/06/22 EF: 21/07/22

LS: 18/07/22 LF:20/08/22

- Target 21/07/22 complete upper portion cut slope



### 3. Soil nail for C360 and C430

TSW 1155 and 1160 (R12A) ES: 29/11/22 EF:28/04/23

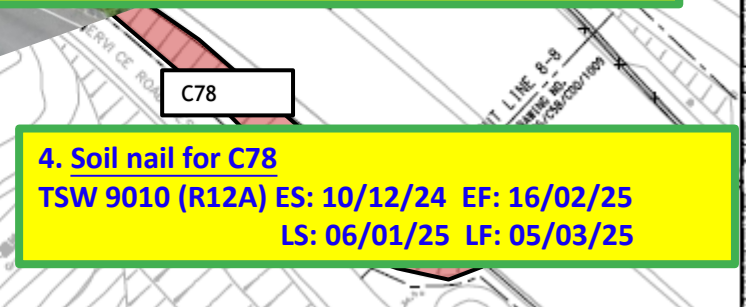
LS: 07/11/24 LF:02/04/25

- Comments given by ArchSD on 4/7/22. Both Aecom and JV prepare to reply

### 4. Soil nail for C78

TSW 9010 (R12A) ES: 10/12/24 EF: 16/02/25

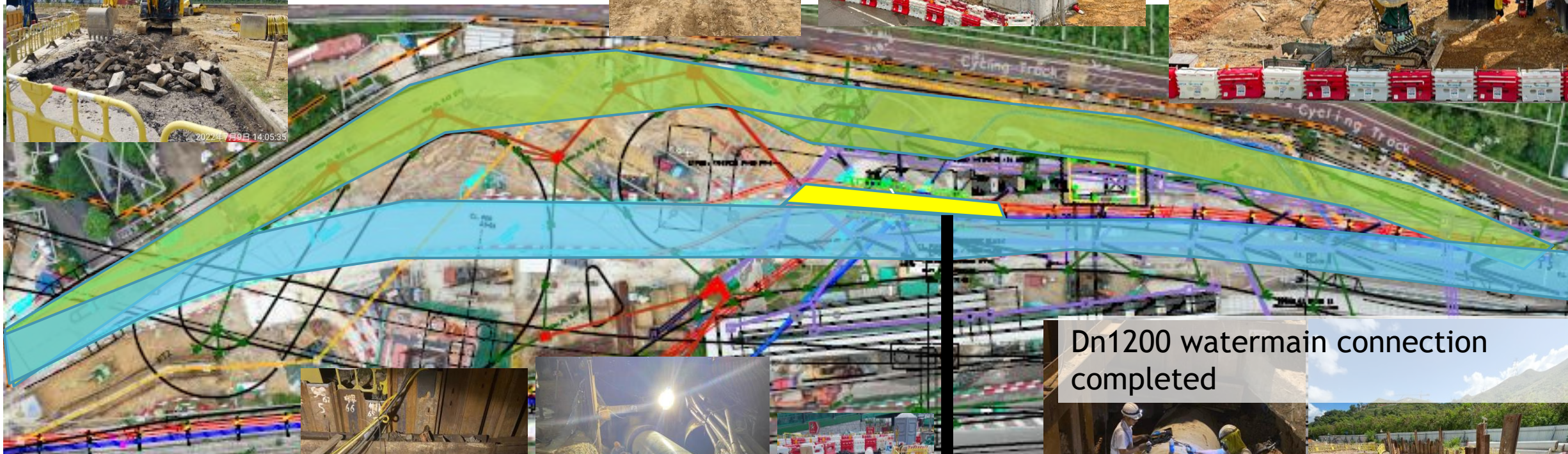
LS: 06/01/25 LF: 05/03/25





## ▶ South Team

### Road work at TWSRE (Green area)



Dn1200 watermain connection completed

1. DN1200 water main Connection  
PMI027 - 190 (R12A) ES:31/05/22 EF:06/07/22  
LS:21/06/22 LF:26/07/22
2. DN600 water main Connection  
PMI027 - 240 (R12A) ES:16/11/22 EF:20/12/22  
LS:11/07/23 LF:14/08/23

Dn600 watermain, local road diversion required

Dn1200 watermain connection completed





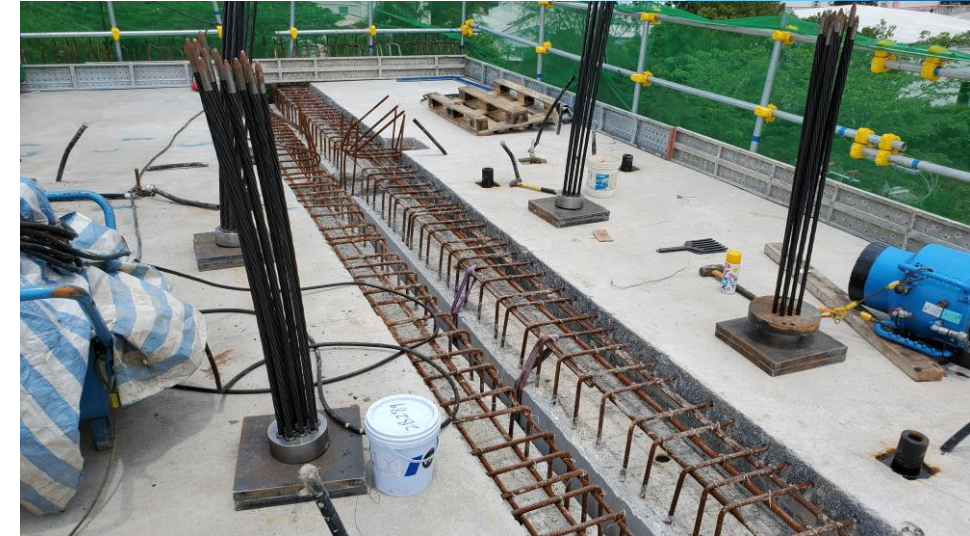
## ▶ Viaduct

### Cast In-situ SOP Construction

- Pier E3-03: Rebar fixing for first pour in progress, target concreting date on 15 July 2022
- Pier E2-02: Completed second pour on 7 July 2022, whole SOP completed

### MJSOP Erection

- Completed eccentricity geometric control and temporary tie downs for the 4 MJSOPs on Pier C4-04a/bM in progress.





► South Team



E3-02



**1. E3-02 ELS Pile Cap**  
E3-1355 (R12A) ES:13/08/22 EF:02/09/22  
LS:26/07/23 LF:15/08/23

- 1<sup>st</sup> layer (1 layer) wailing in progress
- Target cast on 30/07/22



**2. E3-04a Piling (2 nrs)**  
E3-1170 (R12A) ES:25/05/22 EF:29/06/22  
LS:07/06/22 LF:12/07/22

- P1 cast on 17/06/22
- P2 to be cast on 13/07/22

E3-04a



**3. HKY FB P01 Pier (2 pour)**  
FBE-1335 (12A) ES:16/06/22 EF:07/07/22  
LS:24/08/22 LF:14/09/22

- Cap cast on 28/06/22.
- Target 1<sup>st</sup> pour 18/07/22
- Target 2<sup>nd</sup> pour 30/07/22



# 12 North Team



Excavate & Relocate CLP on Top of slope 3SW-C/F63



Chasing HKGC to handover  
 - Make good soil surface  
 - Outstanding SRT formal reports  
 Slippage against R12A



Removal of tree trunk and soil disposal for cut slope formation



Sheet pile installation  
 Sheetpiling works up to 05/07/22  
 Design review in progress for adoption of pipe piling to overcome underground obstruction



## **Construction Programme of ND/2019/07**

**Contract No. ND/2019/07 Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works**






Activity Name		Original Duration	Start	Finish	Total From	2022	
Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works						Jul	Aug
Key Dates and Sectional Completion of the Works							
Contractual Sectional Completion of the Works							
KDS1020	Section 2- Completion of site formation and infrastructure works in Works Area B	0		29-Jun-22 A		ion 2- Completion of site formation and infrastructure works in Works Area B	
KDS1030	Section 3- Completion of site formation and infrastructure works in Works Area C	0		31-Jul-22*	0	Section 3- Completion of site formation and infrastructure works in Works Area C	
Planned Sectional Completion of the Works							
KDS1110	Planned completion of the Section 2 of the Works	0	29-Jun-22 A	29-Jun-22 A		ned completion of the Section 2 of the Works	
Preliminaries, Contractor's Design, Method Statement Submission and Approval							
General Submission							
PGS1200	Preparation and approval of TTA scheme and traffic impact assessment(PS1.16)	290	30-Dec-20 A	10-Aug-22	-299	Preparation and approval of TTA scheme and traffic impact assessment(PS1.16)	
Contractor's Design Submission and Approval							
Permanent Works Design							
PWD1030	Design for irrigation system	75	08-Jul-22	03-Oct-22	123	Design for irrigation system	
PWD1035	Time risk allowance for Design for irrigation system	7	04-Oct-22	11-Oct-22	123	Time risk allowance for Design for irrigation system	
PWD1040	Design for noise barrier panel	90	11-Jul-22	22-Oct-22	167	Design for noise barrier panel	
Major Temporary Works Design							
TWD1050	ELS design for construction of foundation of noise barrier	60	08-Feb-22 A	18-Jul-22	16	ELS design for construction of foundation of noise barrier	
TWD1055	Time risk allowance for ELS design for construction of foundation of noise barrier	7	19-Jul-22	26-Jul-22	16	Time risk allowance for ELS design for construction of foundation of noise barrier	
TWD1060	Formwork design for construction of noise barrier	45	24-Feb-22 A	16-Jul-22	17	Formwork design for construction of noise barrier	
TWD1065	Time risk allowance for Formwork design for construction of noise barrier	7	18-Jul-22	25-Jul-22	17	Time risk allowance for Formwork design for construction of noise barrier	
Major Construction Works Method Statement							
MS1580	Method statement submission and approval for construction of noise barrier	60	29-Dec-21 A	08-Aug-22	5	Method statement submission and approval for construction of noise barrier	
Tendering and Procurement for Major Subcontractor							
TDS1070	Subletting for road works	120	26-Mar-21 A	25-Jul-22	-9	Subletting for road works	
Tree Works and Submission of the tree survey report and tree preservation and removal							
Tree Works on Ma Sik Road							
TWS1200	TPRP and Tree felling works (Ma Sik Road) (before Noise Barrier Construction)	80	02-Mar-22 A	23-Jul-22	-5	TPRP and Tree felling works (Ma Sik Road) (before Noise Barrier Construction)	
TWS1210	TPRP and Tree transplanting works at the side of road (9nos) (before noise barrier construction)	80	28-Mar-22 A	14-Sep-22	-59	TPRP and Tree transplanting works at the side of road (9nos) (before noise barrier construction)	
Section 1- Site Formation and Infrastructure Works in Area A							
Site Formation (Portion I- Area A 11042m2)							
Remaining Site Formation Works after trees felled in FL-G14.1 & FL-G14.2							
S1-SF1011	Erection of hoarding along the site boundary (326m)	100	09-Aug-21 A	23-Aug-22	-18	Erection of hoarding along the site boundary (326m)	
S1-SF1051	Ground investigation works (2nos) and trial pit(2nos) (PMI005)	80	30-Oct-21 A	16-Jul-22	169	Ground investigation works (2nos) and trial pit(2nos) (PMI005)	
Site Formation (Portion II- Area A 21900m2)							
Site Formation Works in South Part of Portion II							
S1-SF1415	Site formation works part 2 (12577m3) and Removal of temporary works, haul road and temporary accesses	75	03-Jan-22 A	05-Aug-22	-90	Site formation works part 2 (12577m3) and Removal of temporary works, haul road and temporary accesses	
S1-SF1417	Site formation works part 3 (12577m3) and Removal of temporary works, haul road and temporary accesses	78	06-Aug-22	08-Nov-22	-90		
Site Formation (Portion III- Area A 4900m2)							
S1-SF1450	Erection of hoarding along the site boundary (173m)	30	24-Aug-22	28-Sep-22	-18	Erection of hoarding along the site boundary (173m)	
S1-SF1546	Removal of existing feature 3SW-A/F85	15	29-Sep-22	18-Oct-22	-18	Removal of existing feature 3SW-A/F85	
Site Formation (Portion IV- Area A 3800m2)							
S1-SF1765	Erection of hoarding along the site boundary (515m)	40	27-Jan-22 A	10-Aug-22	38	Erection of hoarding along the site boundary (515m)	
S1-SF1780	Site clearance	20	30-Dec-21 A	19-Jul-22	57	Site clearance	
S1-SF1800	Construction of haul road	21	23-Dec-21 A	19-Jul-22	57	Construction of haul road	
S1-SF1870	Site formation works(2391m3) (after site formation in Area D)	30	11-Aug-22	15-Sep-22	38	Site formation works(2391m3) (after site formation in Area D)	
Box Culvert BC3 and Outfall 10							
Box Culvert BC3 (CH0 to CH168)							
S1-BC0940	Backfilling from Bay 11 to Bay 14 (4620m3)	31	08-Jul-22	12-Aug-22	-206	Backfilling from Bay 11 to Bay 14 (4620m3)	
S1-BC0980	Construction of the box culvert side wall and top slab Bay 7 (After Bay2)	25	08-Aug-22	05-Sep-22	-206	Construction of the box culvert side wall and top slab Bay 7 (After Bay2)	
S1-BC0990	Backfilling from Bay 7 to Bay 10 (4620m3)	31	06-Sep-22	14-Oct-22	-206	Backfilling from Bay 7 to Bay 10 (4620m3)	
S1-BC1000	Construction of the box culvert side wall and top slab Bay 6	25	27-Sep-22	27-Oct-22	-206	Construction of the box culvert side wall and top slab Bay 6	
S1-BC1050	Construction of the box culvert side wall and top slab Bay 2 and inspection chamber	30	21-May-22 A	05-Aug-22	-205	Construction of the box culvert side wall and top slab Bay 2 and inspection chamber	
S1-BC1052	Backfilling of Bay 2 (1155m3) Before handover of Area B	15	06-Aug-22	23-Aug-22	-28	Backfilling of Bay 2 (1155m3) Before handover of Area B	
S1-BC1070	Backfilling of Bay 1 (1155m3) Before handover of Area B	15	08-Jul-22	25-Jul-22	-18	Backfilling of Bay 1 (1155m3) Before handover of Area B	
Noise Barrier NB63							
Noise Barrier NB63(Bay 18 to Bay 21)							
S1-NB1265	Installation of Mini Piles(Bay18-Bay21 18 nos) (CSD) (Original:24nos H-pile,36days)	72	12-May-22 A	08-Sep-22	-78	Installation of Mini Piles(Bay18-Bay21 18 nos) (CSD) (Original:24nos H-pile,36days)	
Noise Barrier NB63(Bay 13 to Bay 17)							
S1-NB1180	Installation of Mini Piles ( Bay13-Bay17 20 nos) (CSD) (Original:36nos H-pile,54days)	80	25-Jun-22 A	05-Dec-22	-78		
Noise Barrier NB63(Bay 7 to Bay 12)							
S1-NB1170	Pre-drilling works (Bay7-Bay12) (8nos) (after diversion of existing footpath and tree felling & transplanting)	40	15-Sep-22	02-Nov-22	-50	Pre-drilling works (Bay7-Bay12) (8nos) (after diversion of existing footpath and tree felling & transplanting)	
Noise Barrier NB63(Bay 1 to Bay 6)							
S1-NB1020	UU detection and trial pit	14	15-Sep-22	30-Sep-22	-20	UU detection and trial pit	
Drainage,Sewerage, Waterworks and Road Works							
Along Ma Sik Road							
TTA -Closure of Ma Sik Road Eastbound Slow Lane between Wo Tai Street and Site Boundary							
S1-CS1240	Implement TTA	10	11-Aug-22	22-Aug-22	-242	Implement TTA	
S1-CS1260	UU detection and trial pit	10	23-Aug-22	02-Sep-22	-242	UU detection and trial pit	
S1-CS1265	Sheetpile works and excavation	60	03-Sep-22	15-Nov-22	-242		
Along Proposed Cycletrack and Footpath							
Works in Portion I							
Works in Portion I CT71							
S1-CS1460	Irrigation system (utility service by others)(CT71 Ch369.376 to Ch429 total 59m) (Delayed due to CE102)	20	24-Aug-22*	16-Sep-22	2	Irrigation system (utility service by others)(CT71 Ch369.376 to Ch429 total 59m) (Delayed due to CE102)	
S1-CS1465	Fresh water main works (CT71 Ch369.376 to Ch429 total 59m)	20	24-Aug-22	16-Sep-22	2	Fresh water main works (CT71 Ch369.376 to Ch429 total 59m)	
S1-CS1468	Flushing water main works (CT71 Ch369.376 to Ch429 total 59m)	20	24-Aug-22	16-Sep-22	2	Flushing water main works (CT71 Ch369.376 to Ch429 total 59m)	
S1-CS1469	Construction of cycle track and footpath (59m)	20	17-Sep-22	12-Oct-22	110	Construction of cycle track and footpath (59m)	

<div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="display: flex; align-items: center; margin-bottom: 2px;"> <div style="width: 15px; height: 10px; background-color: blue; margin-right: 5px;"></div> <span>Actual Work</span> </div> <div style="display: flex; align-items: center; margin-bottom: 2px;"> <div style="width: 15px; height: 10px; background-color: lightgreen; margin-right: 5px;"></div> <span>Remaining Work</span> </div> <div style="display: flex; align-items: center; margin-bottom: 2px;"> <div style="width: 15px; height: 10px; background-color: red; margin-right: 5px;"></div> <span>Critical Remaining Work</span> </div> <div style="display: flex; align-items: center;"> <div style="margin-right: 5px;">◆ ◆</div> <span>Milestone</span> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div> <p style="margin: 0; font-size: 1.2em;">中國路橋工程有限責任公司</p> <p style="margin: 0; font-size: 0.8em;">CHINA ROAD AND BRIDGE CORPORATION</p> </div> </div>	<div style="display: flex; justify-content: space-between; align-items: center;"> <div> <p>Three Month Rolling Programme (Data Date : 08-Jul-22)</p> <p>Page : 1 of 2</p> </div> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <th style="padding: 2px 10px;">Date</th> <th style="padding: 2px 10px;">Revision</th> <th style="padding: 2px 10px;">Checked</th> <th style="padding: 2px 10px;">Approved</th> </tr> <tr> <td style="padding: 2px 10px;">15-Jul-22</td> <td style="padding: 2px 10px;">0</td> <td style="padding: 2px 10px;">ZAN</td> <td style="padding: 2px 10px;">CLX</td> </tr> </table> </div>	Date	Revision	Checked	Approved	15-Jul-22	0	ZAN	CLX
Date	Revision	Checked	Approved							
15-Jul-22	0	ZAN	CLX							

Contract No. ND/2019/07 Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works


Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2022				
						Jul	Aug	Sep	Oct	Nov
<b>Works in Portion I CT73 (Ch400 to Ch649)</b>										
S1-CS1472	Irrigation system (CT73 Ch400 to Ch649 total 249m)	85	17-Sep-22	29-Dec-22	2					
S1-CS1473	Fresh water main works (CT73 Ch400 to Ch649 total 249m)	85	17-Sep-22	29-Dec-22	2					
S1-CS1474	Flushing water main works (CT73 Ch400 to Ch649 total 249m)	85	17-Sep-22	29-Dec-22	2					
S1-CS1475	U-Channel along the Cycletrack(CT73 Ch400 to Ch649 total 249m)	85	17-Sep-22	29-Dec-22	2					
<b>Works in Portion I CT74</b>										
S1-CS1487	Drainage work (MNH_FL5.61 to MNH_FL5.64 158m)	50	01-Mar-22 A	15-Jul-22	140					
<b>Section 2- Site Formation and Infrastructure Works in Area B</b>										
<b>Site Formation and Infrastructure Works in Area B1 &amp; B2</b>										
<b>Site Formation Works after trees felled in FL-G14.9</b>										
S2-SF2400	Planned completion of the Section 2 of the Works	0	29-Jun-22 A	29-Jun-22 A						
<b>Section 3- Site Formation and Infrastructure Works in Area C</b>										
<b>Site Formation and Infrastructure Works in Portion IV Area C (10730m2)</b>										
S3-SF1250	Remaining site formation works and Removal of temporary works,haul road and temporary accesses	30	30-Jun-22 A	11-Aug-22	-74					
S3-SF1260	Construction of open channel (303m)	43	12-Aug-22	03-Oct-22	-74					
S3-SF1270	Erection of chain link fence (762m)	21	05-Oct-22	28-Oct-22	-74					
<b>Section 4- Site Formation and Infrastructure Works in Area D</b>										
S4-SF1050	Site clearance	40	11-Feb-22 A	30-Jul-22	-7					
S4-SF1120	Site formation works(10276m3)	80	04-Feb-22 A	20-Jan-23	-90					
<b>Section 5- Site Formation and Infrastructure Works in Area E and Remainder of the Works</b>										
<b>Road L1</b>										
<b>Road L1 in Portion I (P700 CH 175 to CH245)</b>										
S5-RD1045	Construction of Irrigation system (168m)	109	08-Jul-22	15-Nov-22	-25					
S5-RD1060	Fresh water main works (168m)	50	08-Jul-22	03-Sep-22	-25					
S5-RD1070	Flushing water main works (168m)	50	08-Jul-22	03-Sep-22	-25					
S5-RD1080	Road pavement works	59	05-Sep-22	15-Nov-22	-25					
<b>Road L1 in Portion V (P600 CH 100 to CH194)</b>										
S5-RD1275	Site clearance (after tree felled in FL-G14.3)	14	11-Jan-22 A	15-Jul-22	-136					
S5-RD1315	Site formation works	30	08-Jul-22	11-Aug-22	-159					
S5-RD1345	Construction of drainage works (8nos Manholes 235m)	80	08-Jul-22	12-Oct-22	-229					
S5-RD1350	Construction of sewerage works (4nos Manholes)	50	05-Sep-22	04-Nov-22	-229					
<b>Road L1 in Portion IV (P600 CH 194 to CH393, P700 CH100 to CH175)</b>										
S5-RD1177	Site formation works	402	09-Nov-21 A	07-Mar-23	-221					
S5-RD1180	Construction of drainage (17nos Manholes 630m)	30	09-Nov-21 A	08-Aug-22	-134					
S5-RD1182	Construction of sewerage (16nos Manholes)	85	04-Apr-22 A	07-Mar-23	-221					
<b>Road L2</b>										
S5-RD1495	Site formation works	50	08-Jul-22	03-Sep-22	45					
<b>Noise Barrier NB62</b>										
S5-NB1060	Excavation and construction of base slabs and wall stems(Bay 1-bay6)	70	09-Aug-22	01-Nov-22	5					
<b>Section 6-Completion of Preservation And Protection Of Existing Trees</b>										
S6-CS1000	Preservation and protection of trees	1146	31-Aug-20 A	25-Oct-24	-242					



Portion	Legend
I	
II	
III	
IV	
V	


**PORTION II**

- C&D waste disposal
- Construction of box culvert
- Filling works




**PORTION I**

- C&D waste disposal
- Drainage works
- Sewerage works
- Filling works
- Waterworks




**PORTION IV**

- Site Clearance
- Drainage works
- Sewerage works
- C&D waste disposal
- Filling works
- Erection of site hoarding
- Mini piling works
- Construction of site haul road
- Construction of noise barrier




**PORTION V**

- Site Clearance
- C&D waste disposal
- Construction of noise barrier
- Construction of site haul road
- Drainage works
- Sewerage works



**PORTION III**

- Drainage works
- Sewerage works



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**APPENDIX B**  
**ACTION AND LIMIT LEVELS**

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**Appendix B - Action and Limit Levels****Table B-1 Action and Limit Levels for 1-hour TSP**

Monitoring station	Action Level (ug/m <sup>3</sup> )	Limit Level (ug/m <sup>3</sup> )
FLN-DMS1	303	500
FLN-DMS3	301	
FLN-DMS5	279	
KTN-DMS4	297	

**Table B-2 Action and Limit Levels for 24-hour TSP**

Monitoring station	Action Level (ug/m <sup>3</sup> )	Limit Level (ug/m <sup>3</sup> )
FLN-DMS1	150	260
FLN-DMS3	165	
FLN-DMS5A	153	
KTN-DMS4	192	

**Table B-3 Action and Limit Levels for Construction Noise**

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

Noted:

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

(\*) reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

**Table B-4.1 Action and Limit Levels for Water Quality Monitoring<sup>(1)</sup>**

Parameters	Action Level	Limit Level
DO in mg/L (depth average) <sup>#+</sup>	5 percentile of baseline data.	4 mg/L or 1 percentile of baseline data.
SS in mg/L (depth averaged) <sup>*&amp;</sup>	95 percentile of baseline data or 120% of upstream control station.	20 mg/L or 99 percentile of baseline data or 130% of upstream control station.
Turbidity in NTU (depth averaged) <sup>*^</sup>	95 percentile of baseline data or 120% of upstream control station.	99 percentile of baseline data or 130% of upstream control station.
Unionized ammonia in mg/L (depth averaged) <sup>*~</sup>	95 percentile of baseline data or 120% of upstream control station.	0.021mg/L or 99 percentile of baseline data or 130% of upstream control station.



Nitrate nitrogen in mg/L (depth averaged)*^	95 percentile of baseline data or 120% of upstream control station.	99 percentile of baseline data or 130% of upstream control station.
Orthophosphate in mg/L (depth averaged)*^	95 percentile of baseline data or 120% of upstream control station.	99 percentile of baseline data or 130% of upstream control station.

Remarks:

# AL of DO is 5 percentile of baseline data or level at control station at same tide of the same day (whichever lower) and LL of DO is 4.0 mg/L or level at control station at same tide of the same day (whichever lower);

+ 1 percentile of baseline data were adopted for LL for DO as those levels were greater than 4 mg/L;

\* AL is 120% of control station's level at the same tide of the same day when depth average greater than 95 percentile of baseline data;

^ LL is 130% of control station's level at the same tide of the same day when depth average greater than 99 percentile of baseline data.

~ LL is 130% of control station's level at the same tide of the same day when depth average greater than 99 percentile of baseline data or 0.021mg/L.

& LL is 130% of control station's level at the same tide of the same day when depth average greater than 99 percentile of baseline data or 20mg/L.

**Table B-4.2 Summary of Baseline Water Quality Monitoring Results (KTN NDA)<sup>(1)</sup>**

Monitoring Parameter					
Location  Parameter	KTN-CS1				
	Max	Min	Average	5 Percentile	1 Percentile
DO in mg/L	7.79	6.28	6.82	6.32	6.28
	Max	Min	Average	95 Percentile	99 Percentile
Turbidity in NTU	72.4	4.59	10.88	62.2	72.2
Suspended Solid in mg/L	74	2	9	60	73
Unionized ammonia in mg/L	0.0005	0.0001	0.0003	0.0004	0.0005
Nitrate nitrogen in mg/L	0.52	0.09	0.27	0.50	0.52
Orthophosphate in mg/L	0.19	0.01	0.10	0.17	0.19

Monitoring Parameter					
Location  Parameter	KTN-IS1				
	Max	Min	Average	5 Percentile	1 Percentile
DO in mg/L	8.08	4.71	6.83	6.14	5.02
	Max	Min	Average	95 Percentile	99 Percentile
Turbidity in NTU	44.56	4.57	8.63	38.98	44.56

Suspended Solid in mg/L	35	2	6	31	35
Unionized ammonia in mg/L	0.0006	0.0001	0.0004	0.0005	0.0006
Nitrate nitrogen in mg/L	0.57	0.09	0.29	0.54	0.57
Orthophosphate in mg/L	0.14	0.03	0.09	0.13	0.14

Note:

(1) The Action and Limit Levels for Water Quality Monitoring and the Summary of Baseline Water Quality Monitoring Results are according to pre-construction ET's Updated EM&A Manual and Baseline Water Quality Monitoring Report (KTN & FLN NDA).

**Table B-4.3 Action and Limit Levels for Additional Water Quality Monitoring**

Parameters	Action Level	Limit Level
<b>River Beas (SYR-IS1)</b>		
DO in mg/L (depth average) <sup>[1]</sup>	SYR-IS1: <u>6.1</u> <sup>[2]</sup>	SYR-IS1: <u>6.0</u> <sup>[2]</sup>
SS in mg/L (depth average) <sup>[1]</sup>	SYR-IS1: <u>75.6</u> or 120% of upstream control station, whichever is higher <sup>[3]</sup>	SYR-IS1: <u>83.1</u> or 130% of upstream control station, whichever is higher <sup>[3]</sup>
Turbidity in NTU (depth average) <sup>[1]</sup>	SYR-IS1: <u>48.2</u> or 120% of upstream control station, whichever is higher <sup>[3]</sup>	SYR-IS1: <u>50.9</u> or 130% of upstream control station, whichever is higher <sup>[3]</sup>
Arsenic in µg/L (depth average) <sup>[2]</sup>	SYR-IS1: <u>5.4</u> or 120% of upstream control station, whichever is higher <sup>[3]</sup>	SYR-IS1: 50 µg/L <sup>[4]</sup>
<b>River Indus and near Siu Hang San Tsuen Stream (NTR-IS1, SHST-IS2, MWR-IS3)</b>		
DO in mg/L (depth average) <sup>[1]</sup>	NTR-IS1: <u>5.8</u> <sup>[2]</sup> SHST-IS2: <u>7.0</u> <sup>[2]</sup> MWR-IS3: <u>8.6</u> <sup>[2]</sup>	NTR-IS1: <u>5.7</u> <sup>[2]</sup> SHST-IS2: <u>6.8</u> <sup>[2]</sup> MWR-IS3: <u>8.5</u> <sup>[2]</sup>
SS in mg/L (depth average) <sup>[1]</sup>	NTR-IS1: <u>8.9</u> SHST-IS2: <u>4.0</u> MWR-IS3: <u>14.0</u> or 120% of upstream control station, whichever is higher <sup>[3]</sup>	NTR-IS1: <u>9.0</u> SHST-IS2: <u>4.0</u> MWR-IS3: <u>14.4</u> or 130% of upstream control station, whichever is higher <sup>[3]</sup>
Turbidity in NTU (depth average) <sup>[1]</sup>	NTR-IS1: <u>6.0</u> SHST-IS2: <u>4.4</u> MWR-IS3: <u>10.1</u> or 120% of upstream control station, whichever is higher <sup>[3]</sup>	NTR-IS1: <u>6.1</u> SHST-IS2: <u>4.7</u> MWR-IS3: <u>11.1</u> or 130% of upstream control station, whichever is higher <sup>[3]</sup>

Remarks:

[1] "Depth-averaged" is calculated by taking the arithmetic mean of reading of all three depths.

[2] For DO, non-compliance occurs when monitoring results is lower than the limits.

[3] For turbidity, SS and arsenic, non-compliance occurs when monitoring results is larger than the limits.

[4] There is no local criterion for heavy metal. Limit Level of heavy metal is adopted from Category III Surface Water Quality Standards (GB3838-2002) (地表水環境質量標準), which applicable for Shenzhen River on mainland side.

**Table B-5 Action and Limit Levels for Ambient Arsenic Monitoring**

Parameter	Action Level	Limit Level
Ambient Arsenic Concentration	<b>9.36ng/m<sup>3</sup></b> - 80% of 11.7ng/m <sup>3</sup> – the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented)	<b>11.7ng/m<sup>3</sup></b> - the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented

**Table B-6 Action level in the event of LFG being detected**

Parameter	Monitoring Results	Actions
O <sub>2</sub>	<19% v/v	Increase underground ventilation to restore O <sub>2</sub> to >19% v/v
	<18% v/v	Stop works, evacuate all personnel, prohibit entry, and increase ventilation to restore O <sub>2</sub> level to >19%
CH <sub>4</sub>	>10% LEL	Prohibit hot works, increase ventilation to restore CH <sub>4</sub> to <10% LEL
	>20% LEL	Stop works, evacuate all personnel, increase ventilation further to restore CH <sub>4</sub> to <10% LEL
CO <sub>2</sub>	>0.5% v/v	Increase ventilation to restore C O <sub>2</sub> to <0.5% v/v
	>1.5% v/v	Stop works, evacuate all personnel, increase ventilation further to restore CO <sub>2</sub> to <0.5%

**Table B-7 Vibration Limit for Construction Vibration Monitoring**

Type of Building	Guide Values of Maximum PPV* (mm/Sec)	
	Transient Vibration	Continuous Vibration
Vibration-sensitive / dilapidated buildings#	7.5	3.0
Declared monuments/ Historical structures	3.0	

**Table B-8.1 Action and Limit Levels and Responses to Evidence of Disturbance to Waterbirds using in Ng Tung, Sheung Yue and Shek Sheung Rivers**

Action Level	Response	Limit Level	Response
<b>Construction Phase</b>			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs project instigate remedial action to remove or reduce source of	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to NDAs project instigate remedial action. Review and adjust LVNP management



	disturbance.		measures to improve conditions for affected species.
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to NDAs project instigate remedial action. Review and adjust LVNP management measures to improve conditions for affected species.
<b>Operational Phase</b>			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs review and adjust LVNP management measures to improve conditions for affected species in LVNP.	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if cause identified as related to NDAs consider and implement additional mitigation measures (e.g. additional screening and screen planting, adjustments to infrastructure design).
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs review and adjust LVNP management measures to improve conditions for affected species.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if cause identified as related to NDAs consider and implement additional mitigation measures (e.g. additional screen planting, adjustments to infrastructure design).

\* Whether numbers are significant will depend on species and season and should be determined following collection and evaluation of Baseline survey data.

**Table B-8.2 Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna**

Action Level	Response	Limit Level	Response
<b>Construction Phase</b>			
Reduction in species diversity such that Action Level response is triggered.	Investigate cause and if cause identified as related to Project instigate remedial action to remove or reduce source of disturbance.	Reduction in taxa diversity such that Limit Level response is triggered.	Investigate cause and if caused identified as related to Project instigate remedial action.

\* Whether numbers are significant will depend on species and season. Significance threshold for each species should be reviewed following collection of Baseline survey data.

**Table B-8.3 Action and Limit Levels and Responses to Evidence of Declines in non-aquatic Fauna**

Action Level	Response	Limit Level	Response
<b>Construction Phase</b>			
Reduction in species diversity such that Action Level response is triggered.	Investigate cause and if cause identified as related to Project instigate remedial action to remove or reduce source of disturbance.	Reduction in taxa diversity such that Limit Level response is triggered.	Investigate cause and if caused identified as related to Project instigate remedial action.

\* Whether numbers are significant will depend on species and season. Significance threshold for each species should be reviewed following collection of Baseline survey data.

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**APPENDIX C  
COPIES OF CALIBRATION  
CERTIFCATES**

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## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	36896
Date of Issue:	2022-07-11
Date Received:	2022-07-08
Date Tested:	2022-07-09
Date Completed:	2022-07-11
Next Due Date:	2022-09-10

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X23807
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-01

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.102
-------------------------	-------

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

General Manager

## TSP - Total Suspended Particulates (1 hr Dust Meter)

### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-01	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23807	2203
Calibration Date:	9-Jul-22	9-Jul-22
Location:	Wellab Office (Calibration Room)	

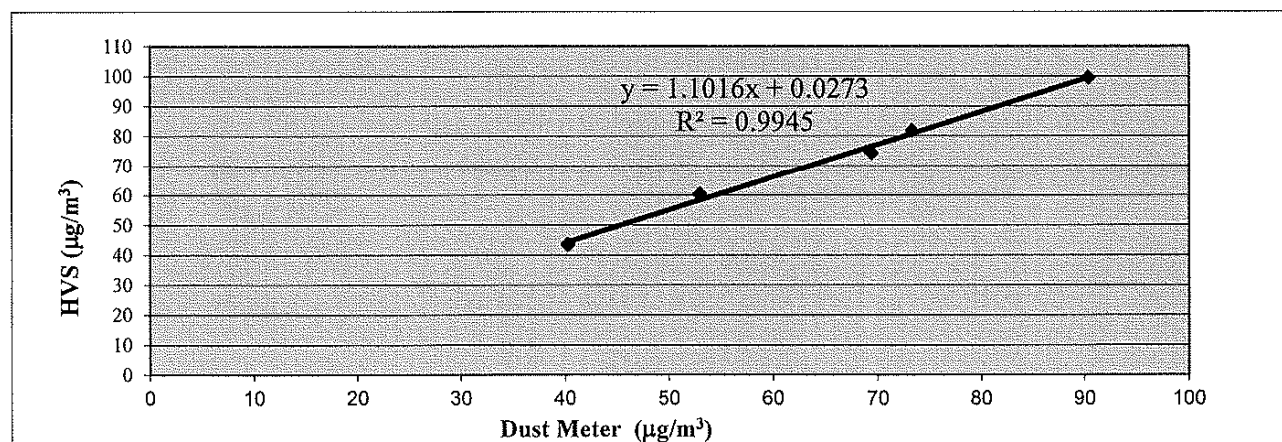
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	40	44
2	53	60
3	69	74
4	73	82
5	90	100
Average	65.3	71.9

By Linear Regression of Y on X  
 Slope, mw = 1.1016 Intercept, bw = 0.0273  
 Correlation coefficient\* = 0.9972

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	71.9
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	65.3
Measuring time, (min)	60

Set Correlation Factor, SCF  
 SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ] 1.102



QC Reviewer:

LEE MHH HET

Signature:

Lee

Date:

9/7/2022

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	36841
Date of Issue:	2022-06-27
Date Received:	2022-06-24
Date Tested:	2022-06-25
Date Completed:	2022-06-27
Next Due Date:	2022-08-26

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X24476
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-05

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.078
-------------------------	-------

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

General Manager



## TSP - Total Suspended Particulates (1 hr Dust Meter)

### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-05	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24476	2203
Calibration Date:	25-Jun-22	25-Jun-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ )	Mass concentration ( $\mu\text{g}/\text{m}^3$ )
	<b>X-axis</b>	<b>Y-axis</b>
1	31	33
2	44	48
3	55	61
4	75	78
5	86	92
<b>Average</b>	<b>58.0</b>	<b>62.5</b>

By Linear Regression of Y on X

Slope, mw = 1.0539

Intercept, bw = 1.3741

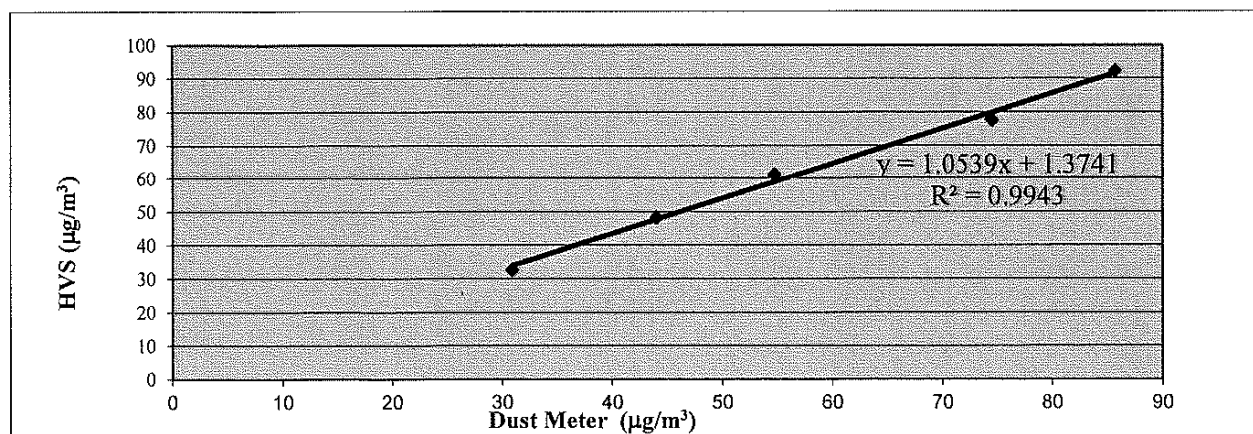
Correlation coefficient\* = 0.9972

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	62.5
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	58.0
Measuring time, (min)	60

Set Correlation Factor, SCF

SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ] 1.078



QC Reviewer: EDY VAW H62

Signature: he

Date: 26/6/2022

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.: 36841A  
Date of Issue: 2022-06-27  
Date Received: 2022-06-24  
Date Tested: 2022-06-25  
Date Completed: 2022-06-27  
Next Due Date: 2022-08-26

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description : Dust Monitor  
Manufacturer : Met One Instruments  
Model No. : AEROCET-831  
Serial No. : X24477  
Flow rate : 0.1 cfm  
Zero Count Test : 0 count per 1 minute  
Equipment No. : WA-01-06

**Test Conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.083
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\*\*\*\*\*  
*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

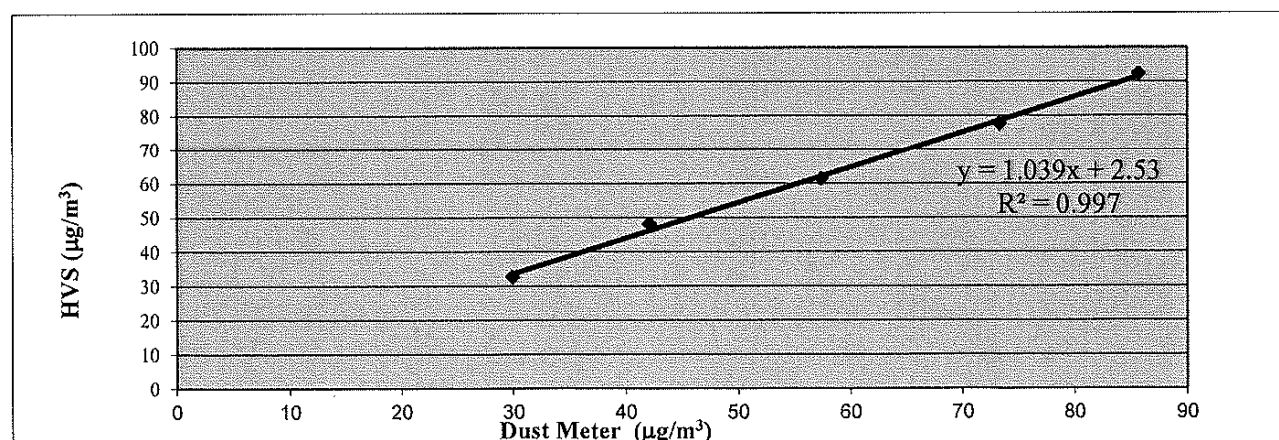
## TSP - Total Suspended Particulates (1 hr Dust Meter) Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-06	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24477	2203
Calibration Date:	25-Jun-22	25-Jun-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	30	33
2	42	48
3	57	61
4	73	78
5	86	92
Average	57.7	62.5
<p>By Linear Regression of Y on X</p> <p>Slope, <math>m_w =</math> <u>1.0390</u>      Intercept, <math>b_w =</math> <u>2.5300</u></p> <p>Correlation coefficient* = <u>0.9985</u></p>		

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	62.5
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	57.7
Measuring time, (min)	60
<p>Set Correlation Factor, SCF</p> <p>SCF = [ K=High Volume Sampler / Dust Meter, (<math>\mu\text{g}/\text{m}^3</math>) ]      <u>1.083</u></p>	



QC Reviewer: LEE KAN HEE      Signature: hee      Date: 26/6/22



## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	36645D
Date of Issue:	2022-05-10
Date Received:	2022-05-06
Date Tested:	2022-05-06
Date Completed:	2022-05-10
Next Due Date:	2022-07-09

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X24475
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-07

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.119
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\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
General Manager

## TSP - Total Suspended Particulates (1 hr Dust Meter)

### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-07	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24475	2203
Calibration Date:	6-May-22	6-May-22
Location:	Wellab Office (Calibration Room)	

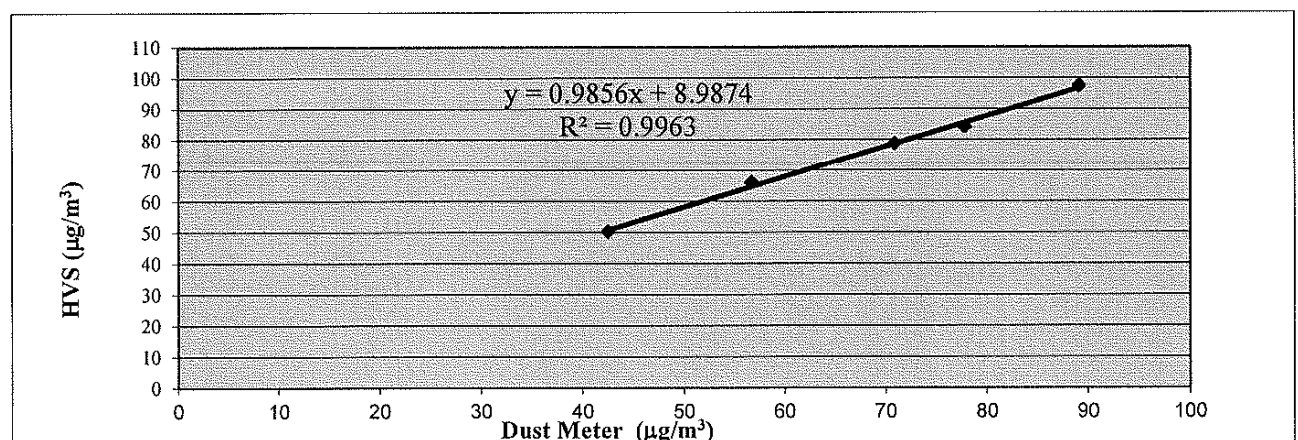
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	43	50
2	57	66
3	71	79
4	78	84
5	89	98
Average	67.4	75.4

By Linear Regression of Y on X  
 Slope,  $m_w =$  0.9856 Intercept,  $b_w =$  8.9874  
 Correlation coefficient\* = 0.9982

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	75.4
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	67.4
Measuring time, (min)	60

Set Correlation Factor, SCF  
 $\text{SCF} = [K = \text{High Volume Sampler} / \text{Dust Meter}, (\mu\text{g}/\text{m}^3)]$  1.119



QC Reviewer: Lit MDW KBZ Signature: ku Date: 6-5-2022

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	36896D
Date of Issue:	2022-07-11
Date Received:	2022-07-08
Date Tested:	2022-07-09
Date Completed:	2022-07-11
Next Due Date:	2022-09-10

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X24475
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-07

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.125
-------------------------	-------

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TSP - Total Suspended Particulates (1 hr Dust Meter)

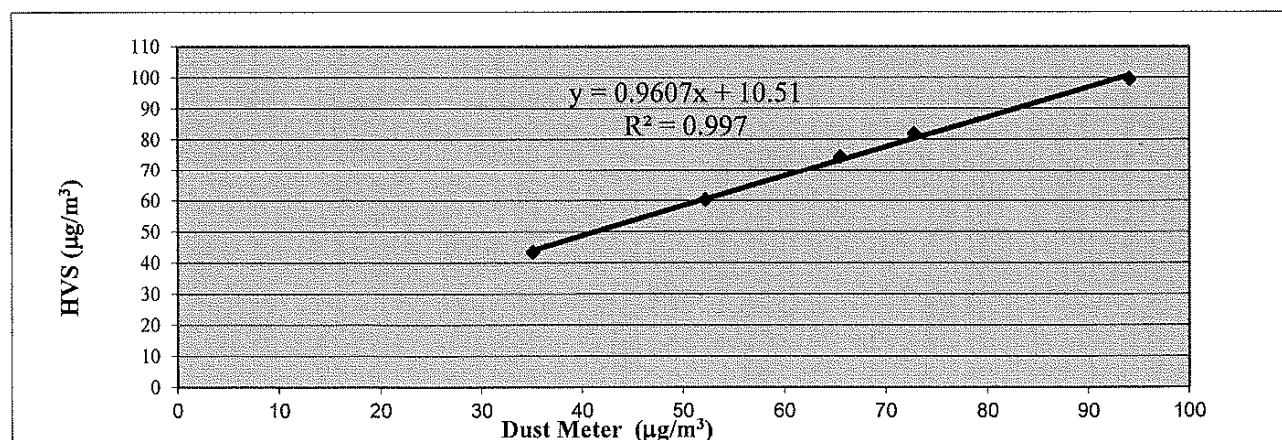
### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-07	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24475	2203
Calibration Date:	9-Jul-22	9-Jul-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	35	44
2	52	60
3	66	74
4	73	82
5	94	100
Average	63.9	71.9
<p>By Linear Regression of Y on X</p> <p>Slope, mw = <u>0.9607</u>      Intercept, bw = <u>10.5105</u></p> <p>Correlation coefficient* = <u>0.9985</u></p>		

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	71.9
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	63.9
Measuring time, (min)	60
<p>Set Correlation Factor, SCF</p> <p>SCF = [ K=High Volume Sampler / Dust Meter, (<math>\mu\text{g}/\text{m}^3</math>) ]      <u>1.125</u></p>	



QC Reviewer: LEE MAN HEI      Signature: hei      Date: 9/7/2022

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	36841B
Date of Issue:	2022-06-27
Date Received:	2022-06-24
Date Tested:	2022-06-25
Date Completed:	2022-06-27
Next Due Date:	2022-08-26

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X24479
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-08

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.087
-------------------------	-------

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

General Manager

## TSP - Total Suspended Particulates (1 hr Dust Meter)

### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-08	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24479	2203
Calibration Date:	25-Jun-22	25-Jun-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	28	33
2	43	48
3	57	61
4	71	78
5	88	92
Average	57.4	62.5

By Linear Regression of Y on X

Slope, mw = 0.9973

Intercept, bw = 5.1727

Correlation coefficient\* = 0.9991

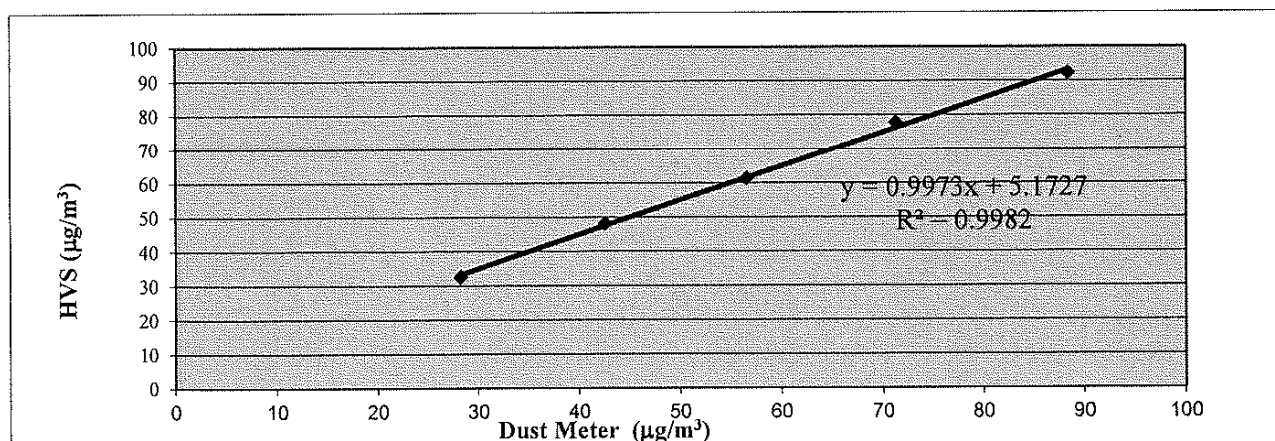
\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	62.5
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	57.4
Measuring time, (min)	60

Set Correlation Factor, SCF

SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ]

1.087



QC Reviewer:

226 MAN 1/22

Signature:

hi

Date:

26/6/2022



## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	36841C
Date of Issue:	2022-06-27
Date Received:	2022-06-24
Date Tested:	2022-06-25
Date Completed:	2022-06-27
Next Due Date:	2022-08-26

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X23811
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-09

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.107
-------------------------	-------

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TSP - Total Suspended Particulates (1 hr Dust Meter)

### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-09	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23811	2203
Calibration Date:	25-Jun-22	25-Jun-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	30	33
2	40	48
3	57	61
4	71	78
5	83	92
Average	56.4	62.5

By Linear Regression of Y on X

Slope, mw = 1.0742

Intercept, bw = 1.8510

Correlation coefficient\* = 0.9962

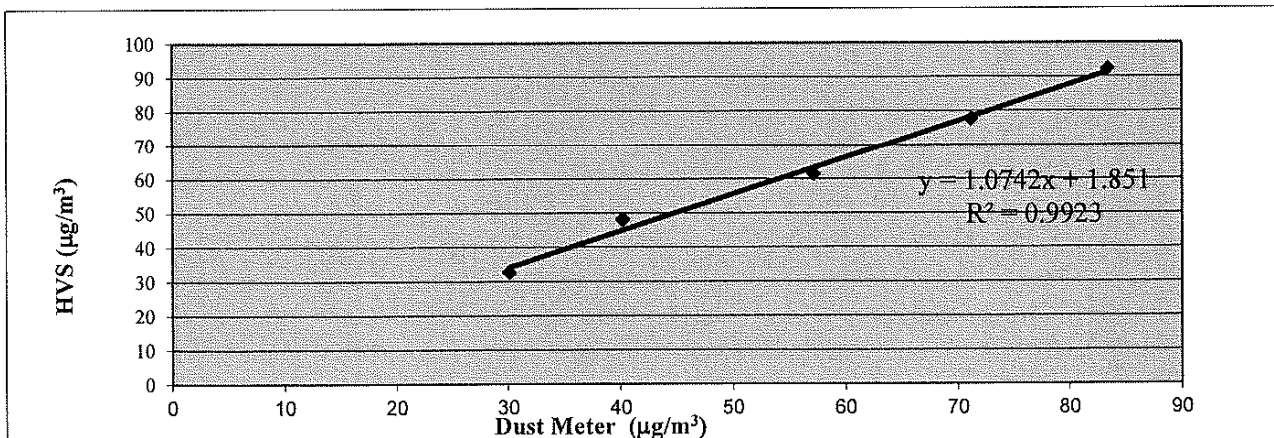
\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	62.5
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	56.4
Measuring time, (min)	60

Set Correlation Factor, SCF

SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ]

1.107



QC Reviewer:

Utk Mm HEV

Signature:

hi

Date:

26/6/22

# High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

File No. Cal./220506

Equipment No.: WA-12-09  
Model No. TE-5170  
Operator: HL

Serial No. 2203  
Cal. Date: 6-May-22

Ambient Condition			
Temperature, Ta (K)	294.8	Pressure, Pa (mmHg)	762.4

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	13.5	3.70	63.15	8.6	2.95
2	11.3	3.39	57.79	7.1	2.68
3	8.6	2.95	50.44	5.4	2.34
4	5.8	2.43	41.45	3.7	1.94
5	3.6	1.91	32.70	2.5	1.59

## By Linear Regression of Y on X

Slope, mw = 0.0447

Intercept, bw = 0.1042

Correlation coefficient\* = 0.9991

\*If Correlation Coefficient < 0.990, check and recalibrate.

## Set Point Calculation

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

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

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.06

Remarks: \_\_\_\_\_

Conducted by: L33 Maw H22  
Checked by: HL Ka CH

Signature:   
Signature: 

Date: 6/5/22  
Date: 6/5/22



## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

File No. Cal./220625

Equipment No.: WA-12-09  
Model No. TE-5170  
Operator: HL

Serial No. 2203  
Cal. Date: 25-Jun-22

Ambient Condition			
Temperature, Ta (K)	294.3	Pressure, Pa (mmHg)	758.9

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	20-Jan-23				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water Y-axis	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.1	3.50	59.71	8.2	2.88
2	10.3	3.23	55.10	7.0	2.66
3	8.4	2.91	49.78	5.4	2.34
4	5.6	2.38	40.68	3.8	1.96
5	3.7	1.93	33.10	2.6	1.62

**By Linear Regression of Y on X**

Slope, mw = 0.0472

Intercept, bw = 0.0408

Correlation coefficient\* = 0.9981

\*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation	
From the TSP Field Calibration Curve, take Qstd = 43 CFM	
From the Regression Equation, the "Y" value according to	
$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$	
Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ <u>4.24</u>	

Remarks: \_\_\_\_\_

Conducted by: LEE Man Hei  
Checked by: Lo Ka Che

Signature: kei  
Signature: che

Date: 25-6-2022  
Date: 25/6/2022

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET

Station: FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark File No. WMA20002/20/0012  
Date: 11-May-22 Operator: HL  
Equipment No.: WA-12-20 Next Due Date: 10-Jul-22  
Serial No. 3223

Ambient Condition			
Temperature, Ta (K)	297.4	Pressure, Pa (mmHg)	758.9

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	11.0	3.32	56.64	7.0	2.65
2	9.2	3.03	51.82	5.8	2.41
3	6.8	2.61	44.57	4.5	2.12
4	5.0	2.24	38.25	3.1	1.76
5	3.7	1.92	32.92	2.5	1.58

### By Linear Regression of Y on X

Slope, mw = 0.0455

Intercept, bw = 0.0618

Correlation coefficient\* = 0.9979

\*If Correlation Coefficient < 0.990, check and recalibrate.

### Set Point Calculation

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

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

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.08

Remarks: \_\_\_\_\_

Conducted by: Min Hui Signature: \_\_\_\_\_

Checked by: ba sh Signature: \_\_\_\_\_

Date: 11/5/2022

Date: 11/5/2022

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET

Station	FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark	File No.	WMA20002/20/0013
Date:	6-Jul-22	Next Due Date:	5-Sep-22
Model No.	TE-5170	Operator:	HL
Equipment No.:	WA-12-20	Serial No.	3223

Ambient Condition			
Temperature, Ta (K)	305	Pressure, Pa (mmHg)	755.6

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.3	3.46	59.01	7.1	2.63
2	10.0	3.12	53.22	5.9	2.39
3	8.2	2.82	48.21	4.7	2.14
4	5.5	2.31	39.52	3.5	1.84
5	3.2	1.76	30.18	2.3	1.49

### By Linear Regression of Y on X

Slope, mw = 0.0391 Intercept, bw = 0.2984

Correlation coefficient\* = 0.9981

\*If Correlation Coefficient < 0.990, check and recalibrate.

### Set Point Calculation

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

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

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.04

Remarks: \_\_\_\_\_

Conducted by: <u>Eddy M. M. H. H.</u>	Signature: <u>[Signature]</u>	Date: <u>6/7/2022</u>
Checked by: <u>[Signature]</u>	Signature: <u>[Signature]</u>	Date: <u>6/7/2022</u>



# High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

Station	FLN-DMS3 - House near Tong Hang	File No.	WMA20002/17/0012
Date:	17-May-22	Operator:	HL
Equipment No.:	WA-12-17	Next Due Date:	16-Jul-22
		Serial No.	3218

Ambient Condition			
Temperature, Ta (K)	297.8	Pressure, Pa (mmHg)	763.2

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	14.4	3.80	64.92	9.3	3.06
2	10.8	3.29	56.25	7.0	2.65
3	9.8	3.14	53.59	6.0	2.46
4	6.1	2.48	42.32	3.8	1.95
5	3.4	1.85	31.64	2.3	1.52

## By Linear Regression of Y on X

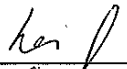
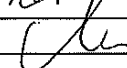
Slope, mw = 0.0463 Intercept, bw = 0.0231

Correlation coefficient\* = 0.9981

\*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation	
From the TSP Field Calibration Curve, take Qstd = 43 CFM	
From the Regression Equation, the "Y" value according to	
$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$	
Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ <u>4.04</u>	

Remarks: \_\_\_\_\_

Conducted by: <u>DL MW 1/22</u>	Signature: <u></u>	Date: <u>17/5/2022</u>
Checked by: <u>DL MW 1/22</u>	Signature: <u></u>	Date: <u>17/5/2022</u>

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET

Station FLN-DMS3 - House near Tong Hang  
Date: 16-Jul-22  
Model No. TE-5170  
Equipment No.: WA-12-17

File No. WMA20002/17/0013  
Next Due Date: 15-Sep-22  
Operator: HL  
Serial No. 3218

Ambient Condition			
Temperature, Ta (K)	307.2	Pressure, Pa (mmHg)	755.9

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.8	3.51	59.99	7.7	2.73
2	9.7	3.06	52.25	6.0	2.41
3	8.0	2.78	47.46	5.0	2.20
4	5.7	2.35	40.09	3.4	1.81
5	3.0	1.70	29.13	1.9	1.35

### By Linear Regression of Y on X

Slope, mw = 0.0451 Intercept, bw = 0.0324  
Correlation coefficient\* = 0.9992

\*If Correlation Coefficient < 0.990, check and recalibrate.

### Set Point Calculation

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

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

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.03

Remarks: \_\_\_\_\_

Conducted by: Chk Mmw Hkz  
Checked by: Chk Ka Chk

Signature: \_\_\_\_\_  
Signature: \_\_\_\_\_

Leif  
Shu

Date: \_\_\_\_\_  
Date: \_\_\_\_\_

16/7/2022  
16/7/2022

**RSP - Respirable Suspended Particulates Sampler (PM 10)**  
**Field Calibration Report**

Station KTN-DMS4A - Temporary Structure at Pak Shek Au File No. WMA20002/03/0012  
Date: 18-May-22 Operator: HL  
Equipment No.: WA-11-03 Next Due Date: 17-Jul-22  
Serial No. 3225

Ambient Condition			
Temperature, Ta (K)	302	Pressure, Pa (mmHg)	762.9

Orifice Transfer Standard Information					
Serial No.:	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	Next Calibration Date:	20-Jan-23		

Calibration of RSP Sampler							
Calibration Point	ORIFICE					HVS	
	$\Delta H$ (orifice), in. of water	Del Hc <sup>(1)</sup>	Qstd <sup>(2)</sup> (CFM)	Qa <sup>(3)</sup> (CFM) X-axis	Qa <sup>(3)</sup> (m <sup>3</sup> /min) X-axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Ta + 30) / Pa]^{1/2}$ Y-axis
1	8.4	8.32	49.27	49.74	1.41	8.6	1.93
2	6.9	6.83	44.67	45.10	1.28	7.1	1.76
3	5.1	5.05	38.43	38.80	1.10	5.5	1.55
4	3.6	3.57	32.32	32.63	0.92	4.1	1.34
5	2.9	2.87	29.02	29.30	0.83	3.1	1.16

By Linear Regression of Y on X

Slope, mw = 0.0367 Intercept, bw = 0.1131  
Correlation coefficient\* = 0.9980

- (1)  $DEL Hc = \Delta H \times (Pa/760 \times 298/Ta)$   
(2)  $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\}/mc$  (m3/min)  
(3)  $Qa = Qstd \times (Ta / Pa) \times (760 / 298)$  (m3/min)

\*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation	
Set Point Flow Rate., SFR	
$SFR = 1.13 \times (760/Pa) \times (Ta/298) =$	<u>40.31</u>
Sampler Well - Type Manometer Set Point, SSP	
$SSP = [ (mw \times SFR + bw)^2 \times Pa ] / (Ta + 30) =$	<u>5.82</u>

Remarks: \_\_\_\_\_

Conducted by: HLK WMA HLK  
Checked by: HLK WMA HLK

Signature: HLK WMA HLK  
Signature: HLK WMA HLK

Date: 18/5/2022  
Date: 18/5/2022



**RSP - Respirable Suspended Particulates Sampler (PM 10)**  
**Field Calibration Report**

Station KTN-DMS4A - Temporary Structure at Pak Shek Au  
Date: 13-Jul-22  
Model No. TE-6070X  
Equipment No.: WA-11-03

File No. WMA20002/03/0013  
Next Due Date: 12-Sep-22  
Operator: HL  
Serial No. 3225

Ambient Condition			
Temperature, Ta (K)	304	Pressure, Pa (mmHg)	757.7

Orifice Transfer Standard Information					
Serial No.:	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	Next Calibration Date:	20-Jan-23		

Calibration of RSP Sampler							
Calibration Point	ORIFICE					HVS	
	$\Delta H$ (orifice), in. of water	Del Hc <sup>(1)</sup>	Qstd <sup>(2)</sup> (CFM)	Qa <sup>(3)</sup> (CFM) X-axis	Qa <sup>(3)</sup> (m <sup>3</sup> /min) X-axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Ta + 30) / Pa]^{1/2}$ Y-axis
1	8.5	8.31	49.23	50.38	1.43	8.4	1.92
2	6.8	6.65	44.05	45.08	1.28	6.9	1.74
3	5.5	5.38	39.64	40.56	1.15	5.4	1.54
4	3.7	3.62	32.54	33.30	0.94	4.1	1.34
5	2.5	2.44	26.78	27.40	0.78	2.9	1.13

By Linear Regression of Y on X

Slope, mw = 0.0343 Intercept, bw = 0.1894  
Correlation coefficient\* = 0.9979

(1) DEL Hc =  $\Delta H \times (Pa/760 \times 298/Ta)$

(2) Qstd =  $\{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\}/mc$  (m<sup>3</sup>/min)

(3) Qa = Qstd x (Ta / Pa) x (760 / 298) (m<sup>3</sup>/min)

\*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation	
Set Point Flow Rate., SFR	
SFR = $1.13 \times (760/Pa) \times (Ta/298) =$	<u>40.86</u>
Sampler Well - Type Manometer Set Point, SSP	
SSP = $[(mw \times SFR + bw)^2 \times Pa] / (Ta + 30) =$	<u>5.73</u>

Remarks: \_\_\_\_\_

Conducted by: LEE MAN YIP  
Checked by: WONG KA CHU

Signature: [Signature]  
Signature: [Signature]

Date: 13/7/2022  
Date: 13/7/2022


**RECALIBRATION**
**DUE DATE:**

January 20, 2023

## Certificate of Calibration

### Calibration Certification Information

Cal. Date: January 20, 2022	Rootsmeter S/N: 438320	Ta: 293 °K
Operator: Jim Tisch		Pa: 759.7 mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: 2896	

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4610	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9190	7.9	5.00
4	7	8	1	0.8780	8.8	5.50
5	9	10	1	0.7250	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)	$\sqrt{\Delta H \left( \frac{Ta}{Pa} \right)}$ (y-axis)
1.0124	0.6929	1.4260	0.9958	0.6816	0.8783
1.0081	0.9731	2.0166	0.9916	0.9571	1.2420
1.0061	1.0948	2.2546	0.9896	1.0768	1.3887
1.0049	1.1445	2.3647	0.9884	1.1258	1.4564
0.9997	1.3789	2.8519	0.9833	1.3563	1.7565
<b>QSTD</b>	m=	2.07510	<b>QA</b>	m=	1.29939
	b=	-0.01030		b=	-0.00634
	r=	0.99995		r=	0.99995

### Calculations

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

### Standard Conditions

Tstd:	298.15 °K
Pstd:	760 mm Hg
<b>Key</b>	
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

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	36405A
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2023-03-06

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for calibration:**

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 580004
Equipment No.	: WN-01-02

**Test conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.: 36405E  
Date of Issue: 2022-03-07  
Date Received: 2022-03-04  
Date Tested: 2022-03-04  
Date Completed: 2022-03-07  
Next Due Date: 2023-03-06

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for calibration:**

Description : Sound Level Meter  
Manufacturer : BSWA  
Model No. : BSWA 308  
Serial No. : 580008  
Equipment No. : WN-01-06

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.: 36481  
Date of Issue: 2022-03-14  
Date Received: 2022-03-11  
Date Tested: 2022-03-11  
Date Completed: 2022-03-14  
Next Due Date: 2023-03-13

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for calibration:**

Description : Sound Level Meter  
Manufacturer : BSWA  
Model No. : BSWA 308  
Serial No. : 580011  
Equipment No. : WN-01-08

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.: 35658  
Date of Issue: 2021-08-23  
Date Received: 2021-08-20  
Date Tested: 2021-08-20  
Date Completed: 2021-08-23  
Next Due Date: 2022-08-22

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description : Acoustical Calibrator  
Manufacturer : Brüel & Kjær  
Model No. : 4231  
Serial No. : 2412367  
Equipment No. : N-02-03

**Test Conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Methodology:**

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

**Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1dB
At 114 dB SPL	114.0	114.0 ± 0.1dB

Remark: This report supersedes the one dated 2019-08-20 with certificate number 31951.

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



**TEST REPORT**

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.: 35658A  
Date of Issue: 2021-08-23  
Date Received: 2021-08-20  
Date Tested: 2021-08-20  
Date Completed: 2021-08-23  
Next Due Date: 2022-08-22

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

**Certificate of Calibration****Item for calibration:**

Description : Acoustical Calibrator  
Manufacturer : SVANTEK  
Model No. : SV30A  
Serial No. : 24791  
Equipment No. : N-09-04

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Methodology:**

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

**Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.: 36871  
Date of Issue: 2022-06-25  
Date Received: 2022-06-23  
Date Tested: 2022-06-23 to  
2022-06-25  
Date Completed: 2022-06-25

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

### Certificate of Calibration

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.: SW-08-75	
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	16J102347
- EXO Optical DO Sensor, Ti	599100-01	16J100964
- EXO conductivity/Temperature Sensor, Ti	599870	16H100201
- EXO Turbidity Sensor, Ti	599101-01	16J101156
- EXO pH Sensor Assembly, Guarded, Ti	599701	17B100259

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.)  
and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

Test Report No.:	36871
Date of Issue:	2022-06-25
Date Received:	2022-06-23
Date Tested:	2022-06-23 to 2022-06-25
Date Completed:	2022-06-25

Page: 2 of 2

### Certificate of Calibration

#### Results:

#### Conductivity performance checking

	Instrument Readings (μS/cm)	Acceptance Criteria	Comment
KCl stock solution (12890 μS/cm)	13400	12246-13534	Pass

#### Temperature performance checking

Reference thermometer- E431 Readings (°C)	Instrument Readings (°C)	Correction (°C)	Comment
20.0	20.001	-0.001	N/A

#### pH performance checking

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.06	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.86	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.20	9.18 ± 0.10	Pass

#### D.O. performance checking

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.08	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.10	7.93	Difference between Titration value and instrument reading <0.2mg/L	Pass

#### Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.04	9.0-11.0	Pass
50 NTU	50.16	45.0-55.0	Pass
100 NTU	103.1	90.0-110.0	Pass

#### Depth performance checking

Water Depth	Instrument Readings (m)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.: 36871C  
Date of Issue: 2022-06-25  
Date Received: 2022-06-23  
Date Tested: 2022-06-23 to  
2022-06-25  
Date Completed: 2022-06-25

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

### Certificate of Calibration

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-121
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	17B101447
- EXO Optical DO Sensor, Ti	599100-01	16J101001
- EXO conductivity/Temperature Sensor, Ti	599870	17B100798
- EXO Turbidity Sensor, Ti	599101-01	17B102266
- EXO pH Sensor Assembly, Guarded, Ti	599701	17B100250

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.)  
and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
General Manager

## TEST REPORT

Test Report No.:	36871C
Date of Issue:	2022-06-25
Date Received:	2022-06-23
Date Tested:	2022-06-23 to 2022-06-25
Date Completed:	2022-06-25

Page: 2 of 2

### Certificate of Calibration

#### Results:

##### Conductivity performance checking

	Instrument Readings ( $\mu\text{S}/\text{cm}$ )	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$ )	12800	12246-13534	Pass

##### Temperature performance checking

Reference thermometer- E431 Readings ( $^{\circ}\text{C}$ )	Instrument Readings ( $^{\circ}\text{C}$ )	Correction ( $^{\circ}\text{C}$ )	Comment
20.0	20.002	-0.002	N/A

##### pH performance checking

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.02	$4.00 \pm 0.10$	Pass
pH QC buffer 6.86	6.86	$6.86 \pm 0.10$	Pass
pH QC buffer 9.18	9.23	$9.18 \pm 0.10$	Pass

##### D.O. performance checking

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.09	$<0.1\text{mg/L}$	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.10	8.02	Difference between Titration value and instrument reading $<0.2\text{mg/L}$	Pass

##### Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.05	9.0-11.0	Pass
50 NTU	50.04	45.0-55.0	Pass
100 NTU	101.1	90.0-110.0	Pass

##### Depth performance checking

Water Depth	Instrument Readings (m)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*



## CERTIFICATE OF CALIBRATION

Certificate No.: 22CA0623 03-01

Page 1 of 2

**Item tested**

Description:	Sound Level Meter (Class 1)	Microphone
Manufacturer:	Honglim Co., Ltd.	-
Type/Model No.:	HLES-01	CDM101
Serial/Equipment No.:	201992250	10038
Adaptors used:	-	-

**Item submitted by**

Customer Name:	Build King - Richwell Engineering Joint Venture
Address of Customer:	Unit 601-605A, 6/F., Tower B, Manulife Financial Centre, 223 Wai Yip Street, Kwun Tong, Kowloon, H.K.
Request No.:	SIQ220188
Date of receipt:	23-Jun-2022

Date of test: 29-Jun-2022

**Reference equipment used in the calibration**

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	23-Aug-2022	CIGISMEC
Signal generator	DS 360	33873	21-Jan-2023	CEPREI

**Ambient conditions**

Temperature:	22 ± 1 °C
Relative humidity:	55 ± 10 %
Air pressure:	1005 ± 5 hPa

**Test specifications**

- 1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
- 2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.
- 3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsiveness of the Sound Level Meter.

**Test results**

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

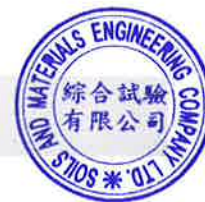
Actual Measurement data are documented on worksheets.

Approved Signatory:

  
Feng Junqi

Date: 04-Jul-2022

Company Chop:



**Comments:** The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.



**CERTIFICATE OF CALIBRATION**

(Continuation Page)

Certificate No.: 22CA0623 03-01

Page 2 of 2

**1, Electrical Tests**

The electrical tests were performed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Expanded Uncertainty (dB)	Coverage Factor
Self-generated noise	A	Pass	0.3	2.1
	C	Pass	0.8	
	Lin	N/A	N/A	
Linearity range for Leq	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
	A	Pass	0.3	
	C	Pass	0.3	
Frequency weightings	Lin	N/A	N/A	
	Single Burst Fast	Pass	0.3	
	Single Burst Slow	Pass	0.3	
Peak response	Single 100µs rectangular pulse	N/A	N/A	
R.M.S. accuracy	Crest factor of 3	Pass	0.3	
Time weighting I	Single burst 5 ms at 2000 Hz	N/A	N/A	
	Repeated at frequency of 100 Hz	N/A	N/A	
Time averaging	1 ms burst duty factor 1/10 <sup>3</sup> at 4kHz	Pass	0.3	
	1 ms burst duty factor 1/10 <sup>4</sup> at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	N/A	N/A	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

**2, Acoustic tests**

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Expanded Uncertainty (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
	Weighting A at 8000 Hz	Pass	0.5	

**3, Response to associated sound calibrator**

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

  
Fung Chi Yip  
Date: 29-Jun-2022

- End -

Checked by:

  
Chan Yuk Yiu  
Date: 04-Jul-2022

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.



Test Data for Sound Level Meter

Page 1 of 4

Sound level meter type: HLES-01

Serial No. 201992250

Date 29-Jun-2022

Microphone type: CDM101

Serial No. 10038

Report: 22CA0623 03-01

## SELF GENERATED NOISE TEST

The noise test is performed in the most sensitive range of the SLM with the microphone replaced by an equivalent impedance.

Noise level in A weighting 13.2 dB

Noise level in C weighting 13.3 dB

## LINEARITY TEST

The linearity is tested relative to the reference sound pressure level using a continuous sinusoidal signal of frequency 4 kHz. The measurement is made on the reference range for indications at 5 dB intervals starting from the 94 dB reference sound pressure level. And until within 5 dB of the upper and lower limits of the reference range, the measurements shall be made at 1 dB intervals.(SLM set to LEQ/SPL)

Reference/Expected level	Actual level		Tolerance	Deviation	
	non-integrated	integrated		non-integrated	integrated
dB	dB	dB	+/- dB	dB	dB
94.0	94.0	94.0	0.7	0.0	0.0
99.0	99.0	99.0	0.7	0.0	0.0
104.0	104.0	104.0	0.7	0.0	0.0
109.0	109.0	109.0	0.7	0.0	0.0
110.0	110.0	110.0	0.7	0.0	0.0
111.0	111.0	111.0	0.7	0.0	0.0
112.0	112.0	112.0	0.7	0.0	0.0
113.0	113.0	113.0	0.7	0.0	0.0
114.0	113.8	113.8	0.7	-0.2	-0.2
115.0	114.3	114.3	0.7	-0.7	-0.7
89.0	89.0	89.0	0.7	0.0	0.0
84.0	84.0	84.0	0.7	0.0	0.0
79.0	79.0	79.0	0.7	0.0	0.0
74.0	74.0	74.0	0.7	0.0	0.0
69.0	69.0	69.0	0.7	0.0	0.0
64.0	63.9	63.9	0.7	-0.1	-0.1
59.0	58.9	58.9	0.7	-0.1	-0.1
54.0	53.9	53.9	0.7	-0.1	-0.1
49.0	48.9	48.9	0.7	-0.1	-0.1
48.0	47.9	47.9	0.7	-0.1	-0.1
47.0	46.9	46.9	0.7	-0.1	-0.1
46.0	45.9	45.9	0.7	-0.1	-0.1
45.0	44.9	44.9	0.7	-0.1	-0.1

Measurements for an indication of the reference SPL on all other ranges which include it



Test Data for Sound Level Meter

Page 2 of 4

Sound level meter type: HLES-01

Serial No. 201992250

Date 29-Jun-2022

Microphone type: CDM101

Serial No. 10038

Report: 22CA0623 03-01

Other ranges	Expected level	Actual level	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
60-135	94.0	93.9	0.7	-0.1
45-115	94.0	94.0	0.7	0.0
25-95	94.0	93.8	0.7	-0.2

Measurements on all level ranges for indications 2 dB below the upper limit and 2 dB above the lower limit

Ranges	Reference/Expected level	Actual level	Tolerance	Deviation
dB	dB	dB	+/- dB	dB
60-135	67.0	66.9	0.7	-0.1
	133.0	132.8	0.7	-0.2
45-115	47.0	46.9	0.7	-0.1
	113.0	113.0	0.7	0.0
25-95	27.0	26.5	0.7	-0.5
	93.0	93.0	0.7	0.0

## FREQUENCY WEIGHTING TEST

The frequency response of the weighting networks are tested at octave intervals over the frequency ranges 31.5 Hz to 12500 Hz. The signal level at 1000 Hz is set to give an indication of the reference SPL.

Frequency weighting A:

Frequency	Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
Hz	dB	dB	dB	+	-	dB
1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	54.6	54.4	1.5	1.5	-0.2
63.1	94.0	67.8	67.8	1.5	1.5	0.0
125.9	94.0	77.9	78.0	1.0	1.0	0.1
251.2	94.0	85.4	85.4	1.0	1.0	0.0
501.2	94.0	90.8	90.8	1.0	1.0	0.0
1995.0	94.0	95.2	95.2	1.0	1.0	0.0
3981.0	94.0	95.0	94.9	1.0	1.0	-0.1
7943.0	94.0	92.9	92.8	1.5	3.0	-0.1
12590.0	94.0	89.7	90.0	3.0	6.0	0.3

Frequency weighting C:

Frequency	Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
Hz	dB	dB	dB	+	-	dB
1000.0	94.0	94.0	94.0	0.0	0.0	0.0
31.6	94.0	91.0	90.6	1.5	1.5	-0.4
63.1	94.0	93.2	92.9	1.5	1.5	-0.3
125.9	94.0	93.8	93.7	1.0	1.0	-0.1
251.2	94.0	94.0	93.9	1.0	1.0	-0.1





Test Data for Sound Level Meter

Page 3 of 4

Sound level meter type: HLES-01

Serial No. 201992250

Date 29-Jun-2022

Microphone type: CDM101

Serial No. 10038

Report: 22CA0623 03-01

501.2	94.0	94.0	94.0	1.0	1.0	0.0
1995.0	94.0	93.8	93.7	1.0	1.0	-0.1
3981.0	94.0	93.2	93.0	1.0	1.0	-0.2
7943.0	94.0	91.0	90.7	1.5	3.0	-0.3
12590.0	94.0	87.8	88.0	3.0	6.0	0.2

TIME WEIGHTING FAST TEST

Time weighting F is tested on the reference range with a single sinusoidal burst of duration 200 ms at a frequency 2000 Hz and an amplitude which produces an indication 4 dB below the upper limit of the primary indicator range when the signal is continuous. (Weight A, Maximum hold)

Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
dB	dB	dB	+	-	dB
111.0	110.0	109.9	1.0	1.0	-0.1

TIME WEIGHTING SLOW TEST

Time weighting S is tested on the reference range with a single sinusoidal burst of duration 500 ms at a frequency 2000 Hz and an amplitude which produces an indication 4 dB below the upper limit of the primary indicator range when the signal is continuous. (Weight A, Maximum hold)

Ref. level	Expected level	Actual level	Tolerance(dB)		Deviation
dB	dB	dB	+	-	dB
111.0	106.9	106.8	1.0	1.0	-0.1

RMS ACCURACY TEST

The RMS detector accuracy is tested on the reference range for a crest factor of 3.

Test frequency: 2000 Hz

Amplitude: 2 dB below the upper limit of the primary indicator range.

Burst repetition frequency: 40 Hz

Tone burst signal: 11 cycles of a sine wave of frequency 2000 Hz. (Set to INT)

	Ref. Level	Expected level	Tone burst signal	Tolerance	Deviation
Time weighting	dB	dB	indication(dB)	+/- dB	dB
Slow	107.0+6.6	107.0	106.8	0.5	-0.2

TIME AVERAGING TEST

This test compares the SLM reading for continuous sine signals with readings obtained from a sine tone burst sequence having the same RMS level. The test level is 30 dB below the upper limit of the linearity range and repeated for Type 1 SLM with 40 dB below the upper limit of the linearity.

Frequency of tone burst: 4000 Hz

Duration of tone burst: 1 ms

Repetition Time	Level of tone burst	Expected Leq	Actual Leq	Tolerance	Deviation	Remarks
msec	dB	dB	dB	+/- dB	dB	
1000	85.0	85.0	84.0	1.0	-1.0	60s integ.
10000	75.0	75.0	74.0	1.0	-1.0	6min. integ.



Test Data for Sound Level Meter

Page 4 of 4

Sound level meter type: HLES-01 Serial No. 201992250 Date 29-Jun-2022  
Microphone type: CDM101 Serial No. 10038

Report: 22CA0623 03-01

### PULSE RANGE AND SOUND EXPOSURE LEVEL TEST

The test tone burst signal is superimposed on a baseline signal corresponding to the lower limit of reference range

Test frequency: 4000 Hz

Integration time: 10 sec

The integrating sound level meter set to Leq:

Duration	Rms level of	Expected	Actual	Tolerance	Deviation
msec	tone burst (dB)	dB	dB	+/- dB	dB
10	103.0	73.0	72.9	1.7	-0.1

### OVERLOAD INDICATION TEST

For SLM capable of operating in a non-integrating mode.

Test frequency: 2000 Hz

Amplitude: 2 dB below the upper limit of the primary indicator range.

Burst repetition frequency: 40 Hz

Tone burst signal: 11 cycles of a sine wave of frequency 2000 Hz.

Level	Level reduced by	Further reduced	Difference	Tolerance	Deviation
at overload (dB)	1 dB	3 dB	dB	dB	dB
105.8	104.8	101.8	3.0	1.0	0.0

For integrating SLM, with the instrument indicating Leq.

For integrating SLM, with the instrument indicating Leq and set to the reference range. The test signal as following:

The test tone burst signal is superimposed on a baseline signal corresponding to the lower limit of reference range

Test frequency: 4000 Hz

Integration time: 10 sec

Single burst duration: 1 msec

Rms level	Level reduced by	Expected level	Actual level	Tolerance	Deviation
at overload (dB)	1 dB	dB	dB	dB	dB
110.5	109.5	69.5	69.4	2.2	-0.1

### ACOUSTIC TEST

The acoustic test of the complete SLM is tested at the frequency 125 Hz and 8000 Hz using a B&K type 4226

Multifunction Acoustic Calibrator. The test is performed in A weighting.

Frequency	Expected level	Actual level	Tolerance (dB)		Deviation
Hz	dB	Measured (dB)	+	-	dB
1000	94.0	94.0	0.0	0.0	0.0
125	77.9	77.9	1.0	1.0	0.0
8000	92.9	91.1	1.5	3.0	-1.8

-----END-----



## CERTIFICATE OF CALIBRATION

Certificate No.: 22CA0623 03-02

Page: 1 of 2

### Item tested

Description: Acoustical Calibrator (Class 1)  
Manufacturer: Honglim Co., Ltd.  
Type/Model No.: HLES-02  
Serial/Equipment No.: 2019612871  
Adaptors used:

### Item submitted by

Customer: Build King - Richwell Engineering Joint Venture  
Address of Customer: Unit 601-605A, 6/F., Tower B, Manulife Financial Centre, 223 Wai Yip Street, Kwun Tong, Kowloon, H.K.  
Request No.: SIQ220188  
Date of receipt: 23-Jun-2022

Date of test: 16-Jul-2022

### Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2412857	23-May-2023	SCL
Preamplifier	B&K 2673	2743150	28-Jun-2023	CEPREI
Measuring amplifier	B&K 2610	2346941	30-Jun-2023	CEPREI
Signal generator	DS 360	33873	21-Jan-2023	CEPREI
Digital multi-meter	34401A	US36087050	30-May-2023	CEPREI
Audio analyzer	8903B	GB41300350	06-Jul-2023	CEPREI
Universal counter	53132A	MY40003662	13-Jun-2023	CEPREI

### Ambient conditions

Temperature:  $22 \pm 1$  °C  
Relative humidity:  $55 \pm 10$  %  
Air pressure:  $1005 \pm 5$  hPa

### Test specifications

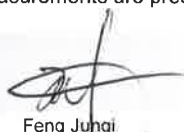
- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

### Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on page 2 of this certificate.

Approved Signatory:

  
Feng Junqi

Date: 18-Jul-2022

Company Chop:



Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.





## CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 22CA0623 03-02

Page: 2 of 2

## 1, Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

(Output level in dB re 20 $\mu$ Pa)			
Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Expanded Uncertainty dB
1000	94.00	93.83	0.10

## 2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz

STF = 0.011 dB

Estimated expanded uncertainty

0.005 dB

## 3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz

Actual Frequency = 995.82 Hz

Estimated expanded uncertainty

0.1 Hz

Coverage factor k = 2.2

## 4, Total Noise and Distortion

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz

TND = 2.3 %

Estimated expanded uncertainty

0.7 %

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

Date:

Fung Chi Yip  
16-Jul-2022

- End -

Checked by:

Date:

Chan Yuk Yiu  
18-Jul-2022

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.



Eurotron Instruments (UK) Ltd  
Unit 18 Austin Way,  
Daventry, Northants, NN11 8QY  
T: 01327 871044  
F: 01327 301255

**CALIBRATION CERTIFICATE N. EE13257**

Job Reference 35844  
**Customer** Cadmus Distribution Group LT T/A Kesion  
Unit 34 . Waterhouse Business Centre  
2 Cromer Way  
Chelmsford  
  
CM1 2QE

Instrument Type: EIUK  
Instrument Model: RASI 700 BIO  
Instrument S/N: 330055  
Calibration date: 06 Apr 2022  
Due Date: 06 Apr 2023

**Traceability:** All measuring equipment used for calibration purposes is traceable to National or Internationally recognised standards.

**Test Method:** Under controlled conditions and procedures, known physical, electrical and gas mixture were applied to the instruments under test and the results are reported in the table below

**Due Date:** This is a recommendation only and does not imply any guaranteed performance of the instrument over this period.

<b>Standards:</b>	S/N/ID N.	Certificate:N
O2 certified gas mixture	373466	040008266460
H2S/CO2/CH4 certified gas mixture	384603□	040008461025
Pressure Calibrator	2803358	89402
Temperature Calibrator	2702DE150201A	84089

**CALIBRATION RESULTS**

Parameter	Unit	Applied	As received	Error	Pass/Fail	As left	Error	Pass/Fail
O2	% Vol	20.90	20.90	0.0	Pass	20.90	0.0	Pass
O2	% Vol	9.918	10.00	0.1	Pass	10.00	0.1	Pass
O2	% Vol	0.0	0.00	0.0	Pass	0.00	0.0	Pass
CO2IR	%Vol	39.987	40.48	0.5	Pass	40.18	0.2	Pass
CH4	%Vol	59.980	60.25	0.3	Pass	60.25	0.3	Pass
Pressure	mbar	0.00	n/a	N/A	N/A	0.00	0.00	Pass
	mbar	50.00	n/a	N/A	N/A	49.97	-0.03	Pass
	mbar	75.00	n/a	N/A	N/A	74.99	-0.01	Pass
	mbar	90.00	n/a	N/A	N/A	90.04	0.04	Pass
	mbar	100.00	n/a	N/A	N/A	100.19	0.19	Pass
Temperature	°C	0.00	n/a	N/A	N/A	0.2	0.2	Pass
(T2)	°C	200.00	n/a	N/A	N/A	200.1	0.1	Pass
	°C	400.00	n/a	N/A	N/A	400.2	0.2	Pass
	°C	600.00	n/a	N/A	N/A	600.1	0.1	Pass
	°C	1,190.00	n/a	N/A	N/A	1190.4	0.4	Pass
Temperature	°C	0.00	n/a	N/A	N/A	0.2	0.2	Pass
(Air,T1)	°C	50.00	n/a	N/A	N/A	50.2	0.2	Pass

Date: 06/04/22  
Printed Name: Anthony Kinninmonth / John Dorgan

Signature



## CALIBRATION CERTIFICATE

Calibration Item: Micromate System ISEE (Calibration with  
Geophone UM17121)  
Model No.: 721A2501  
Serial No.: UM17121  
Calibration Date: 21 February 2022  
Next Calibration Date: 21 February 2023  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

\*References are traceable to NIST or equivalent.

INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

Authorized by: \_\_\_\_\_

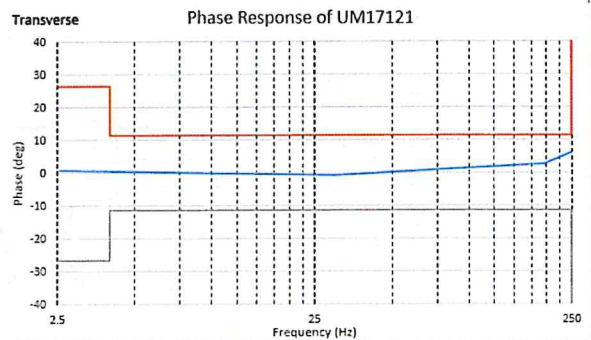
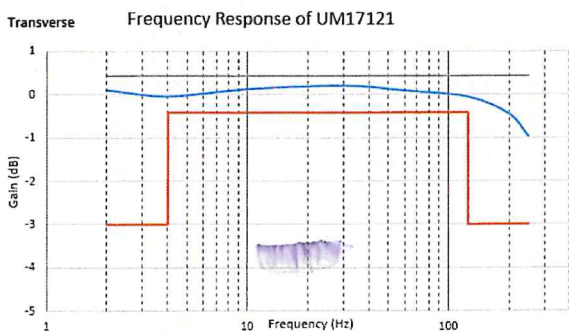
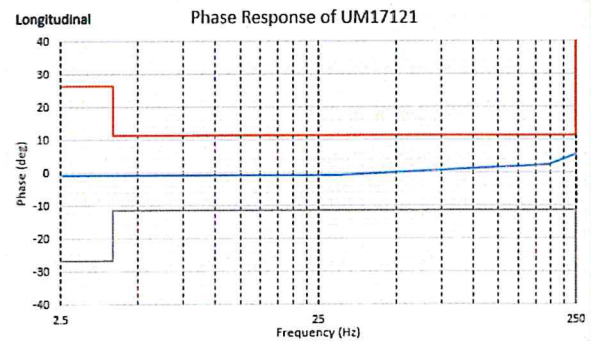
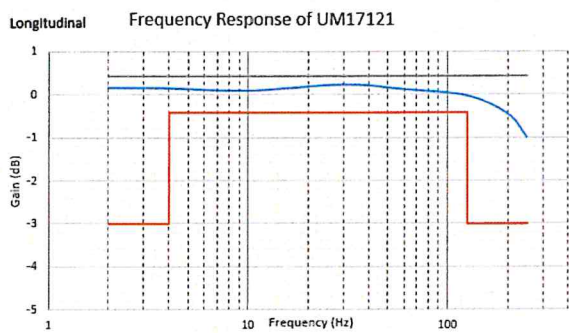
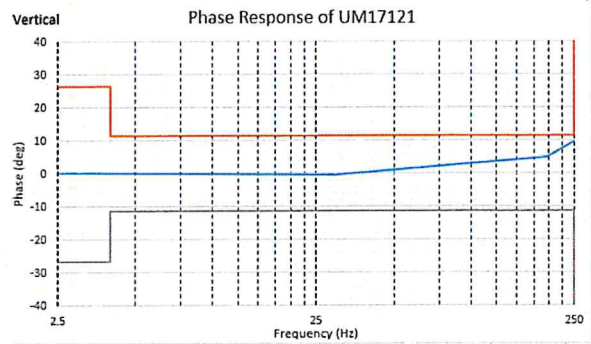
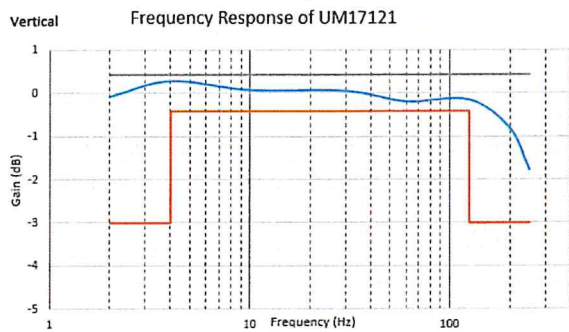


(Anson Kan)

Date: 21 February 2022



## Frequency Responses UM17121





## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with main unit UM17121)  
Part Number: 721A2901  
Serial No.: UM17121  
Calibration Date: 21 February 2022  
Next Calibration Date: 21 February 2023  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

\*References are traceable to NIST or equivalent.

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Authorized by: \_\_\_\_\_



(Anson Kan)

Date: 21 February 2022



## CALIBRATION CERTIFICATE

Calibration Item: Micromate System ISEE (Calibration with  
Geophone UM17124)  
Model No.: 721A2501  
Serial No.: UM17124  
Calibration Date: 21 February 2022  
Next Calibration Date: 21 February 2023  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

\*References are traceable to NIST or equivalent.

INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

Authorized by: \_\_\_\_\_



(Anson Kan)

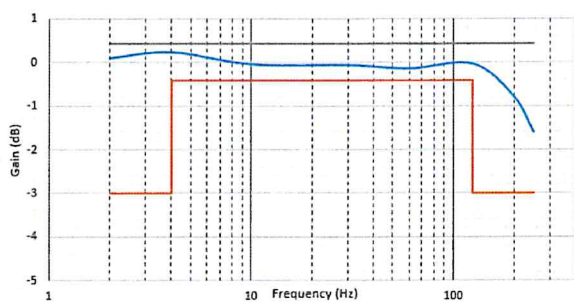
Date: 21 February 2022



## Frequency Responses UM17124

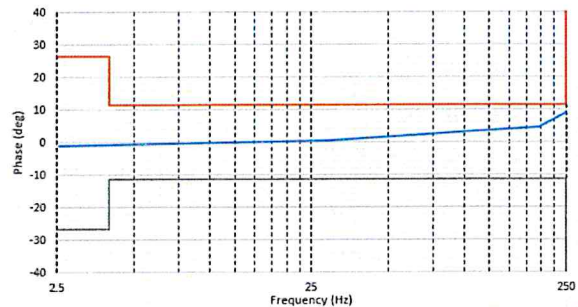
Vertical

Frequency Response of UM17124



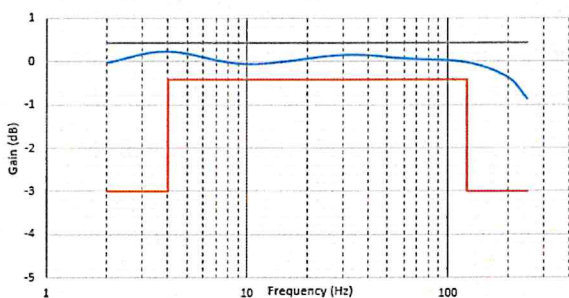
Vertical

Phase Response of UM17124



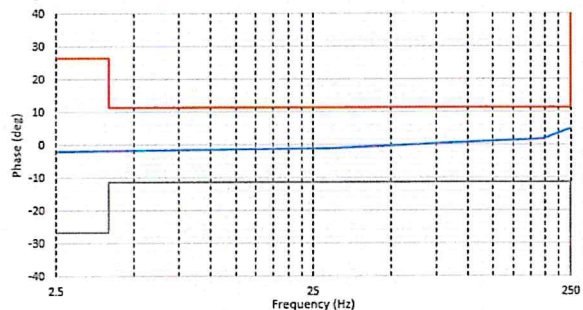
Longitudinal

Frequency Response of UM17124



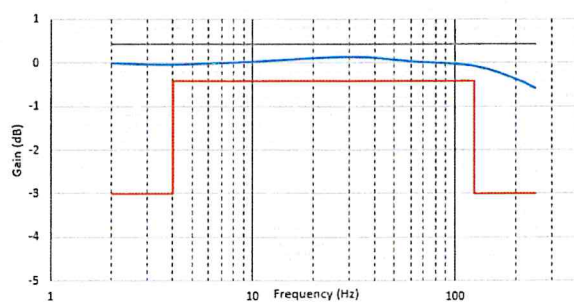
Longitudinal

Phase Response of UM17124



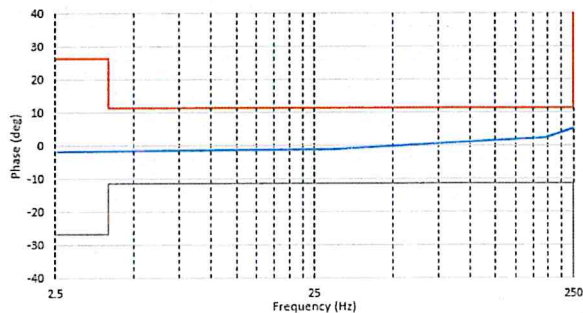
Transverse

Frequency Response of UM17124



Transverse

Phase Response of UM17124





## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with main unit UM17124)  
Part Number: 721A2901  
Serial No.: UM17124  
Calibration Date: 21 February 2022  
Next Calibration Date: 21 February 2023  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

\*References are traceable to NIST or equivalent.

INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

Authorized by: \_\_\_\_\_



(Anson Kan)

Date: 21 February 2022



## CALIBRATION CERTIFICATE

Calibration Item: Micromate System ISEE (Calibration with  
Geophone UM17126)  
Model No.: 721A2501  
Serial No.: UM17126  
Calibration Date: 28 February 2022  
Next Calibration Date: 28 February 2023  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

\*References are traceable to NIST or equivalent.

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Authorized by: \_\_\_\_\_



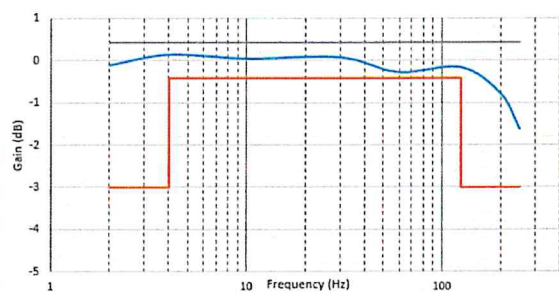
(Anson Kan)

Date: 28 February 2022

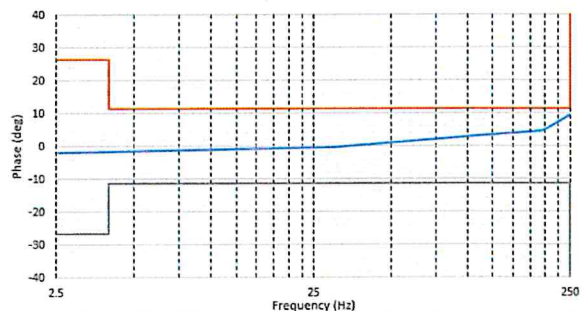


## Frequency Responses UM17126

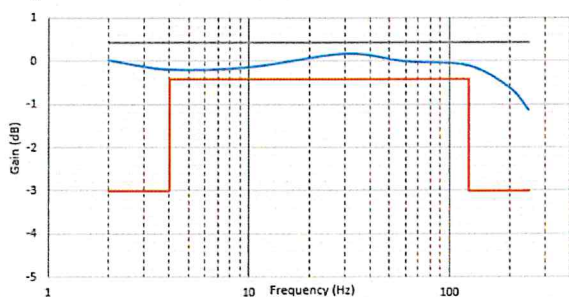
Vertical Frequency Response of UM17126



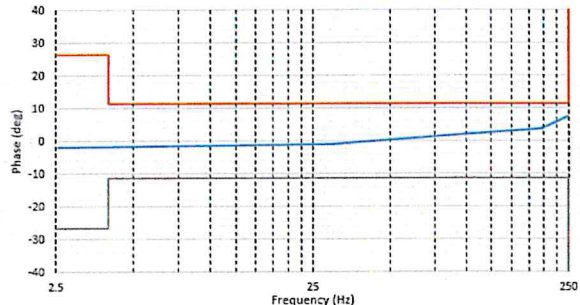
Vertical Phase Response of UM17126



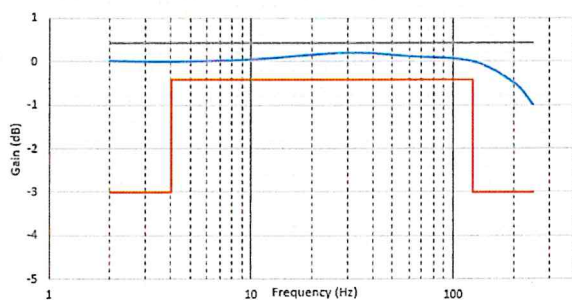
Longitudinal Frequency Response of UM17126



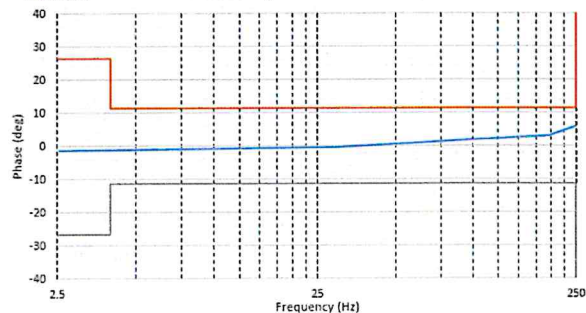
Longitudinal Phase Response of UM17126



Transverse Frequency Response of UM17126



Transverse Phase Response of UM17126





## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with  
main unit UM17126)  
Part Number: 721A2901  
Serial No.: UM17126  
Calibration Date: 28 February 2022  
Next Calibration Date: 28 February 2023  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

\*References are traceable to NIST or equivalent.

INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

Authorized by: \_\_\_\_\_



(Anson Kan)

Date: 28 February 2022

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**APPENDIX D  
ENVIRONMENTAL MONITORING  
SCHEDULES**

---



**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Impact Air Quality and Noise Monitoring Schedule (July 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Jul	2-Jul
3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul
		<u>1hr TSP* X3</u> KTN-DMS4, FLN-DMS5 <u>24hr TSP*</u> KTN-DMS4, FLN-DMS5A <u>Noise</u> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <u>24hr TSP</u> FLN-DMS1, FLN-DMS3	<u>1hr TSP* X3</u> FLN-DMS1, FLN-DMS3 <u>Noise</u> CP-FLN-NMS1, CP-FLN-NMS2  <u>24hr RSP (Arsenic)</u> KTN-DMS4A			
10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul
	<u>1hr TSP* X3</u> KTN-DMS4, FLN-DMS5 <u>24hr TSP*</u> KTN-DMS4, FLN-DMS5A <u>Noise</u> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <u>24hr TSP</u> FLN-DMS1, FLN-DMS3	<u>1hr TSP* X3</u> FLN-DMS1, FLN-DMS3 <u>Noise</u> CP-FLN-NMS1, CP-FLN-NMS2  <u>24hr RSP (Arsenic)</u> KTN-DMS4A			<u>1hr TSP* X3</u> KTN-DMS4, FLN-DMS5 <u>24hr TSP*</u> KTN-DMS4, FLN-DMS5A  <u>24hr TSP</u> FLN-DMS1, FLN-DMS3	
17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	22-Jul	23-Jul
	<u>1hr TSP* X3</u> FLN-DMS1, FLN-DMS3 <u>Noise</u> CP-FLN-NMS1, CP-FLN-NMS2  <u>24hr RSP (Arsenic)</u> KTN-DMS4A			<u>1hr TSP* X3</u> KTN-DMS4, FLN-DMS5 <u>24hr TSP*</u> KTN-DMS4, FLN-DMS5A <u>Noise</u> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <u>24hr TSP</u> FLN-DMS1, FLN-DMS3	<u>1hr TSP* X3</u> FLN-DMS1, FLN-DMS3  <u>24hr RSP (Arsenic)</u> KTN-DMS4A	
24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul
			<u>1hr TSP* X3</u> KTN-DMS4, FLN-DMS5 <u>24hr TSP*</u> KTN-DMS4, FLN-DMS5A <u>Noise</u> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <u>24hr TSP</u> FLN-DMS1, FLN-DMS3	<u>1hr TSP* X3</u> FLN-DMS1, FLN-DMS3 <u>Noise</u> CP-FLN-NMS1, CP-FLN-NMS2  <u>24hr RSP (Arsenic)</u> KTN-DMS4A		
31-Jul						

Remarks:

\*Monitoring session would be conducted by portable TSP monitor.

Environmental Permit(s)	Contract No.	Air Quality Stations	Noise Stations
EP-466/2013 EP-467/2013/A EP-468/2013/A	ND/2019/01	<u><b>1hr TSP and 24hr TSP</b></u> KTN-DMS4 - Temporary Structure near Fanling Highway (near Pak Shek Au)	--
EP-468/2013/A	ND/2019/03		
EP-466/2013 EP-467/2013/A EP-468/2013/A	ND/2019/01	<u><b>24hr RSP (Arsenic)</b></u> KTN-DMS4A - Temporary Structure at Pak Shek Au	--
EP-468/2013/A	ND/2019/03		
EP-467/2013/A EP-468/2013/A <sup>(1)</sup>	ND/2019/01	--	CP-KTN-NMS2 - Residential Buildings at Ma Tso Lung
EP-468/2013/A <sup>(2)</sup>	ND/2019/01	--	CP-KTN-NMS3 -Fung Kong Garden
EP-469/2013 <sup>(3)</sup>	ND/2019/02	--	CP-KTN-NMS6 - Ho Sheung Heung, Hau Ku Shek Ancestral Hall, Hung Shing Temple & Pai Fung Temple and Sin Wai Nunnery
EP-470/2013	ND/2019/01	--	CP-KTN-NMS5 - N/A
EP-473/2013/A <sup>(4)</sup>	ND/2019/03	<u><b>1hr TSP and 24hr TSP</b></u> FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark	--
	ND/2019/04		--
EP-473/2013/A <sup>(5)</sup>	ND/2019/05	<u><b>1hr TSP and 24hr TSP</b></u> FLN-DMS3 - House near Tong Hang	--
EP-473/2013/A <sup>(6)</sup>	ND/2019/03	<u><b>1hr TSP</b></u> FLN-DMS5 - Noble Hill	--
	ND/2019/04	<u><b>24hr TSP</b></u> FLN-DMS5A - Good View New Village	--
EP-473/2013/A <sup>(7)</sup>	ND/2019/05	--	CP-FLN-NMS2 - Scattered Village Houses in Tong Hang
EP-473/2013/A <sup>(8)</sup>	ND/2019/04	--	CP-FLN-NMS1 - Belair Monte
	ND/2019/05	--	
EP-475/2013/A	ND/2019/06	--	
Remarks: 1. Since the distance between monitoring station CP-KTN-NMS2 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 2. Since the distance between monitoring station CP-KTN-NMS3 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 3. Since the distance between monitoring station CP-KTN-NMS1 and site boundary of ND/2019/02 under EP-469/2013 exceeds 300m. The monitoring station is not applicable to ND/2019/02 4. Since the distance between monitoring station FLN-DMS1 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/05 5. Since the distance between monitoring station FLN-DMS3 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/03 and ND/2019/04 6. Since the distance between monitoring station FLN-DMS5 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/05 7. Since the distance between monitoring station CP-FLN-NMS2 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 and ND/2019/04. 8. Since the distance between monitoring station CP-FLN-NMS1 and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03.			

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Impact Water Quality Monitoring Schedule (July 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					<b>1-Jul</b>	<b>2-Jul</b>
						<b>*Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream
<b>3-Jul</b>	<b>4-Jul</b>	<b>5-Jul</b>	<b>6-Jul</b>	<b>7-Jul</b>	<b>8-Jul</b>	<b>9-Jul</b>
	<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
<b>10-Jul</b>	<b>11-Jul</b>	<b>12-Jul</b>	<b>13-Jul</b>	<b>14-Jul</b>	<b>15-Jul</b>	<b>16-Jul</b>
	<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
<b>17-Jul</b>	<b>18-Jul</b>	<b>19-Jul</b>	<b>20-Jul</b>	<b>21-Jul</b>	<b>22-Jul</b>	<b>23-Jul</b>
	<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
<b>24-Jul</b>	<b>25-Jul</b>	<b>26-Jul</b>	<b>27-Jul</b>	<b>28-Jul</b>	<b>29-Jul</b>	<b>30-Jul</b>
	<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b>Water Quality Monitoring</b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
<b>31-Jul</b>						

\* Water quality monitoring scheduled on 2 July 2022 was cancelled due to Typhoon Signal no. 8

**Water Quality Monitoring Stations**

River Beas: SYR-CS1 - Upstream of river, SYR-IS1 - Downstream of river

River Indus and near Siu Hang San Tsuen Stream: NTR-CS1 - Upstream of river, NTR-IS1 - Downstream of river, SHST-IS2 - Water sensitive receiver at near Siu Hang San Tsuen Stream,

MWR-IS3 - Water sensitive receiver at near Ma Wat River



Environmental Permit(s)	Contract No.	Water Quality Stations
EP-469/2013	ND/2019/02	<u><b>River Beas</b></u> SYR-CS1 - Upstream of river SYR-IS1 - Downstream of river
EP-473/2013/A	ND/2019/04	<u><b>River Indus and near Siu Hang San Tsuen Stream</b></u> NTR-CS1 - Upstream of river NTR-IS1 - Downstream of river SHST-IS2 - Water sensitive receiver at near Siu Hang San Tsuen Stream MWR-IS3 - Water sensitive receiver at near Ma Wat River

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Impact Ecological Monitoring Schedule (July 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Jul	2-Jul
3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul
				Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b>T1 T2</b> High tide: Start time: 13:00 Low tide: Start time: 09:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b>T3 T5</b> High tide: Start time: 15:00 Low tide: Start time: 09:00	
10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul
			Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b>T1 T2</b> High tide: Start time: 09:00 Low tide: Start time: 15:00  Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution <b>T3, T4, T5</b>		Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b>T3 T5</b> High tide: Start time: 10:00 Low tide: Start time: 16:00	
17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	22-Jul	23-Jul
		Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b>T3 T5</b> High tide: Start time: 14:00 Low tide: Start time: 09:00		Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b>T1 T2</b> High tide: Start time: 10:00 Low tide: Start time: 14:00  Monitoring of Measures to Minimise Impacts to Ma Tso Lung and Siu Hang San Tsuen Stream <b>MS 01 - MS 15</b>		
24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul
	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution <b>T1, T6</b>			Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b>T1 T2</b> High tide: Start time: 10:00 Low tide: Start time: 14:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b>T3 T5</b> High tide: Start time: 10:00 Low tide: Start time: 15:00	
31-Jul						

Item	Activity	Monitoring Stations/Transects
1	Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River, Sheung Yue River, and Long Valley	T1. Ng Tung River T2. Ng Tung River T3. Sheung Yue River T5. Long Valley
2	Monitoring of Measures to Minimise Impacts to Aquatic Fauna in Ma Tso Lung Stream and Siu Hang San Tsuen Stream	MS_01, MS_02, MS_03, MS_04, MS_05, MS_06, MS_07, MS_08, MS_09, MS_10, MS_11, MS_12, MS_13, MS_14, MS_15
3	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution	T1. Ma Tso Lung riparian zone and associated wetland habitats T1. Green belt areas E1-8,D1-8 and G1-3 in KTN NDA T1. AGR one C2-4 and C2-2 in KTN NDA T1. Areas north of Ng Tung River T3. Area west of Siu Hang San Tsuen Stream T4. South side of Fanling Highway and Castle Peak Road in the vicinity of Pak Shek Au T5. Area west and east of the southern limit of the FLN NDA work area T6. Areas in the western part of KTN



**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Weekly Site Inspection Schedule for July 2022**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					<b>1-Jul</b>	<b>2-Jul</b>
<b>3-Jul</b>	<b>4-Jul</b>	<b>5-Jul</b>	<b>6-Jul</b>	<b>7-Jul</b>	<b>8-Jul</b>	<b>9-Jul</b>
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/02)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
<b>10-Jul</b>	<b>11-Jul</b>	<b>12-Jul</b>	<b>13-Jul</b>	<b>14-Jul</b>	<b>15-Jul</b>	<b>16-Jul</b>
			Site Inspection (ND/2019/01)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/05) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/02) Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
<b>17-Jul</b>	<b>18-Jul</b>	<b>19-Jul</b>	<b>20-Jul</b>	<b>21-Jul</b>	<b>22-Jul</b>	<b>23-Jul</b>
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01) Site Inspection (ND/2019/03)	Site Inspection (ND/2019/02)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/07)	
<b>24-Jul</b>	<b>25-Jul</b>	<b>26-Jul</b>	<b>27-Jul</b>	<b>28-Jul</b>	<b>29-Jul</b>	<b>30-Jul</b>
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/02)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
<b>31-Jul</b>						

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Tentative Impact Air Quality and Noise Monitoring Schedule (August 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Aug	2-Aug	3-Aug	4-Aug	5-Aug	6-Aug
		<b>1hr TSP* X3</b> KTN-DMS4, FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4, FLN-DMS5A <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2  <b>24hr RSP (Arsenic)</b> KTN-DMS4A			
7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug	13-Aug
	<b>1hr TSP* X3</b> KTN-DMS4, FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4, FLN-DMS5A  <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2  <b>24hr RSP (Arsenic)</b> KTN-DMS4A			<b>1hr TSP* X3</b> KTN-DMS4, FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4, FLN-DMS5A <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	
14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug
	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2  <b>24hr RSP (Arsenic)</b> KTN-DMS4A			<b>1hr TSP* X3</b> KTN-DMS4, FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4, FLN-DMS5A <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3  <b>24hr RSP (Arsenic)</b> KTN-DMS4A	
21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug
			<b>1hr TSP* X3</b> KTN-DMS4, FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4, FLN-DMS5A <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2  <b>24hr RSP (Arsenic)</b> KTN-DMS4A		
28-Aug	29-Aug	30-Aug	31-Aug			
		<b>1hr TSP* X3</b> KTN-DMS4, FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4, FLN-DMS5A <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2  <b>24hr RSP (Arsenic)</b> KTN-DMS4A			

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Remarks:

\*Monitoring session would be conducted by portable TSP monitor.

Environmental Permit(s)	Contract No.	Air Quality Stations	Noise Stations
EP-466/2013 EP-467/2013/A EP-468/2013/A	ND/2019/01	<u>1hr TSP and 24hr TSP</u> KTN-DMS4 - Temporary Structure near Fanling Highway (near Pak Shek Au)	--
EP-468/2013/A	ND/2019/03		
EP-466/2013 EP-467/2013/A EP-468/2013/A	ND/2019/01	<u>24hr RSP (Arsenic)</u> KTN-DMS4A - Temporary Structure at Pak Shek Au	--
EP-468/2013/A	ND/2019/03		
EP-467/2013/A EP-468/2013/A <sup>(1)</sup>	ND/2019/01	--	CP-KTN-NMS2 - Residential Buildings at Ma Tso Lung
EP-468/2013/A <sup>(2)</sup>	ND/2019/01	--	CP-KTN-NMS3 -Fung Kong Garden
EP-469/2013 <sup>(3)</sup>	ND/2019/02	--	CP-KTN-NMS6 - Ho Sheung Heung, Hau Ku Shek Ancestral Hall, Hung Shing Temple & Pai Fung Temple and Sin Wai Nunnery
EP-470/2013	ND/2019/01	--	CP-KTN-NMS5 - N/A
EP-473/2013/A <sup>(4)</sup>	ND/2019/03	<u>1hr TSP and 24hr TSP</u> FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark	--
	ND/2019/04		--
EP-473/2013/A <sup>(5)</sup>	ND/2019/05	<u>1hr TSP and 24hr TSP</u> FLN-DMS3 - House near Tong Hang	--
EP-473/2013/A <sup>(6)</sup>	ND/2019/03	<u>1hr TSP</u> FLN-DMS5 - Noble Hill	--
	ND/2019/04	<u>24hr TSP</u> FLN-DMS5A - Good View New Village	--
EP-473/2013/A <sup>(7)</sup>	ND/2019/05	--	CP-FLN-NMS2 - Scattered Village Houses in Tong Hang
EP-473/2013/A <sup>(8)</sup>	ND/2019/04	--	CP-FLN-NMS1 - Belair Monte
	ND/2019/05	--	
EP-475/2013/A	ND/2019/06	--	
Remarks: 1. Since the distance between monitoring station CP-KTN-NMS2 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 2. Since the distance between monitoring station CP-KTN-NMS3 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 3. Since the distance between monitoring station CP-KTN-NMS1 and site boundary of ND/2019/02 under EP-469/2013 exceeds 300m. The monitoring station is not applicable to ND/2019/02 4. Since the distance between monitoring station FLN-DMS1 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/05 5. Since the distance between monitoring station FLN-DMS3 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/03 and ND/2019/04 6. Since the distance between monitoring station FLN-DMS5 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/05 7. Since the distance between monitoring station CP-FLN-NMS2 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 and ND/2019/04. 8. Since the distance between monitoring station CP-FLN-NMS1 and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03.			



**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Tentative Impact Water Quality Monitoring Schedule (August 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Aug	2-Aug	3-Aug	4-Aug	5-Aug	6-Aug
	<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug	13-Aug
	<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug
	<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug
	<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
28-Aug	29-Aug	30-Aug	31-Aug			
	<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream			

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

**Water Quality Monitoring Stations**

River Beas: SYR-CS1 - Upstream of river, SYR-IS1 - Downstream of river

River Indus and near Siu Hang San Tsuen Stream: NTR-CS1 - Upstream of river, NTR-IS1 - Downstream of river, SHST-IS2 - Water sensitive receiver at near Siu Hang San Tsuen Stream,

MWR-IS3 - Water sensitive receiver at near Ma Wat River

Environmental Permit(s)	Contract No.	Water Quality Stations
EP-469/2013	ND/2019/02	<u><b>River Beas</b></u> SYR-CS1 - Upstream of river SYR-IS1 - Downstream of river
EP-473/2013/A	ND/2019/04	<u><b>River Indus and near Siu Hang San Tsuen Stream</b></u> NTR-CS1 - Upstream of river NTR-IS1 - Downstream of river SHST-IS2 - Water sensitive receiver at near Siu Hang San Tsuen Stream MWR-IS3 - Water sensitive receiver at near Ma Wat River

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Tentative Impact Ecological Monitoring Schedule (August 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Aug	2-Aug	3-Aug	4-Aug	5-Aug	6-Aug
				Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 16:00 Low tide: Start time: 10:00	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution <b><u>T3, T4, T5</u></b> High tide: Start time: 14:00 Low tide: Start time: 09:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5</u></b> High tide: Start time: 14:00 Low tide: Start time: 09:00
7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug	13-Aug
				Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 10:00 Low tide: Start time: 16:00	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution <b><u>MS 01 - MS 15</u></b> High tide: Start time: 09:00 Low tide: Start time: 15:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5</u></b> High tide: Start time: 09:00 Low tide: Start time: 15:00
14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug
		Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5</u></b> High tide: Start time: 14:00 Low tide: Start time: 09:00		Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 13:00 Low tide: Start time: 09:00		
21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug
				Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 09:00 Low tide: Start time: 13:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5</u></b> High tide: Start time: 09:00 Low tide: Start time: 14:00	
28-Aug	29-Aug	30-Aug	31-Aug			

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

#Night-time avifauna monitoring in Long Valley



Item	Activity	Monitoring Stations/Transects
1	Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River, Sheung Yue River, and Long Valley	T1. Ng Tung River T2. Ng Tung River T3. Sheung Yue River T5. Long Valley
2	Monitoring of Measures to Minimise Impacts to Aquatic Fauna in Ma Tso Lung Stream and Siu Hang San Tsuen Stream	MS_01, MS_02, MS_03, MS_04, MS_05, MS_06, MS_07, MS_08, MS_09, MS_10, MS_11, MS_12, MS_13, MS_14, MS_15
3	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution	T1. Ma Tso Lung riparian zone and associated wetland habitats T1. Green belt areas E1-8,D1-8 and G1-3 in KTN NDA T1. AGR one C2-4 and C2-2 in KTN NDA T1. Areas north of Ng Tung River T3. Area west of Siu Hang San Tsuen Stream T4. South side of Fanling Highway and Castle Peak Road in the vicinity of Pak Shek Au T5. Area west and east of the southern limit of the FLN NDA work area T6. Areas in the western part of KTN

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Tentative Weekly Site Inspection Schedule for August 2022**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Aug	2-Aug	3-Aug	4-Aug	5-Aug	6-Aug
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/02)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug	13-Aug
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/02)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/02)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/02)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
28-Aug	29-Aug	30-Aug	31-Aug			
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/02)			
The schedule may be changed due to unforeseen circumstances (adverse weather, etc.)						

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**APPENDIX E**  
**AIR QUALITY AND AMBIENT ARSENIC**  
**MONITORING RESULTS AND**  
**GRAPHICAL PRESENTATION**

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## Appendix E - 1-hour TSP Monitoring Results

Location FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
6-Jul-22	13:00	Cloudy	60.2
6-Jul-22	14:00	Cloudy	57.5
6-Jul-22	15:00	Cloudy	69.0
12-Jul-22	13:00	Sunny	69.8
12-Jul-22	14:00	Sunny	73.7
12-Jul-22	15:00	Sunny	76.9
18-Jul-22	13:00	Sunny	52.4
18-Jul-22	14:00	Sunny	60.1
18-Jul-22	15:00	Sunny	61.7
22-Jul-22	9:00	Sunny	79.3
22-Jul-22	10:00	Sunny	85.7
22-Jul-22	11:00	Sunny	92.9
28-Jul-22	13:00	Sunny	42.1
28-Jul-22	14:00	Sunny	49.4
28-Jul-22	15:00	Sunny	43.0
Minimum			42.1
Maximum			92.9
Average			64.9

Location FLN-DMS3 - House near Tong Hang			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
6-Jul-22	9:00	Cloudy	51.8
6-Jul-22	10:00	Cloudy	58.9
6-Jul-22	11:00	Cloudy	42.6
12-Jul-22	13:00	Sunny	43.9
12-Jul-22	14:00	Sunny	53.2
12-Jul-22	15:00	Sunny	50.1
18-Jul-22	13:30	Sunny	59.2
18-Jul-22	14:30	Sunny	71.5
18-Jul-22	15:30	Sunny	74.5
22-Jul-22	13:00	Sunny	67.3
22-Jul-22	14:00	Sunny	79.7
22-Jul-22	15:00	Sunny	85.2
28-Jul-22	13:00	Sunny	47.0
28-Jul-22	14:00	Sunny	55.3
28-Jul-22	15:00	Sunny	44.7
Minimum			42.6
Maximum			85.2
Average			59.0

## Appendix E - 1-hour TSP Monitoring Results

Location FLN-DMS5 - Noble Hill			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
5-Jul-22	9:00	Sunny	24.2
5-Jul-22	10:00	Sunny	25.9
5-Jul-22	11:00	Sunny	29.2
11-Jul-22	9:00	Sunny	26.0
11-Jul-22	10:00	Sunny	30.4
11-Jul-22	11:00	Sunny	25.3
15-Jul-22	9:00	Cloudy	26.0
15-Jul-22	10:00	Cloudy	32.9
15-Jul-22	11:00	Cloudy	36.5
21-Jul-22	8:30	Sunny	46.2
21-Jul-22	9:30	Sunny	43.0
21-Jul-22	10:30	Sunny	40.4
27-Jul-22	9:00	Sunny	25.7
27-Jul-22	10:00	Sunny	22.7
27-Jul-22	11:00	Sunny	23.5
		Minimum	22.7
		Maximum	46.2
		Average	30.5

Location KTN-DMS4 - Temporary Structure near Fanling Highway (near Pak Shek Au)			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
5-Jul-22	13:00	Cloudy	50.9
5-Jul-22	14:00	Cloudy	51.3
5-Jul-22	15:00	Cloudy	62.6
11-Jul-22	13:00	Sunny	36.2
11-Jul-22	14:00	Sunny	22.2
11-Jul-22	15:00	Sunny	26.5
15-Jul-22	13:00	Sunny	36.8
15-Jul-22	14:00	Sunny	32.6
15-Jul-22	15:00	Sunny	39.2
21-Jul-22	13:00	Sunny	39.0
21-Jul-22	14:00	Sunny	45.4
21-Jul-22	15:00	Sunny	28.6
27-Jul-22	9:00	Sunny	39.6
27-Jul-22	10:00	Sunny	32.9
27-Jul-22	11:00	Sunny	30.5
		Minimum	22.2
		Maximum	62.6
		Average	38.3

## Appendix E - 24-hour TSP Monitoring Results

### Location FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark

Start Date	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Conc. (µg/m <sup>3</sup> )
			Initial	Final		Initial	Final		Initial	Final			
5-Jul-22	Cloudy	300.7	3.4123	3.4744	0.0621	6487.5	6511.5	24.0	1.21	1.21	1.21	1745.3	35.6
11-Jul-22	Sunny	301.5	3.4489	3.5451	0.0962	6511.5	6535.5	24.0	1.22	1.22	1.22	1759.0	54.7
15-Jul-22	Sunny	302.5	2.8952	2.9759	0.0807	6535.5	6559.5	24.0	1.22	1.22	1.22	1754.1	46.0
21-Jul-22	Sunny	301.1	2.9426	3.0346	0.0920	6559.5	6583.5	24.0	1.22	1.23	1.23	1765.2	52.1
27-Jul-22	Sunny	301.3	2.9442	3.0614	0.1172	6583.5	6607.5	24.0	1.22	1.22	1.22	1759.4	66.6
												Min	35.6
												Max	66.6
												Average	51.0

### Location FLN-DMS3 - House near Tong Hang

Start Date	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Conc. (µg/m <sup>3</sup> )
			Initial	Final		Initial	Final		Initial	Final			
5-Jul-22	Cloudy	300.7	3.4271	3.4759	0.0488	7522.0	7546.0	24.0	1.20	1.20	1.20	1727.5	28.2
11-Jul-22	Sunny	301.5	3.4913	3.5330	0.0417	7546.0	7570.0	24.0	1.20	1.20	1.20	1727.8	24.1
15-Jul-22	Sunny	302.5	2.9877	3.0615	0.0738	7570.0	7594.0	24.0	1.20	1.20	1.20	1723.6	42.8
21-Jul-22	Sunny	301.1	2.9606	3.1574	0.1968	7594.0	7618.0	24.0	1.23	1.23	1.23	1770.7	111.1
27-Jul-22	Sunny	301.3	2.9550	3.0485	0.0935	7618.0	7642.0	24.0	1.23	1.23	1.23	1765.7	53.0
												Min	24.1
												Max	111.1
												Average	51.9

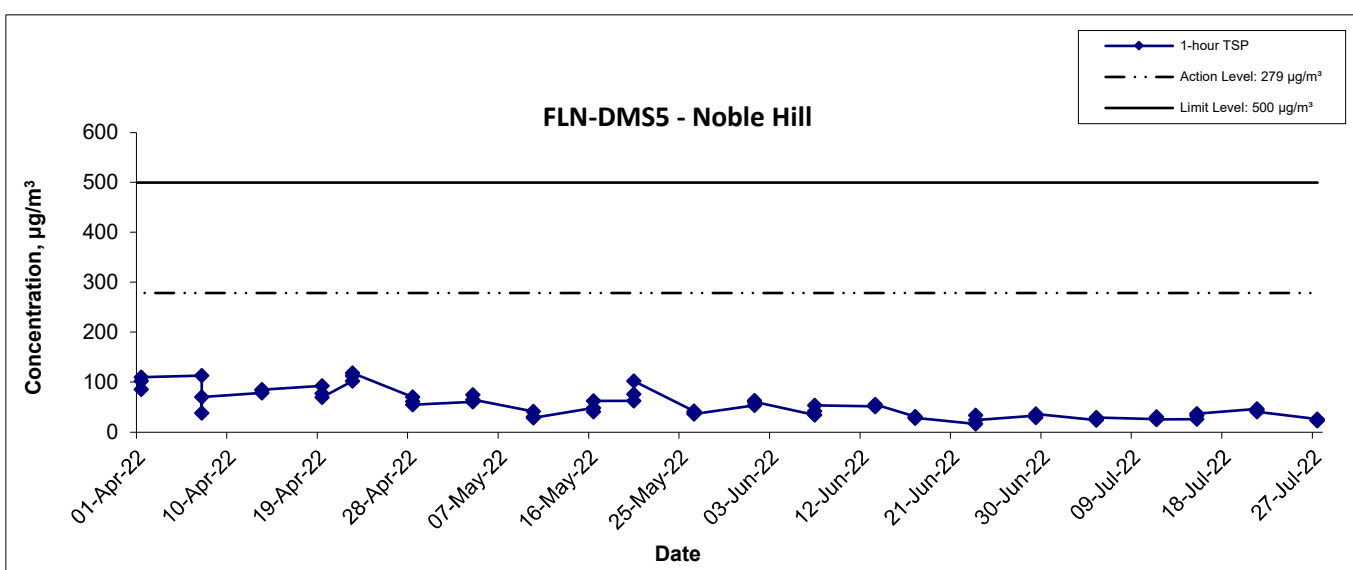
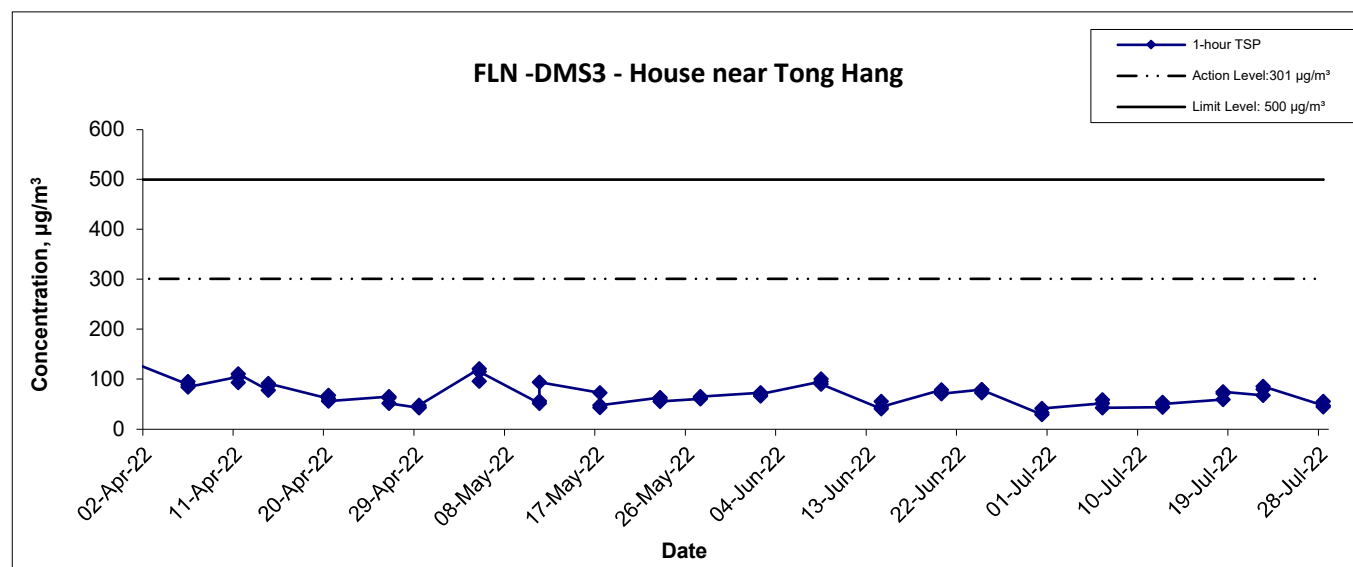
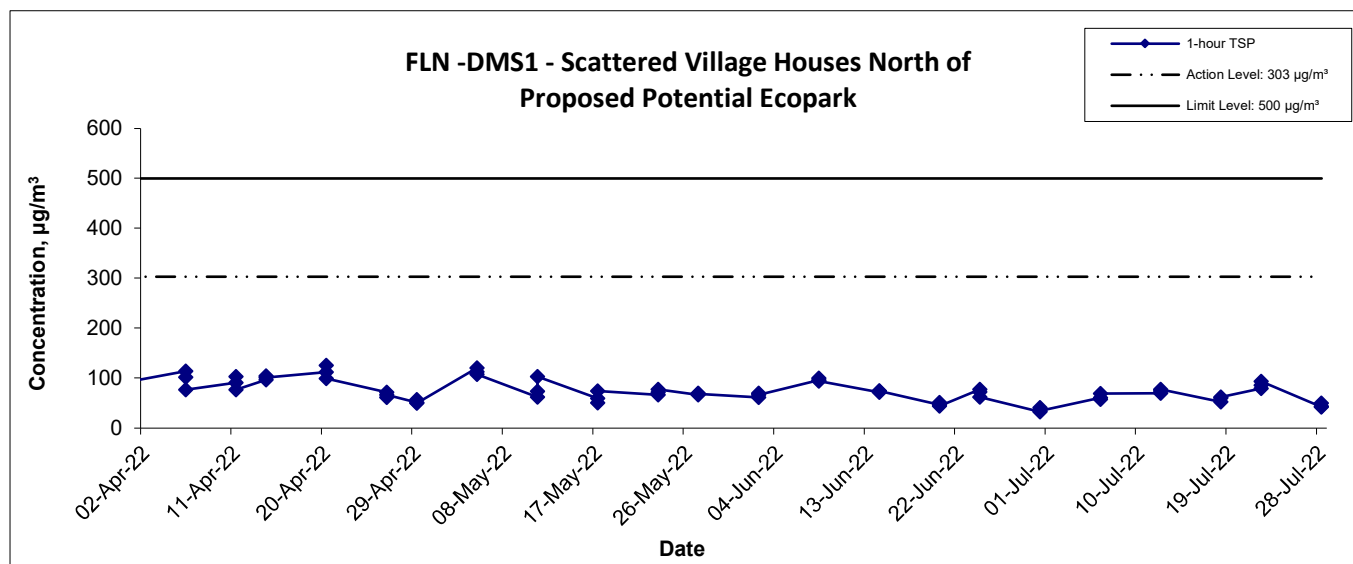


## Appendix E - 24-hour TSP Monitoring Results

Location FLN-DMS5A - Good View New Village			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
5-Jul-22	10:00	Cloudy	147.8
11-Jul-22	9:00	Sunny	27.0
15-Jul-22	10:00	Sunny	32.5
21-Jul-22	10:00	Sunny	35.7
27-Jul-22	9:30	Sunny	43.0
Minimum			27.0
Maximum			147.8
Average			57.2

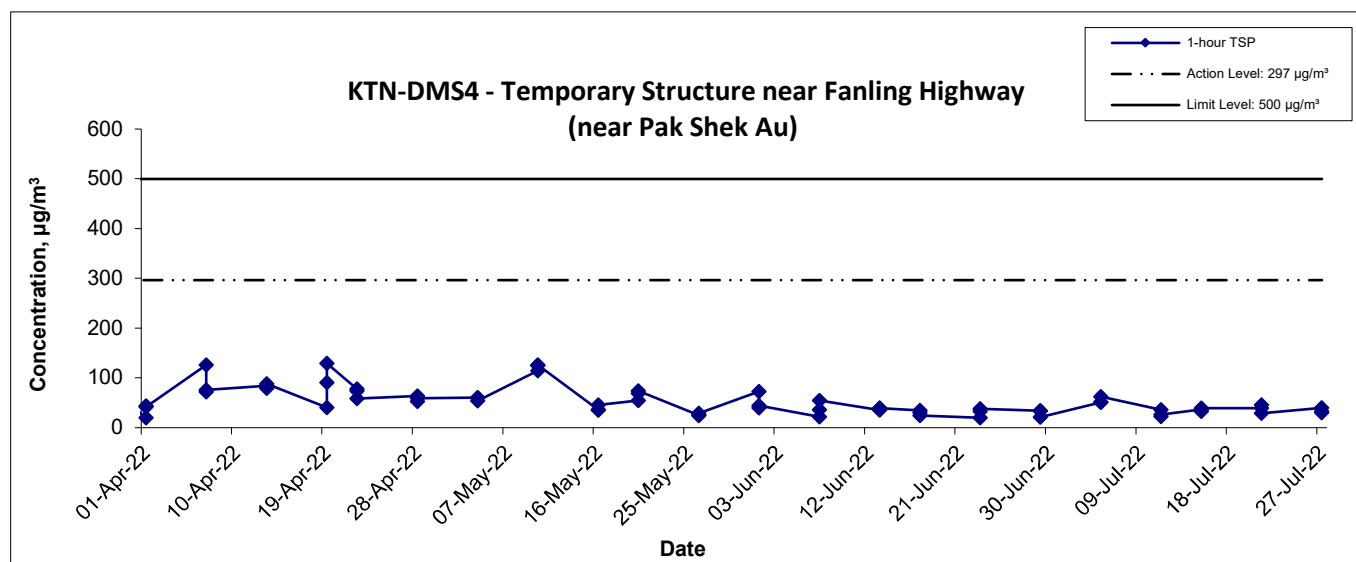
Location KTN-DMS4 - Temporary Structure near Fanling Highway (near Pak Shek Au)			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
5-Jul-22	10:30	Cloudy	138.8
11-Jul-22	9:40	Sunny	27.1
15-Jul-22	9:00	Sunny	50.2
21-Jul-22	9:30	Sunny	38.6
27-Jul-22	9:00	Sunny	71.9
Minimum			27.1
Maximum			138.8
Average			65.3


## 1-hr TSP Concentration Levels



Title	Service Contract No. NDO 04/2019			Scale	Project No.
	Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas			N.T.S	WMA20002
	Graphical Presentation of 1-hour TSP Monitoring Results			Date	Appendix
				Jul 22	E

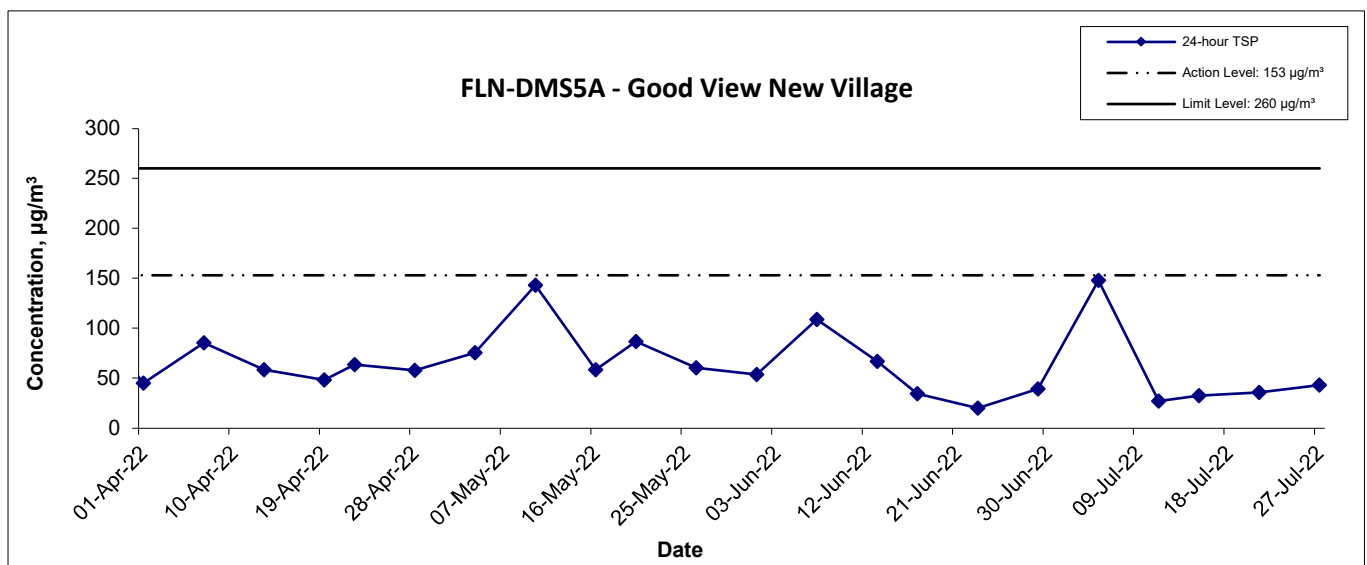
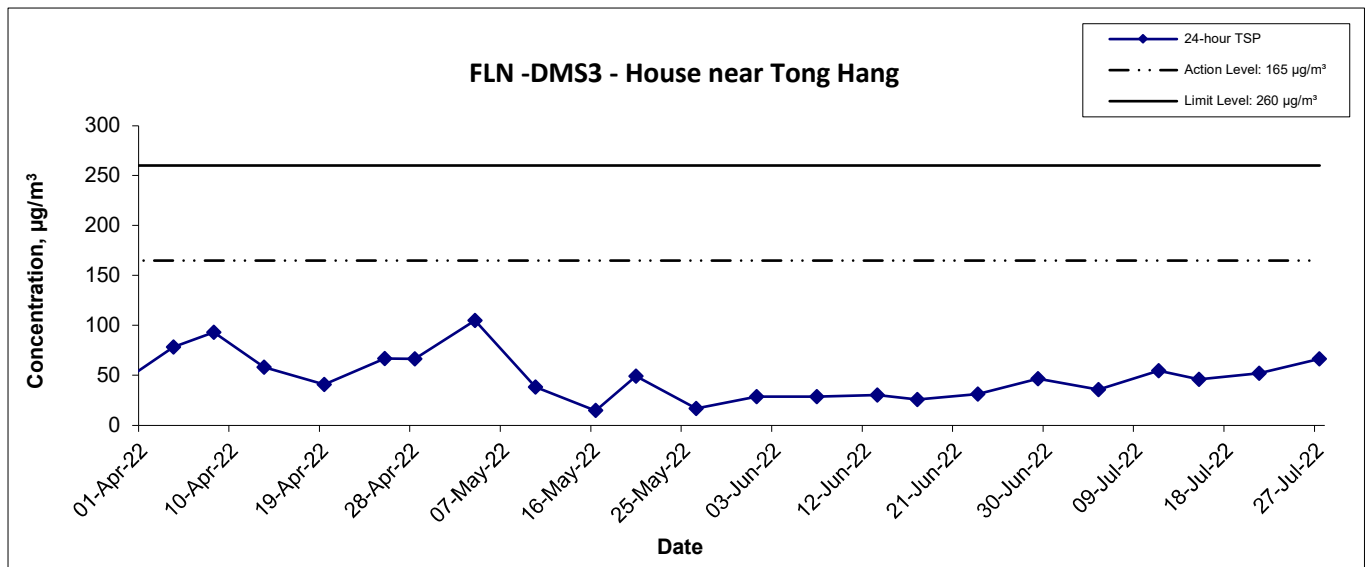
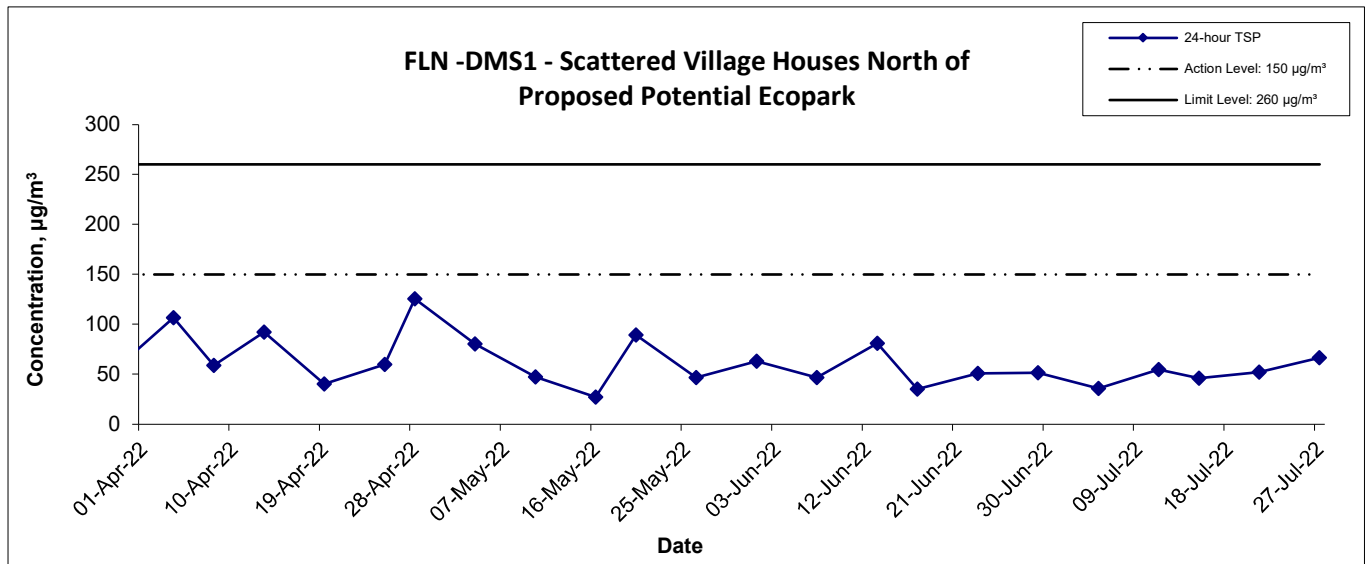
## 1-hr TSP Concentration Levels




<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of 1-hour TSP Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	
	<b>Date</b> Jul 22	<b>Appendix</b> E	

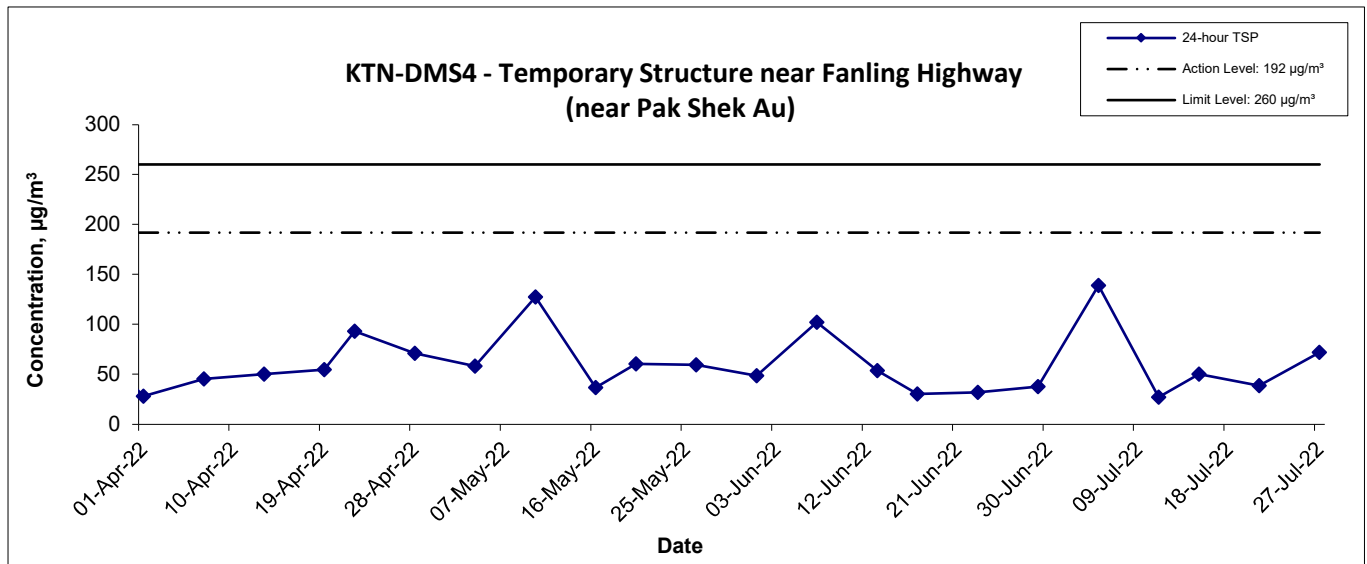



## 24-hr TSP Concentration Levels



<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of 24-hour TSP Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	
	<b>Date</b> Jul 22	<b>Appendix</b> E	

## 24-hr TSP Concentration Levels



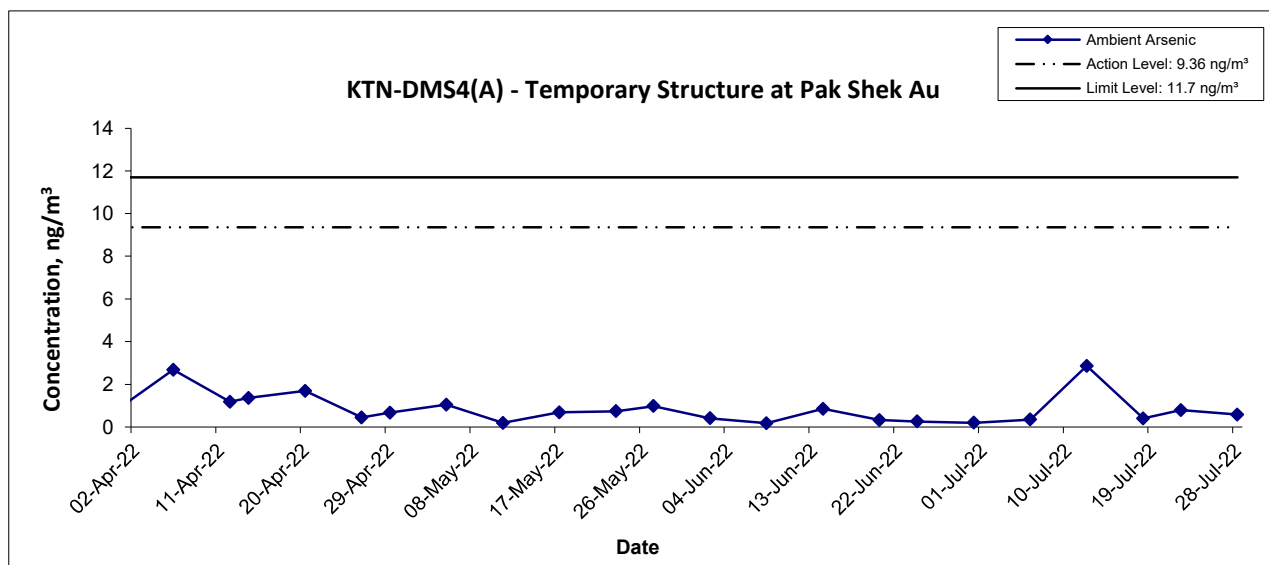
<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of 24-hour TSP Monitoring Results	Scale	Project No.	 consulting . testing . research
	N.T.S	WMA20002	
	Date	Appendix	
	Jul 22	E	


## Appendix E - Ambient Arsenic Monitoring Results

Location KTN-DMS4(A) - Temporary Structure at Pak Shek Au			
Date	Arsenic ( $\mu\text{g}$ )	Standard Volume, Vstd ( $\text{m}^3$ )	Ambient Arsenic Concentration ( $\text{ng}/\text{m}^3$ )
6-Jul-22	0.58	1638.4	0.35
12-Jul-22	4.70	1642.2	2.86
18-Jul-22	0.66	1656.1	0.40
22-Jul-22	1.30	1646.4	0.79
28-Jul-22	0.95	1651.9	0.58



## Ambient Arsenic



<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas  Graphical Presentation of Ambient Arsenic Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	 consulting . testing . research
	<b>Date</b> Jul 22	<b>Appendix</b> E	

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	36875
Date of Issue:	2022-07-13
Date Received:	2022-07-07
Date Tested:	2022-07-07
Date Completed:	2022-07-13

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 36875  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
Environmental Team for Environmental Monitoring and Audit Works in  
Construction Phase for the First Phase Development of Kwu Tung North  
and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	210906/049
Sample No.	36875-1
Arsenic (µg)	0.58

Remarks: 1) < = less than  
2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC 36875
Date of Issue:	2022-07-13
Date Received:	2022-07-07
Date Tested:	2022-07-07
Date Completed:	2022-07-13

Page: 1 of 2

**ATTN:** Ms Ivy Tam

**QC report:**

### Method Blank

Parameter	Method Blank	Acceptance
Arsenic ( $\mu\text{g}$ )	<0.036	<0.036

### Filter Lot Blank

Parameter	Filter Lot Blank	Acceptance
Arsenic ( $\mu\text{g}$ )	0.09	N/A

### Laboratory control spike/ Method QC

Parameter	MQC	Acceptance
Arsenic (%)	87	80-120

### Calibration check

Parameter	CCV	Acceptance
Arsenic (%)	91	90-110

### Interference check solution A

Parameter	ICS A	Acceptance
Arsenic ( $\mu\text{g}$ )	<0.036	<0.036

### Interference check solution AB

Parameter	ICS AB	Acceptance
Arsenic (%)	94	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36875

\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

Report No.:	QC 36875
Date of Issue:	2022-07-13
Date Received:	2022-07-07
Date Tested:	2022-07-07
Date Completed:	2022-07-13
Page:	2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	82	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	4	RPD≤20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	94	90-110

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36875

\*\*\*\*\*END OF REP ORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	36898
Date of Issue:	2022-07-19
Date Received:	2022-07-13
Date Tested:	2022-07-13
Date Completed:	2022-07-19

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 36898  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
 Environmental Team for Environmental Monitoring and Audit Works in  
 Construction Phase for the First Phase Development of Kwu Tung North  
 and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	210906/050
Sample No.	36898-1
Arsenic (µg)	4.7

Remarks: 1) < = less than

2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
 General Manager

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC 36898
Date of Issue:	2022-07-19
Date Received:	2022-07-13
Date Tested:	2022-07-13
Date Completed:	2022-07-19

Page: 1 of 2

**ATTN:** Ms Ivy Tam

**QC report:**

### Method Blank

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

### Filter Lot Blank

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.09	N/A

### Laboratory control spike/ Method QC

Parameter	MQC	Acceptance
Arsenic (%)	84	80-120

### Calibration check

Parameter	CCV	Acceptance
Arsenic (%)	91	90-110

### Interference check solution A

Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

### Interference check solution AB

Parameter	ICS AB	Acceptance
Arsenic (%)	94	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36898

\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

Report No.:	QC 36898
Date of Issue:	2022-07-19
Date Received:	2022-07-13
Date Tested:	2022-07-13
Date Completed:	2022-07-19
Page:	2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	85	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	2	RPD≤20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	107	90-110

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36898

\*\*\*\*\*END OF REP ORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	36938
Date of Issue:	2022-08-01
Date Received:	2022-07-26
Date Tested:	2022-07-26
Date Completed:	2022-08-01

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 36938  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
Environmental Team for Environmental Monitoring and Audit Works in  
Construction Phase for the First Phase Development of Kwu Tung North  
and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	210411/001
Sample No.	36938-1
Arsenic (µg)	0.66

Remarks: 1) < = less than

2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC 36938
Date of Issue:	2022-08-01
Date Received:	2022-07-26
Date Tested:	2022-07-26
Date Completed:	2022-08-01

Page: 1 of 2

**ATTN:** Ms Ivy Tam

**QC report:**

**Method Blank**

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

**Filter Lot Blank**

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.03	N/A

**Laboratory control spike/ Method QC**

Parameter	MQC	Acceptance
Arsenic (%)	108	80-120

**Calibration check**

Parameter	CCV	Acceptance
Arsenic (%)	99	90-110

**Interference check solution A**

Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

**Interference check solution AB**

Parameter	ICS AB	Acceptance
Arsenic (%)	101	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36938

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

Report No.:	QC 36938
Date of Issue:	2022-08-01
Date Received:	2022-07-26
Date Tested:	2022-07-26
Date Completed:	2022-08-01
Page:	2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	96	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	15	RPD $\leq$ 20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	104	90-110

Remarks: 1)  $\leq$  less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36938

\*\*\*\*\*END OF REP ORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	36937
Date of Issue:	2022-07-29
Date Received:	2022-07-25
Date Tested:	2022-07-25
Date Completed:	2022-07-29

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 36937  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
 Environmental Team for Environmental Monitoring and Audit Works in  
 Construction Phase for the First Phase Development of Kwu Tung North  
 and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	210411/003
Sample No.	36937-1
Arsenic (µg)	1.3

Remarks: 1) < = less than

2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
 General Manager

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC 36937
Date of Issue:	2022-07-29
Date Received:	2022-07-25
Date Tested:	2022-07-25
Date Completed:	2022-07-29

Page: 1 of 2

**ATTN:** Ms Ivy Tam

**QC report:**

### Method Blank

Parameter	Method Blank	Acceptance
Arsenic (μg)	<0.036	<0.036

### Filter Lot Blank

Parameter	Filter Lot Blank	Acceptance
Arsenic (μg)	0.03	N/A

### Laboratory control spike/ Method QC

Parameter	MQC	Acceptance
Arsenic (%)	86	80-120

### Calibration check

Parameter	CCV	Acceptance
Arsenic (%)	99	90-110

### Interference check solution A

Parameter	ICS A	Acceptance
Arsenic (μg)	<0.036	<0.036

### Interference check solution AB

Parameter	ICS AB	Acceptance
Arsenic (%)	101	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36937

\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

Report No.:	QC 36937
Date of Issue:	2022-07-29
Date Received:	2022-07-25
Date Tested:	2022-07-25
Date Completed:	2022-07-29

Page: 2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	98	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	1	RPD $\leq$ 20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	105	90-110

Remarks: 1)  $\leq$  less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36937

\*\*\*\*\*END OF REP ORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	36943
Date of Issue:	2022-08-04
Date Received:	2022-07-29
Date Tested:	2022-07-29
Date Completed:	2022-08-04

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 36943  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
Environmental Team for Environmental Monitoring and Audit Works in  
Construction Phase for the First Phase Development of Kwu Tung North  
and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	210411/002
Sample No.	36943-1
Arsenic (µg)	0.95

Remarks: 1) < = less than  
2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC 36943
Date of Issue:	2022-08-04
Date Received:	2022-07-29
Date Tested:	2022-07-29
Date Completed:	2022-08-04

Page: 1 of 2

**ATTN:** Ms Ivy Tam

**QC report:**

**Method Blank**

Parameter	Method Blank	Acceptance
Arsenic (μg)	<0.036	<0.036

**Filter Lot Blank**

Parameter	Filter Lot Blank	Acceptance
Arsenic (μg)	0.03	N/A

**Laboratory control spike/ Method QC**

Parameter	MQC	Acceptance
Arsenic (%)	106	80-120

**Calibration check**

Parameter	CCV	Acceptance
Arsenic (%)	102	90-110

**Interference check solution A**

Parameter	ICS A	Acceptance
Arsenic (μg)	<0.036	<0.036

**Interference check solution AB**

Parameter	ICS AB	Acceptance
Arsenic (%)	88	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36943

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

Report No.:	QC 36943
Date of Issue:	2022-08-04
Date Received:	2022-07-29
Date Tested:	2022-07-29
Date Completed:	2022-08-04

Page: 2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	97	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	4	RPD≤20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	105	90-110

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36943

\*\*\*\*\*END OF REPORT\*\*\*\*\*

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**APPENDIX F**  
**NOISE MONITORING RESULTS AND**  
**GRAPHICAL PRESENTATION**

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## Appendix F - Noise Monitoring Results

Location CP-FLN-NMS1 - Belair Monte (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
6-Jul-22	Cloudy	15:00	68.6	71.5	63.4	69.2	69.9
		15:05	67.5	71.0	62.1		
		15:10	70.9	73.2	63.3		
		15:15	66.9	70.1	62.3		
		15:20	70.0	73.4	61.5		
		15:25	70.0	73.1	62.5		
12-Jul-22	Sunny	13:00	67.0	69.9	63.3	68.5	
		13:05	70.9	74.2	64.6		
		13:10	66.9	69.7	62.5		
		13:15	68.2	72.0	61.9		
		13:20	69.1	72.6	62.1		
		13:25	67.2	69.9	63.2		
18-Jul-22	Sunny	15:00	70.6	74.0	62.4	69.6	
		15:05	69.9	72.1	62.9		
		15:10	67.1	69.2	63.9		
		15:15	69.8	72.1	65.8		
		15:20	68.3	70.8	63.8		
		15:25	70.9	74.9	64.8		
28-Jul-22	Sunny	13:30	63.5	66.1	59.1	67.4	
		13:35	65.8	68.8	60.0		
		13:40	67.5	69.3	65.6		
		13:45	68.1	69.6	65.9		
		13:50	68.1	69.3	66.6		
		13:55	69.3	71.8	66.4		

Location CP-FLN-NMS2 - Scattered Village House in Tong Hang (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
6-Jul-22	Cloudy	16:25	66.4	66.8	65.6	67.3	59.6
		16:30	66.5	67.3	65.5		
		16:35	66.8	67.6	65.7		
		16:40	67.4	68.7	65.6		
		16:45	67.8	69.8	65.8		
		16:50	68.4	69.3	65.6		
12-Jul-22	Sunny	13:55	68.8	69.6	66.2	68.1	
		14:00	69.7	72.3	66.7		
		14:05	67.8	68.9	66.7		
		14:10	67.8	69.0	66.7		
		14:15	66.7	68.3	65.0		
		14:20	66.7	68.0	65.2		
18-Jul-22	Sunny	13:35	67.5	70.3	64.2	68.3	
		13:40	67.9	69.7	65.0		
		13:45	66.7	67.9	65.1		
		13:50	66.9	70.0	64.0		
		13:55	70.5	72.1	66.4		
		14:00	68.9	70.0	65.5		
28-Jul-22	Sunny	14:45	62.5	64.1	57.0	64.7	
		14:50	64.7	67.6	58.9		
		14:55	66.3	67.9	63.2		
		15:00	65.1	67.5	62.1		
		15:05	63.2	67.4	63.1		
		15:10	65.2	68.0	65.0		



## Appendix F - Noise Monitoring Results

Location CP-KTN-NMS2 - Residential Buildings at Ma Tso Lung (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
5-Jul-22	Cloudy	13:00	51.6	53.8	49.3	53.7	58.6
		13:05	55.2	55.8	51.8		
		13:10	55.7	56.0	52.0		
		13:15	55.1	55.5	50.6		
		13:20	50.9	52.3	49.4		
		13:25	50.5	51.8	49.8		
11-Jul-22	Sunny	13:45	50.3	52.8	47.4	56.7	
		13:50	48.4	49.4	46.1		
		13:55	49.3	51.2	47.0		
		14:00	56.0	60.6	47.9		
		14:05	57.7	61.1	47.5		
		14:10	61.9	63.2	48.9		
21-Jul-22	Cloudy	09:40	53.2	54.0	48.9	53.8	
		09:45	51.9	52.2	48.7		
		09:50	52.3	52.9	48.6		
		09:55	56.4	59.3	48.5		
		10:00	53.0	54.5	48.8		
		10:05	54.2	56.7	49.0		
27-Jul-22	Sunny	13:00	53.7	59.0	48.5	54.8	
		13:05	49.8	51.1	47.8		
		13:10	50.3	52.5	48.4		
		13:15	55.3	56.9	48.8		
		13:20	57.3	58.4	50.3		
		13:25	57.0	57.9	53.2		

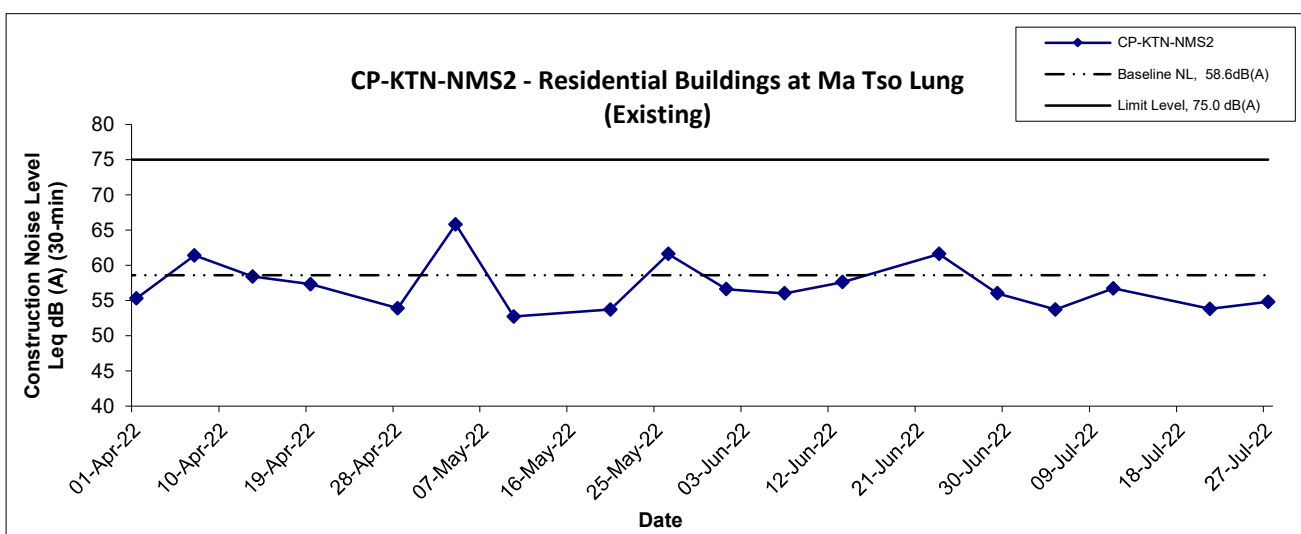
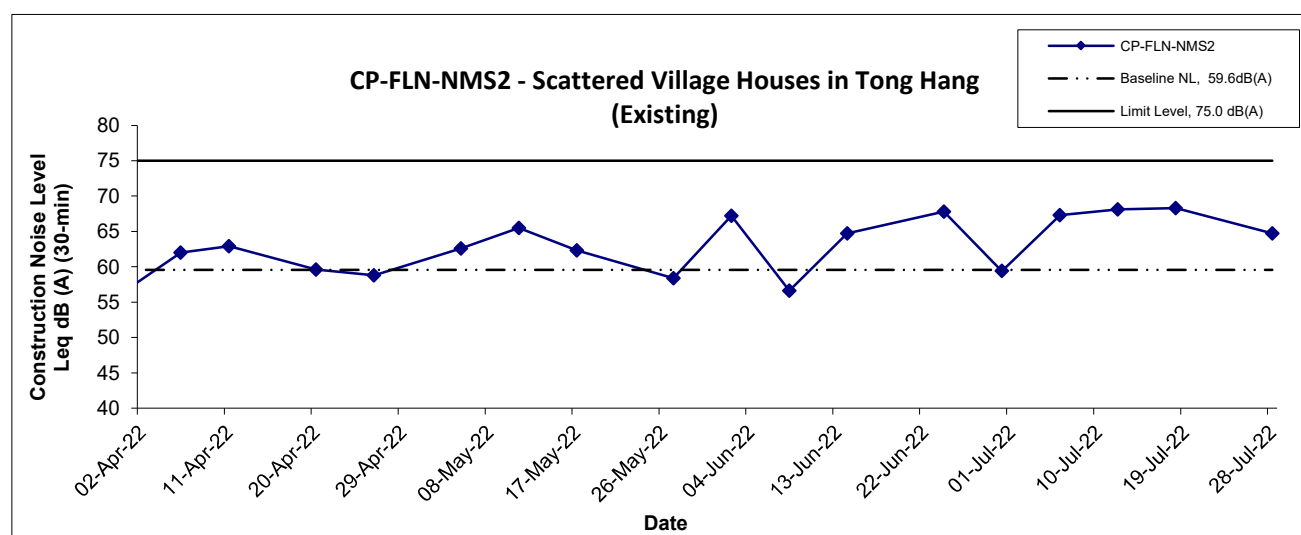
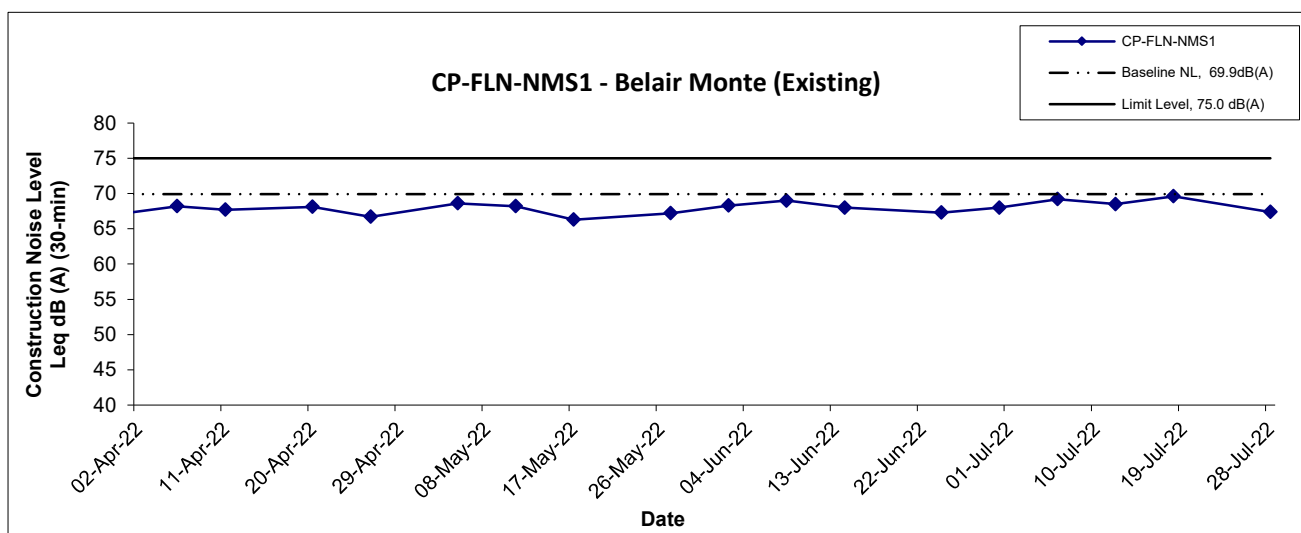
Location CP-KTN-NMS3 - Fung Kong Garden (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
5-Jul-22	Cloudy	13:40	54.4	56.4	51.7	56.3	51.6
		13:45	52.3	53.7	50.9		
		13:50	52.5	53.9	51.0		
		13:55	55.3	56.8	51.4		
		14:00	60.8	67.1	51.2		
		14:05	56.2	56.7	55.4		
11-Jul-22	Sunny	14:30	61.2	63.0	57.9	60.5	
		14:35	58.9	60.3	57.6		
		14:40	58.9	62.0	57.3		
		14:45	58.6	58.5	57.4		
		14:50	63.9	69.3	57.1		
		14:55	58.1	58.5	57.5		
21-Jul-22	Cloudy	09:50	54.4	55.1	53.7	54.7	
		09:55	54.4	55.4	53.6		
		10:00	54.6	55.0	53.9		
		10:05	55.2	56.8	53.7		
		10:10	54.9	55.3	54.0		
		10:15	54.7	55.2	53.7		
27-Jul-22	Sunny	13:45	58.7	60.9	53.8	57.2	
		13:50	58.3	59.8	56.6		
		13:55	57.8	59.9	54.3		
		14:00	55.1	56.4	52.9		
		14:05	55.2	57.7	52.5		
		14:10	56.5	59.7	53.9		

## Appendix F - Noise Monitoring Results

Location CP-KTN-NMS5 - N/A							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
5-Jul-22	Cloudy	11:25	62.3	63.8	60.9	64.1	57.2
		11:30	60.6	63.5	54.2		
		11:35	60.7	63.8	54.4		
		11:40	68.7	71.7	57.9		
		11:45	65.0	68.2	55.4		
		11:50	59.0	61.4	54.4		
11-Jul-22	Sunny	13:00	56.3	57.4	54.9	57.3	
		13:05	57.1	58.3	55.7		
		13:10	56.8	58.4	55.2		
		13:15	57.0	58.5	55.7		
		13:20	58.2	59.2	57.0		
		13:25	57.9	59.5	56.1		
21-Jul-22	Sunny	11:20	56.2	57.9	54.7	57.3	
		11:25	55.9	57.3	54.5		
		11:30	60.3	64.4	54.3		
		11:35	55.5	56.5	54.0		
		11:40	57.3	59.0	54.6		
		11:45	56.5	57.9	54.4		
27-Jul-22	Sunny	15:10	56.7	58.9	51.8	55.2	
		15:15	56.3	57.8	54.6		
		15:20	55.8	57.9	52.3		
		15:25	53.1	54.4	50.9		
		15:30	53.2	55.7	50.5		
		15:35	54.5	57.7	51.9		

Location CP-KTN-NMS6 - Ho Sheung Heung, Hau Ku Shek Ancestral Hall, Hung Shing Temple & Pai Fung Temple and Sin Wai Nunnery (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
5-Jul-22	Cloudy	14:15	58.3	60.2	55.6	64.2	55.1
		14:20	70.9	73.9	55.4		
		14:25	57.6	60.2	53.5		
		14:30	58.3	58.4	53.4		
		14:35	57.6	59.6	55.2		
		14:40	59.2	60.1	53.8		
11-Jul-22	Sunny	11:30	55.6	57.8	52.5	56.1	
		11:35	54.3	55.4	52.0		
		11:40	55.9	57.4	51.8		
		11:45	57.9	60.0	53.4		
		11:50	56.3	59.1	52.3		
		11:55	56.0	57.9	51.8		
21-Jul-22	Cloudy	10:30	59.4	60.9	52.4	57.2	
		10:35	58.3	60.5	53.1		
		10:40	52.7	54.0	51.2		
		10:45	56.9	58.0	51.8		
		10:50	57.4	59.0	52.3		
		10:55	56.0	57.5	51.9		
27-Jul-22	Sunny	14:25	60.9	63.7	56.5	61.4	
		14:30	58.8	60.8	56.0		
		14:35	58.5	57.1	55.2		
		14:40	56.3	56.6	55.2		
		14:45	66.6	61.4	55.2		
		14:50	57.1	57.6	55.9		

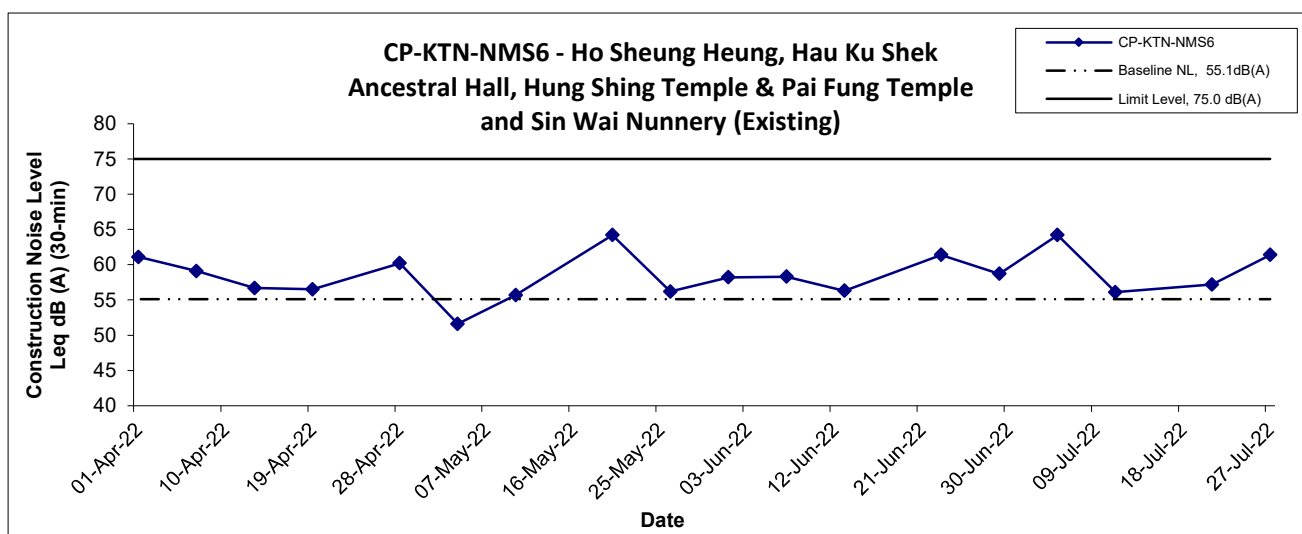
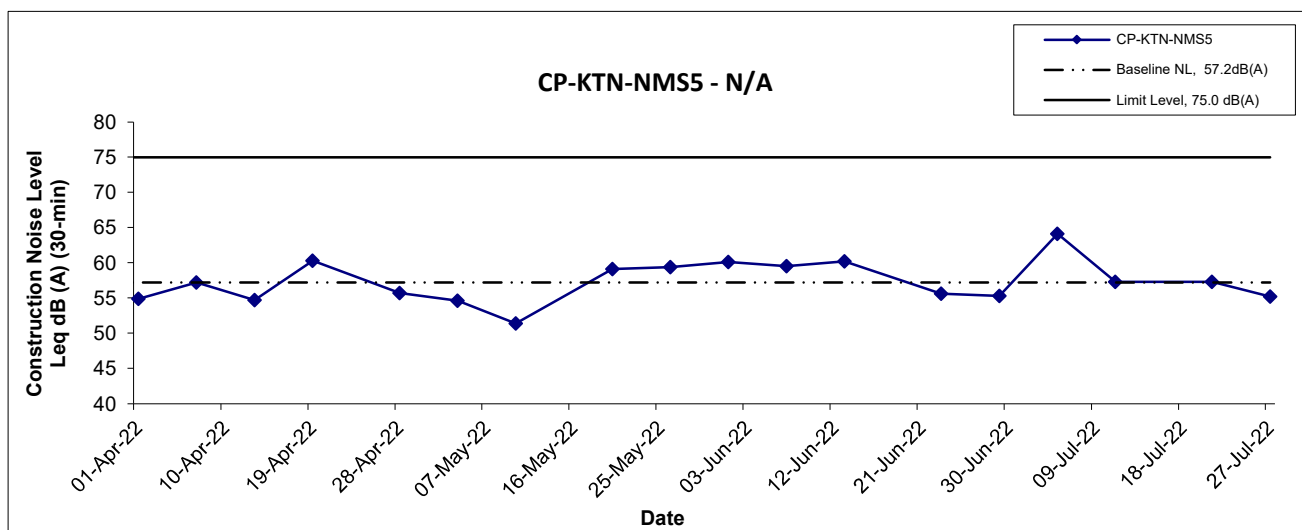
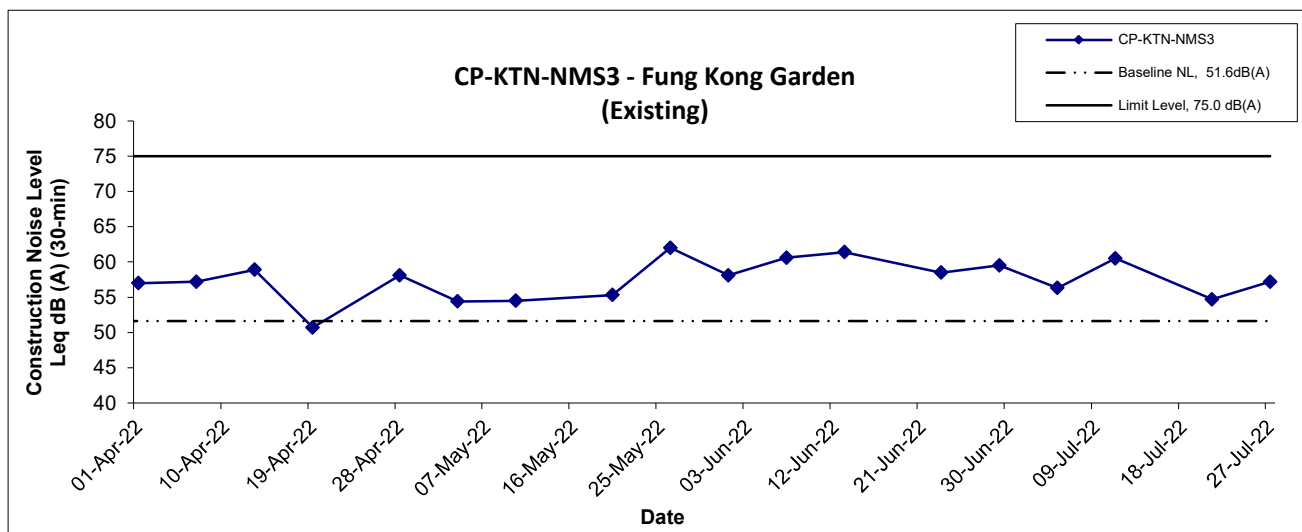
## Noise Levels




<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Construction Noise Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	
	<b>Date</b> Jul 22	<b>Appendix</b> F	



## Noise Levels



<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Construction Noise Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	 consulting . testing . research
	<b>Date</b> Jul 22	<b>Appendix</b> F	

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**APPENDIX G  
WATER QUALITY MONITORING  
RESULTS AND GRAPHICAL  
PRESENTATIONS**

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Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas  
Water Quality Monitoring Results

Location: SYR-CS1

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)		Arsenic (µg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
4-Jul-22	Cloudy	12:51	Middle	0.2	27.2 27.2	27.2	7.3 7.3	7.3	0.1 0.1	0.1	81.8 81.7	81.8	6.5 6.5	6.5	9.8 9.7	9.8	9 10	9.5	6 6	6.0
6-Jul-22	Cloudy	11:41	Middle	0.2	27.1 27.2	27.2	7.0 7.0	7.0	0.1 0.1	0.1	91.3 91.3	91.3	7.3 7.2	7.3	11.3 11.2	11.3	10 9	9.5	7 7	7.0
8-Jul-22	Sunny	13:00	Middle	0.3	33.3 33.3	33.3	7.6 7.6	7.6	0.1 0.1	0.1	85.3 85.3	85.3	6.1 6.1	6.1	3.8 3.9	3.9	10 9	9.5	6 7	6.5
11-Jul-22	Sunny	09:37	Middle	0.2	34.9 34.8	34.9	8.3 8.3	8.3	0.1 0.1	0.1	79.1 77.6	78.4	5.5 5.4	5.5	7.1 7.5	7.3	8 7	7.5	8 9	8.5
13-Jul-22	Sunny	11:35	Middle	0.2	27.9 27.9	27.9	8.3 8.3	8.3	0.1 0.1	0.1	65.4 65.3	65.4	5.1 5.1	5.1	3.6 3.5	3.6	6 6	6.0	7 7	7.0
15-Jul-22	Sunny	10:58	Middle	0.3	29.0 29.1	29.1	9.2 9.1	9.2	0.1 0.1	0.1	82.1 81.7	81.9	6.3 6.3	6.3	3.1 3.1	3.1	5 4	4.5	7 8	7.5
18-Jul-22	Sunny	10:53	Middle	0.3	30.6 30.6	30.6	8.3 8.2	8.3	0.1 0.1	0.1	70.8 70.6	70.7	5.3 5.3	5.3	4.1 4.1	4.1	6 6	6.0	8 8	8.0
20-Jul-22	Cloudy	11:30	Middle	0.3	31.4 31.4	31.4	7.4 7.4	7.4	0.1 0.1	0.1	68.9 68.9	68.9	5.1 5.1	5.1	4.5 4.5	4.5	3 3	3.0	9 8	8.5
22-Jul-22	Sunny	10:12	Middle	0.3	30.0 30.0	30.0	7.9 7.9	7.9	0.1 0.1	0.1	82.8 82.6	82.7	6.3 6.2	6.3	4.3 4.2	4.3	6 7	6.5	8 8	8.0
25-Jul-22	Sunny	11:19	Middle	0.2	29.2 29.2	29.2	7.6 7.6	7.6	0.1 0.1	0.1	73.5 73.3	73.4	5.6 5.6	5.6	6.1 6.1	6.1	16 14	15.0	9 9	9.0
27-Jul-22	Sunny	10:08	Middle	0.2	28.8 28.8	28.8	9.9 9.9	9.9	0.1 0.1	0.1	79.2 79.1	79.2	6.1 6.1	6.1	5.2 5.2	5.2	10 10	10.0	9 9	9.0
29-Jul-22	Rainy	16:44	Middle	0.3	30.0 30.0	30.0	9.5 9.5	9.5	0.1 0.1	0.1	85.1 85.0	85.1	6.4 6.4	6.4	7.2 7.1	7.2	9 10	9.5	8 9	8.5



Contract No. NDO 04/2019

Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas

Water Quality Monitoring Results

Location: SYR-IS1

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)		Arsenic (µg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
4-Jul-22	Cloudy	13:14	Middle	0.3	27.6 27.6	27.6	7.2 7.2	7.2	0.1 0.1	0.1	73.7 73.4	73.6	5.8 5.8	5.8	11.4 11.3	11.4	8 10	9.0	5 5	5.0
6-Jul-22	Cloudy	11:56	Middle	0.3	28.0 28.0	28.0	7.2 7.2	7.2	0.1 0.1	0.1	94.1 94.1	94.1	7.4 7.4	7.4	23.6 22.2	22.9	21 18	19.5	7 7	7.0
8-Jul-22	Sunny	13:14	Middle	0.2	31.3 31.4	31.4	7.7 7.7	7.7	0.1 0.1	0.1	89.8 89.7	89.8	6.6 6.6	6.6	9.2 9.2	9.2	27 26	26.5	7 7	7.0
11-Jul-22	Sunny	09:20	Middle	0.3	34.7 34.6	34.7	8.4 8.4	8.4	0.1 0.1	0.1	89.3 88.8	89.1	6.2 6.2	6.2	4.9 4.9	4.9	9 8	8.5	7 6	6.5
13-Jul-22	Sunny	11:47	Middle	0.4	31.7 31.7	31.7	8.2 8.2	8.2	0.1 0.1	0.1	86.9 86.8	86.9	6.4 6.4	6.4	8.2 8.1	8.2	7 8	7.5	6 6	6.0
15-Jul-22	Sunny	11:16	Middle	0.2	31.3 31.3	31.3	7.8 7.8	7.8	0.2 0.2	0.2	87.9 87.2	87.6	6.5 6.4	6.5	24.6 24.3	24.5	22 18	20.0	3 4	3.5
18-Jul-22	Sunny	11:16	Middle	0.2	31.7 31.7	31.7	8.0 8.0	8.0	0.1 0.1	0.1	85.0 84.5	84.8	6.2 6.2	6.2	12.2 12.3	12.3	30 25	27.5	5 5	5.0
20-Jul-22	Cloudy	11:51	Middle	0.2	31.3 31.3	31.3	7.5 7.5	7.5	0.1 0.1	0.1	84.7 84.5	84.6	6.3 6.2	6.3	10.5 10.5	10.5	20 24	22.0	5 6	5.5
22-Jul-22	Sunny	10:34	Middle	0.2	32.0 32.0	32.0	7.9 7.9	7.9	0.1 0.1	0.1	119.2 119.2	119.2	8.7 8.7	8.7	22.4 22.3	22.4	20 25	22.5	9 9	9.0
25-Jul-22	Sunny	11:32	Middle	0.3	30.3 30.3	30.3	7.4 7.4	7.4	0.1 0.1	0.1	83.4 83.4	83.4	6.3 6.3	6.3	13.7 13.8	13.8	16 19	17.5	10 10	10.0
27-Jul-22	Sunny	10:21	Middle	0.3	31.5 31.5	31.5	9.5 9.5	9.5	0.2 0.2	0.2	84.9 84.6	84.8	6.3 6.2	6.3	13.8 13.7	13.8	15 15	15.0	5 5	5.0
29-Jul-22	Rainy	16:55	Middle	0.2	30.2 30.2	30.2	10.1 10.1	10.1	0.1 0.1	0.1	78.8 78.3	78.6	5.9 5.9	5.9	18.9 18.7	18.8	28 27	27.5	10 10	10.0

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Water Quality Monitoring Results**

**Location: NTR-CS1**

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
4-Jul-22	Cloudy	15:35	Middle	0.2	27.1 27.2	27.2	7.1 7.1	7.1	0.1 0.1	0.1	92.4 92.5	92.5	7.4 7.4	7.4	11.1 11.0	11.1	12 11	11.5
6-Jul-22	Cloudy	14:28	Middle	0.3	28.5 28.5	28.5	7.1 7.1	7.1	0.0 0.0	0.0	95.2 95.3	95.3	7.4 7.4	7.4	15.9 15.9	15.9	15 15	15.0
8-Jul-22	Sunny	14:14	Middle	0.2	30.7 30.7	30.7	7.3 7.3	7.3	0.1 0.1	0.1	104.0 104.5	104.3	7.8 7.8	7.8	8.8 8.8	8.8	9 10	9.5
11-Jul-22	Sunny	12:06	Middle	0.3	33.5 33.6	33.6	7.8 7.8	7.8	0.1 0.1	0.1	115.8 115.8	115.8	8.2 8.2	8.2	7.3 7.1	7.2	5 5	5.0
13-Jul-22	Sunny	13:59	Middle	0.3	32.0 32.0	32.0	8.0 8.0	8.0	0.1 0.1	0.1	132.7 132.7	132.7	9.7 9.7	9.7	7.6 7.7	7.7	9 10	9.5
15-Jul-22	Sunny	12:06	Middle	0.3	29.9 29.9	29.9	8.0 8.0	8.0	0.1 0.1	0.1	134.8 134.8	134.8	10.2 10.2	10.2	10.4 10.7	10.6	8 9	8.5
18-Jul-22	Sunny	12:47	Middle	0.2	31.7 31.7	31.7	8.0 8.0	8.0	0.1 0.1	0.1	120.7 121.0	120.9	8.9 8.9	8.9	12.6 12.4	12.5	14 14	14.0
20-Jul-22	Cloudy	12:48	Middle	0.2	31.2 31.2	31.2	7.4 7.4	7.4	0.1 0.1	0.1	71.6 71.3	71.5	5.3 5.3	5.3	6.1 6.3	6.2	5 5	5.0
22-Jul-22	Sunny	12:03	Middle	0.2	33.1 33.1	33.1	8.8 8.7	8.8	0.1 0.1	0.1	131.1 131.3	131.2	9.4 9.4	9.4	14.3 14.3	14.3	14 14	14.0
25-Jul-22	Sunny	13:52	Middle	0.3	31.3 31.3	31.3	8.1 8.1	8.1	0.1 0.1	0.1	130.9 131.3	131.1	9.7 9.7	9.7	12.6 12.8	12.7	12 12	12.0
27-Jul-22	Sunny	12:03	Middle	0.3	31.7 31.7	31.7	10.3 10.3	10.3	0.1 0.1	0.1	151.3 151.9	151.6	11.1 11.2	11.2	18.2 18.2	18.2	17 18	17.5
29-Jul-22	Rainy	15:23	Middle	0.5	30.2 30.2	30.2	9.2 9.2	9.2	0.1 0.1	0.1	85.1 85.0	85.1	6.4 6.4	6.4	15.4 15.2	15.3	8 10	9.0

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Water Quality Monitoring Results**

**Location: NTR-IS1**

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
4-Jul-22	Cloudy	15:03	Middle	0.4	27.4 27.4	27.4	7.2 7.2	7.2	0.1 0.1	0.1	94.8 94.8	94.8	7.5 7.5	7.5	15.9 15.7	15.8	53 54	53.5
6-Jul-22	Cloudy	12:47	Middle	0.5	27.7 27.8	27.8	7.4 7.3	7.4	0.1 0.1	0.1	92.1 92.1	92.1	7.3 7.2	7.3	51.1 50.8	51.0	57 53	55.0
8-Jul-22	Sunny	13:57	Middle	0.3	30.5 30.5	30.5	7.4 7.4	7.4	0.0 0.0	0.0	91.0 90.8	90.9	6.8 6.8	6.8	8.7 8.6	8.7	10 9	9.5
11-Jul-22	Sunny	11:14	Middle	0.5	33.5 33.4	33.5	8.5 8.4	8.5	0.1 0.1	0.1	97.2 97.5	97.4	6.9 7.0	7.0	5.3 5.5	5.4	5 4	4.5
13-Jul-22	Sunny	12:56	Middle	0.7	31.4 31.4	31.4	8.3 8.3	8.3	0.1 0.1	0.1	115.0 115.0	115.0	8.5 8.5	8.5	4.3 4.3	4.3	4 4	4.0
15-Jul-22	Sunny	11:23	Middle	0.5	30.2 30.2	30.2	8.4 8.4	8.4	0.1 0.1	0.1	97.7 97.7	97.7	7.4 7.4	7.4	8.9 9.1	9.0	10 10	10.0
18-Jul-22	Sunny	12:18	Middle	0.3	31.1 31.1	31.1	7.9 7.9	7.9	0.1 0.1	0.1	94.3 94.3	94.3	7.0 7.0	7.0	8.7 8.6	8.7	5 5	5.0
20-Jul-22	Cloudy	12:30	Middle	0.3	31.1 31.1	31.1	7.6 7.6	7.6	0.1 0.1	0.1	93.6 93.2	93.4	6.9 6.9	6.9	2.4 2.4	2.4	<2.5 <2.5	<2.5
22-Jul-22	Sunny	11:13	Middle	0.3	29.6 29.6	29.6	8.5 8.5	8.5	0.1 0.1	0.1	95.6 95.6	95.6	7.3 7.3	7.3	15.4 15.5	15.5	11 13	12.0
25-Jul-22	Sunny	12:26	Middle	0.7	31.6 31.5	31.6	8.2 8.2	8.2	0.1 0.1	0.1	138.4 139.6	139.0	10.2 10.3	10.3	10.5 10.3	10.4	12 14	13.0
27-Jul-22	Sunny	11:11	Middle	0.5	29.8 29.8	29.8	9.8 9.8	9.8	0.1 0.1	0.1	78.7 78.9	78.8	6.0 6.0	6.0	14.4 14.4	14.4	11 13	12.0
29-Jul-22	Rainy	15:55	Middle	0.5	29.6 29.6	29.6	10.5 10.5	10.5	0.1 0.1	0.1	106.3 106.3	106.3	8.1 8.1	8.1	80.1 80.5	80.3	110 120	115.0



**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Water Quality Monitoring Results**

**Location: SHST-IS2**

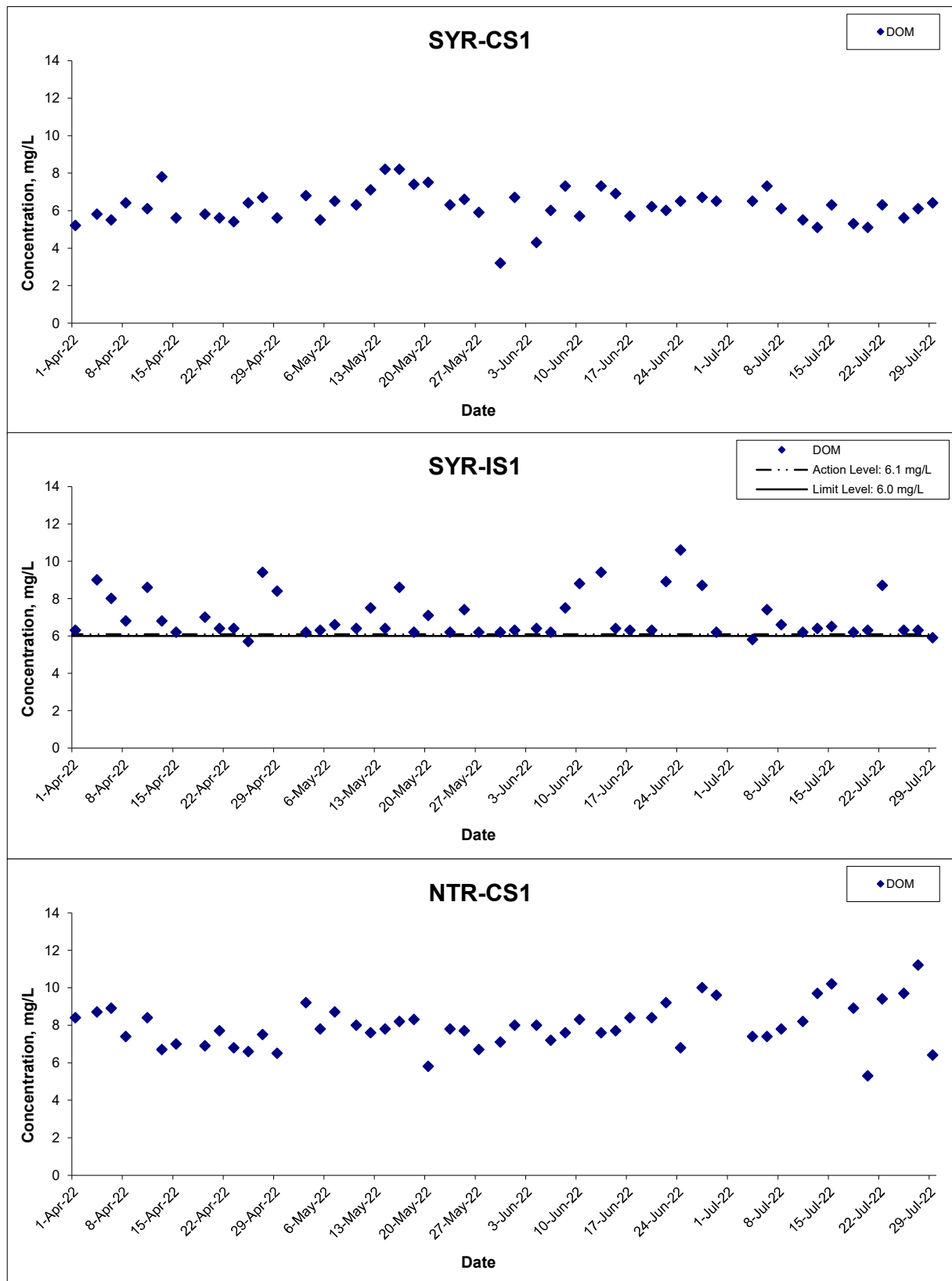
Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
4-Jul-22	Cloudy	14:28	Middle	0.3	26.7 26.7	26.7	7.7 7.7	7.7	0.1 0.1	0.1	93.1 92.9	93.0	7.5 7.5	7.5	45.5 45.7	45.6	47 44	45.5
6-Jul-22	Cloudy	12:58	Middle	0.1	27.7 27.8	27.8	7.4 7.3	7.4	0.1 0.1	0.1	90.9 90.9	90.9	7.2 7.2	7.2	37.7 37.0	37.4	24 29	26.5
8-Jul-22	Sunny	13:38	Middle	0.4	31.0 31.0	31.0	7.6 7.6	7.6	0.1 0.1	0.1	90.9 90.7	90.8	6.8 6.7	6.8	11.8 11.8	11.8	10 12	11.0
11-Jul-22	Sunny	11:25	Middle	0.1	33.2 33.2	33.2	8.1 8.1	8.1	0.1 0.1	0.1	99.6 99.5	99.6	7.1 7.1	7.1	8.2 8.5	8.4	5 5	5.0
13-Jul-22	Sunny	13:11	Middle	0.2	28.8 28.8	28.8	8.4 8.4	8.4	0.1 0.1	0.1	97.3 97.3	97.3	7.5 7.5	7.5	8.4 8.4	8.4	10 10	10.0
15-Jul-22	Sunny	11:33	Middle	0.1	26.8 26.7	26.8	9.0 9.0	9.0	0.1 0.1	0.1	89.8 89.5	89.7	7.2 7.2	7.2	12.5 12.4	12.5	9 10	9.5
18-Jul-22	Sunny	11:57	Middle	0.4	29.5 29.6	29.6	8.3 8.3	8.3	0.1 0.1	0.1	93.1 92.7	92.9	7.1 7.1	7.1	14.7 14.7	14.7	12 10	11.0
20-Jul-22	Cloudy	12:17	Middle	0.4	31.3 31.3	31.3	7.8 7.7	7.8	0.1 0.1	0.1	96.8 96.7	96.8	7.2 7.2	7.2	5.0 5.0	5.0	4 4	4.0
22-Jul-22	Sunny	11:32	Middle	0.4	33.7 33.7	33.7	8.9 8.9	8.9	0.1 0.1	0.1	99.5 99.4	99.5	7.1 7.1	7.1	10.5 10.7	10.6	16 15	15.5
25-Jul-22	Sunny	12:34	Middle	0.2	27.9 27.9	27.9	8.9 8.9	8.9	0.1 0.1	0.1	91.0 91.0	91.0	7.1 7.1	7.1	13.1 13.1	13.1	13 15	14.0
27-Jul-22	Sunny	11:27	Middle	0.1	26.2 26.2	26.2	11.0 11.0	11.0	0.1 0.1	0.1	89.8 89.2	89.5	7.3 7.2	7.3	13.0 13.0	13.0	7 6	6.5
29-Jul-22	Rainy	16:16	Middle	0.1	27.1 27.0	27.1	10.7 10.6	10.7	0.1 0.1	0.1	86.1 85.7	85.9	6.9 6.8	6.9	30.5 29.6	30.1	26 32	29.0


**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Water Quality Monitoring Results**

**Location: MWR-IS3**

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
4-Jul-22	Cloudy	15:45	Middle	0.2	27.2 27.2	27.2	7.3 7.3	7.3	0.1 0.1	0.1	93.6 93.6	93.6	7.4 7.4	7.4	12.3 12.2	12.3	16 19	17.5
6-Jul-22	Cloudy	13:53	Middle	0.3	28.2 28.3	28.3	7.9 7.8	7.9	0.1 0.1	0.1	101.6 101.5	101.6	7.9 7.9	7.9	24.5 24.1	24.3	44 37	40.5
8-Jul-22	Sunny	14:29	Middle	0.2	30.4 30.4	30.4	7.3 7.3	7.3	0.1 0.1	0.1	102.9 103.3	103.1	7.7 7.8	7.8	10.4 10.3	10.4	12 12	12.0
11-Jul-22	Sunny	11:57	Middle	0.3	34.4 34.3	34.4	7.9 7.9	7.9	0.1 0.1	0.1	123.2 123.3	123.3	8.7 8.7	8.7	9.4 9.5	9.5	9 10	9.5
13-Jul-22	Sunny	13:48	Middle	0.3	31.4 31.4	31.4	8.3 8.3	8.3	0.1 0.1	0.1	128.6 129.0	128.8	9.5 9.5	9.5	7.5 7.3	7.4	11 10	10.5
15-Jul-22	Sunny	11:55	Middle	0.3	30.1 30.1	30.1	8.4 9.4	8.9	0.1 0.1	0.1	137.8 137.9	137.9	10.4 10.4	10.4	7.1 7.2	7.2	7 8	7.5
18-Jul-22	Sunny	13:01	Middle	0.2	32.2 32.2	32.2	8.3 8.3	8.3	0.1 0.1	0.1	135.2 134.3	134.8	9.9 9.8	9.9	13.4 13.2	13.3	13 15	14.0
20-Jul-22	Cloudy	13:05	Middle	0.2	31.2 31.2	31.2	7.6 7.6	7.6	0.1 0.1	0.1	117.6 117.3	117.5	8.7 8.7	8.7	6.8 6.8	6.8	9 10	9.5
22-Jul-22	Sunny	12:20	Middle	0.2	32.6 32.6	32.6	8.9 8.9	8.9	0.1 0.1	0.1	127.4 127.9	127.7	9.2 9.3	9.3	14.7 14.5	14.6	15 14	14.5
25-Jul-22	Sunny	13:37	Middle	0.3	31.3 31.3	31.3	8.4 8.4	8.4	0.1 0.1	0.1	130.3 130.5	130.4	9.6 9.7	9.7	12.3 12.4	12.4	13 13	13.0
27-Jul-22	Sunny	11:52	Middle	0.3	31.3 31.3	31.3	10.3 10.3	10.3	0.1 0.1	0.1	144.4 146.8	145.6	10.7 10.9	10.8	19.8 18.4	19.1	16 19	17.5
29-Jul-22	Rainy	15:35	Middle	0.5	29.6 29.6	29.6	10.5 10.5	10.5	0.1 0.1	0.1	106.2 106.2	106.2	8.1 8.1	8.1	88.8 90.0	89.4	100 90	95.0

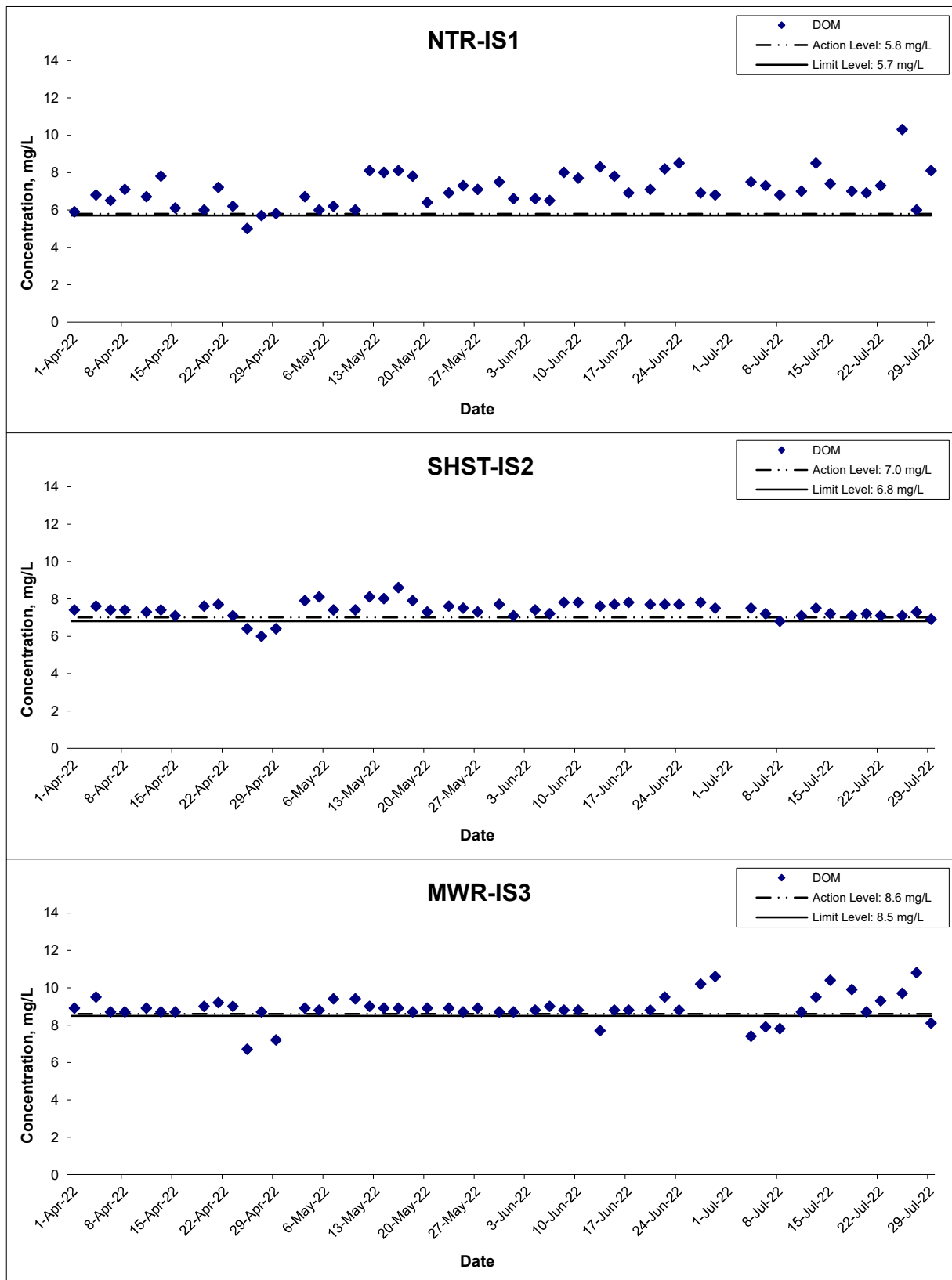
## Dissolved Oxygen (Middle)




<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	 consulting . testing . research
	<b>Date</b> Jul 22	<b>Appendix</b> G	

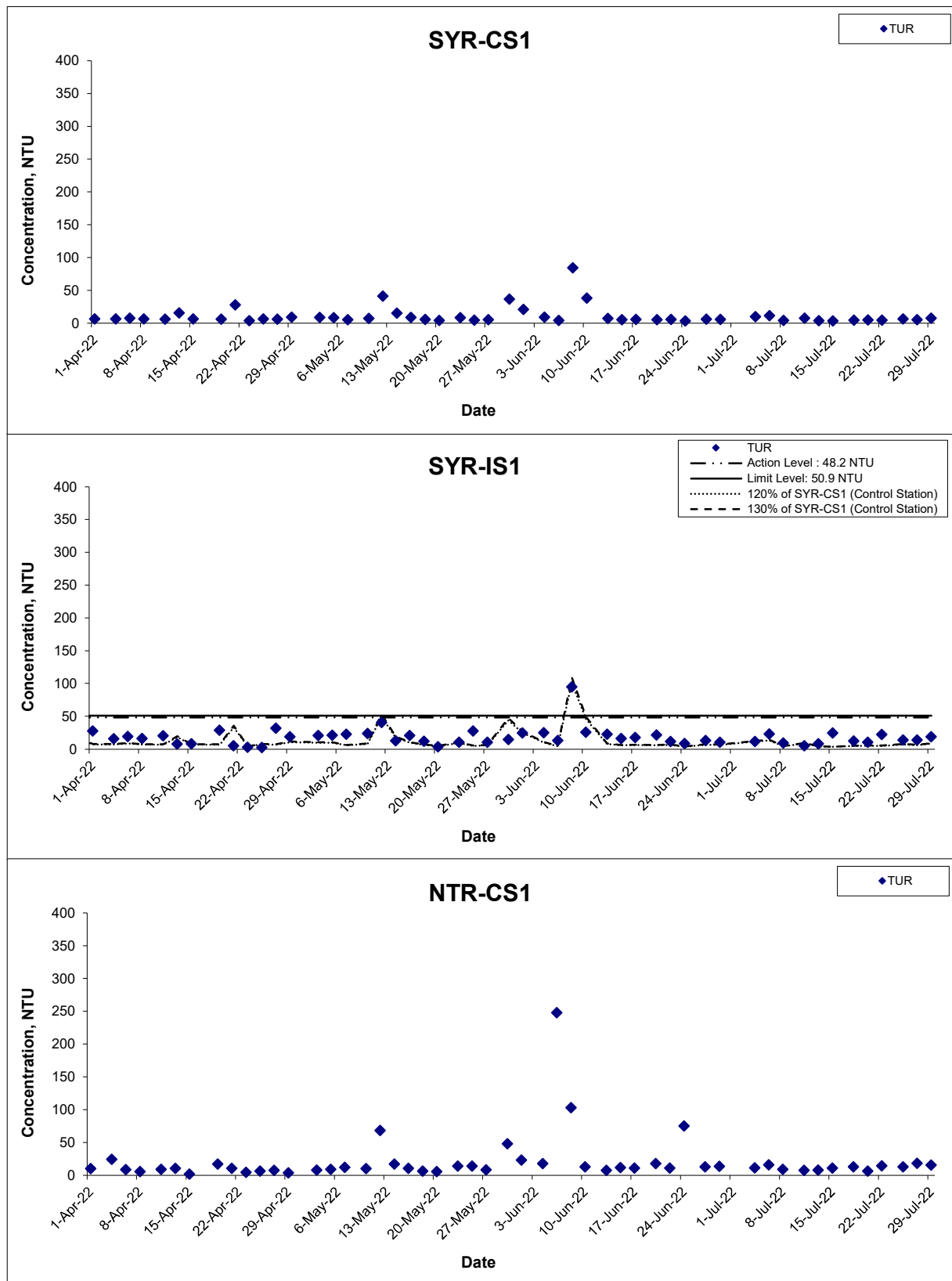


## Dissolved Oxygen (Middle)



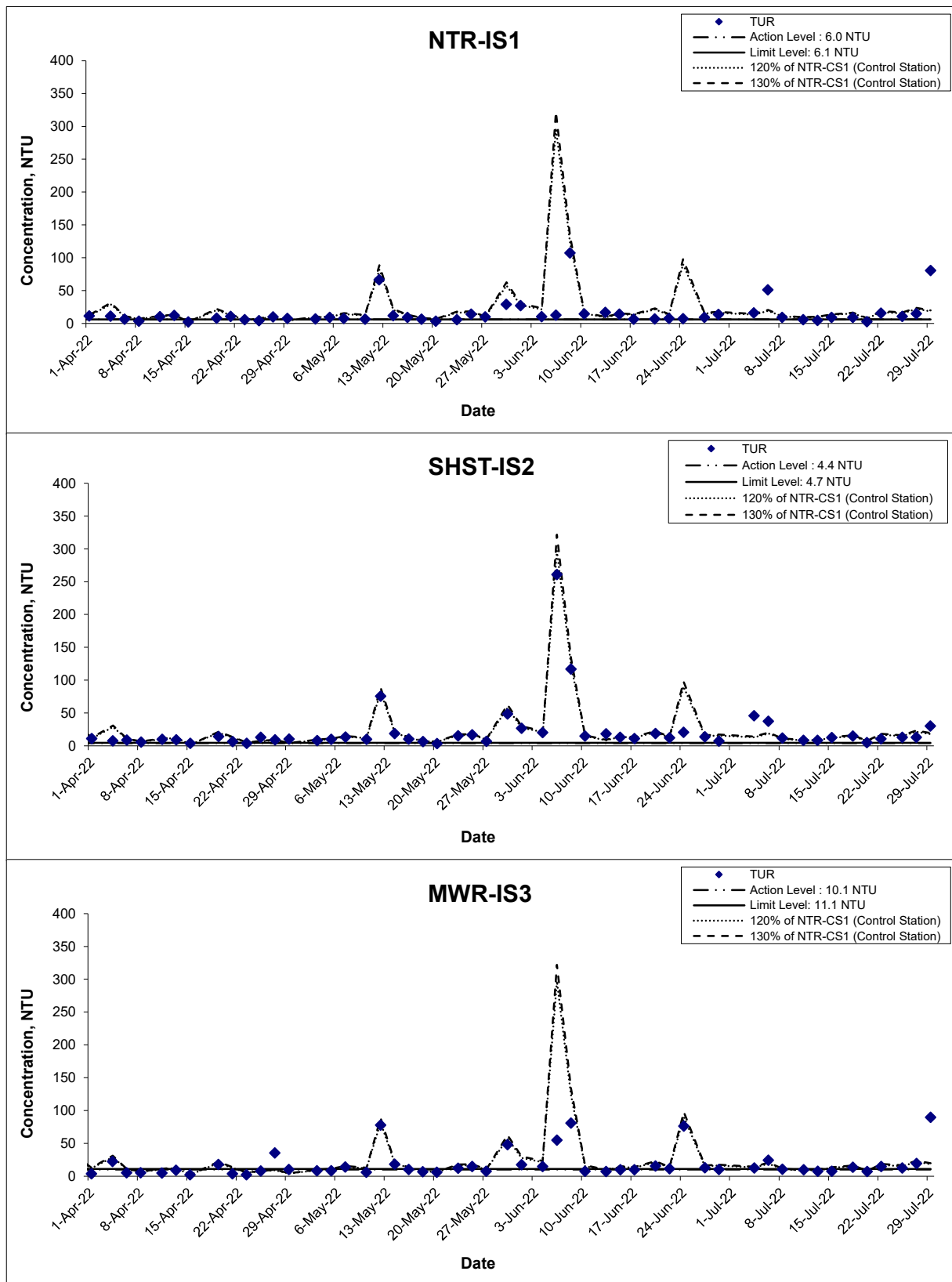
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	<b>Date</b> Jul 22	<b>Appendix</b> G	

## Turbidity (Depth-averaged)



<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	<b>WELLAB 匯力</b> consulting . testing . research
	<b>Date</b> Jul 22	<b>Appendix</b> G	

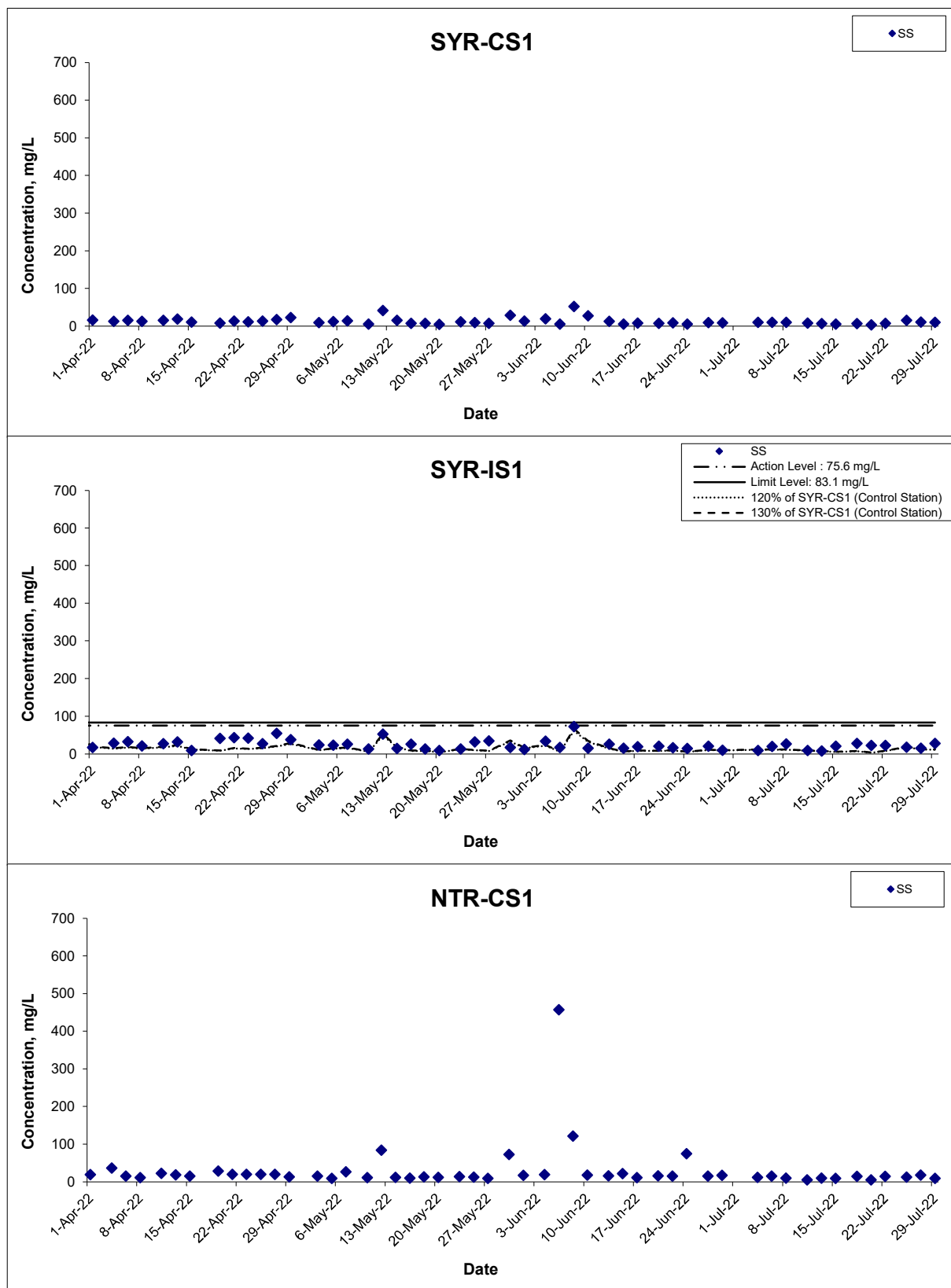
## Turbidity (Depth-averaged)




<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	<b>WELLAB 匯力</b> consulting . testing . research
	<b>Date</b> Jul 22	<b>Appendix</b> G	

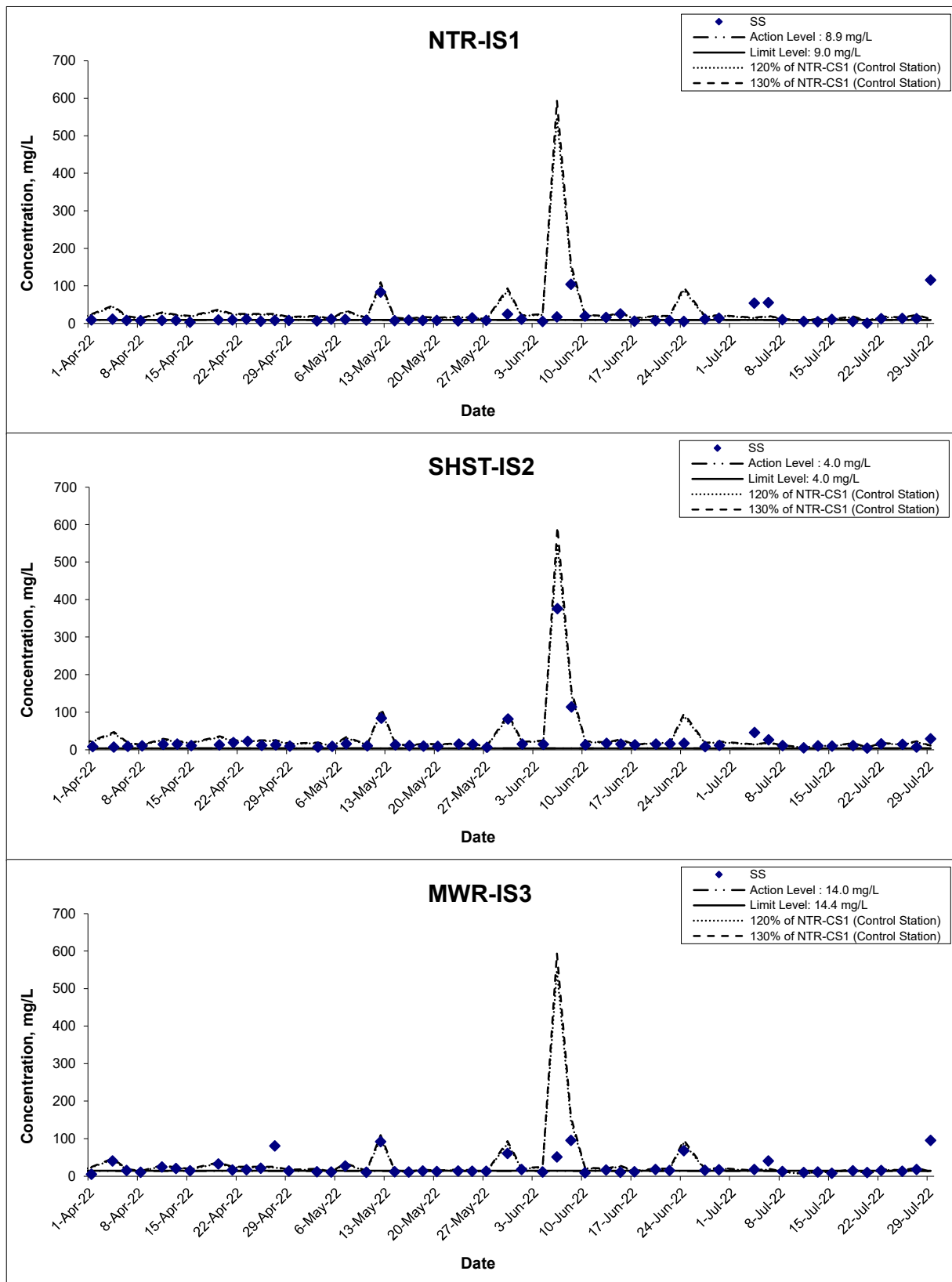


## Suspended Solids (Depth-averaged)



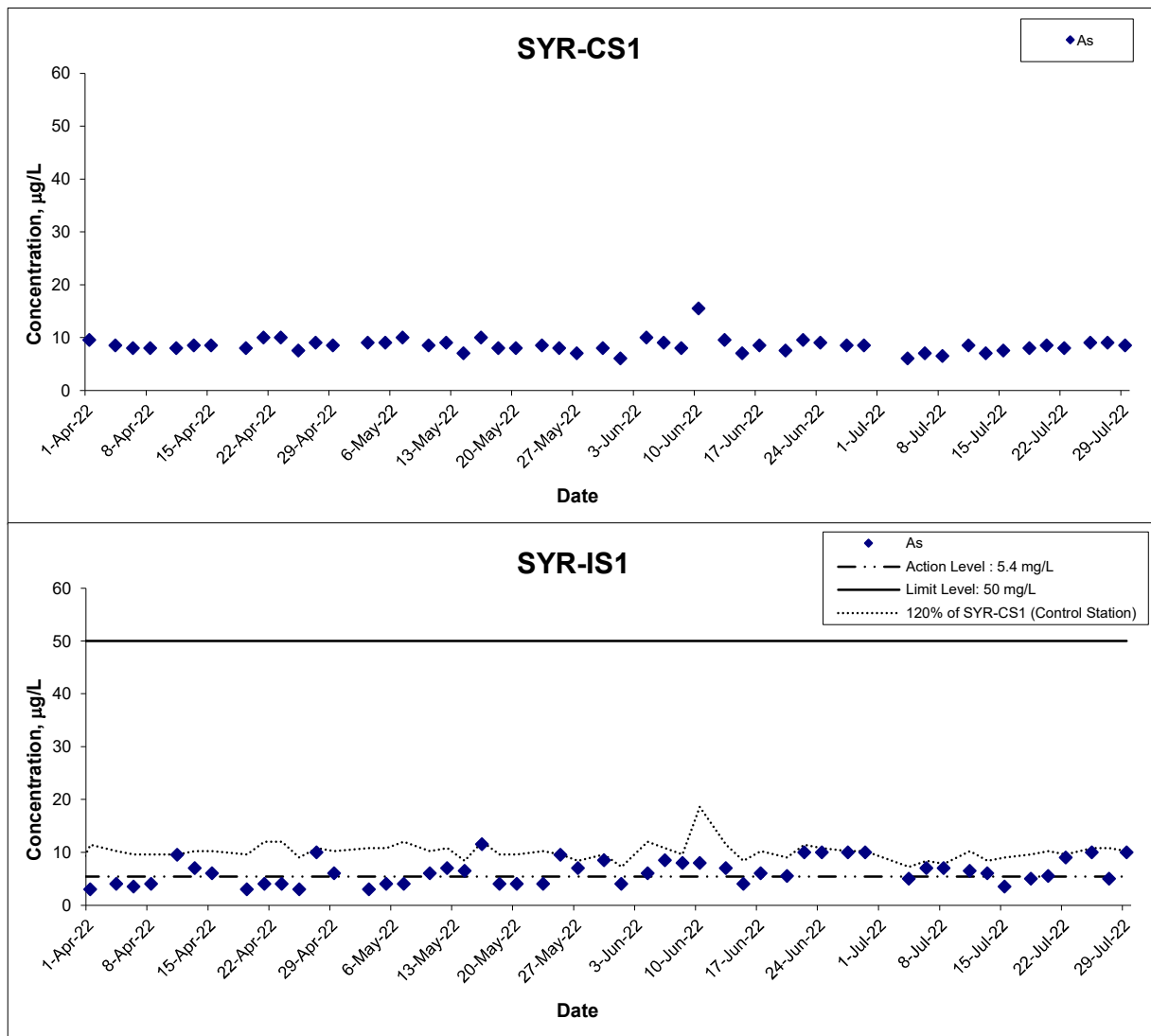
Title	Contract No. NDO 04/2019	Scale	Project No.	
	Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas	N.T.S	WMA20002	
Graphical Presentation of Water Quality Monitoring Results		Date	Appendix	
		Jul 22	G	

## Suspended Solids (Depth-averaged)



<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas  Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	<b>WELLAB 匯力</b> consulting . testing . research
	<b>Date</b> Jul 22	<b>Appendix</b> G	

## Arsenic (Depth-averaged)



<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	<b>WELLAB 匯力</b> consulting . testing . research
	<b>Date</b> Jul 22	<b>Appendix</b> G	



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**APPENDIX H**  
**LABORATORY TESTING REPORTS FOR**  
**LABORATORY ANALYSIS**

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## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36843
Date of Issue:	2022-07-08
Date Received:	2022-07-04
Date Tested:	2022-07-04
Date Completed:	2022-07-08

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36843  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220704  
**Sampling Date :** 2022-07-04

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36843-2	36843-3	36843-5	36843-6
Total Suspended Solids dried at 103-105°C (mg/L)	9	10	8	10
Arsenic (µg/L)	6	6	5	5

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36843A
Date of Issue:	2022-07-08
Date Received:	2022-07-04
Date Tested:	2022-07-04
Date Completed:	2022-07-08

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36843A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220704  
**Sampling Date :** 2022-07-04

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36843-8	36843-9	36843-11	36843-12
Total Suspended Solids dried at 103-105°C (mg/L)	12	11	53	54

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36843-14	36843-15	36843-17	36843-18
Total Suspended Solids dried at 103-105°C (mg/L)	47	44	16	19

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36847
Date of Issue:	2022-07-12
Date Received:	2022-07-06
Date Tested:	2022-07-06
Date Completed:	2022-07-12

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36847  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220706  
**Sampling Date :** 2022-07-06

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36847-2	36847-3	36847-5	36847-6
Total Suspended Solids dried at 103-105°C (mg/L)	10	9	21	18
Arsenic (µg/L)	7	7	7	7

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36847A
Date of Issue:	2022-07-12
Date Received:	2022-07-06
Date Tested:	2022-07-06
Date Completed:	2022-07-12

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36847A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220706  
**Sampling Date :** 2022-07-06

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36847-8	36847-9	36847-11	36847-12
Total Suspended Solids dried at 103-105°C (mg/L)	15	15	57	53

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36847-14	36847-15	36847-17	36847-18
Total Suspended Solids dried at 103-105°C (mg/L)	24	29	44	37

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36851
Date of Issue:	2022-07-14
Date Received:	2022-07-08
Date Tested:	2022-07-08
Date Completed:	2022-07-14

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36851  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220708  
**Sampling Date :** 2022-07-08

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36851-2	36851-3	36851-5	36851-6
Total Suspended Solids dried at 103-105°C (mg/L)	10	9	27	26
Arsenic (µg/L)	6	7	7	7

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36851A
Date of Issue:	2022-07-14
Date Received:	2022-07-08
Date Tested:	2022-07-08
Date Completed:	2022-07-14

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36851A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220708  
**Sampling Date :** 2022-07-08

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36851-8	36851-9	36851-11	36851-12
Total Suspended Solids dried at 103-105°C (mg/L)	9	10	10	9

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36851-14	36851-15	36851-17	36851-18
Total Suspended Solids dried at 103-105°C (mg/L)	10	12	12	12

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36860
Date of Issue:	2022-07-15
Date Received:	2022-07-11
Date Tested:	2022-07-11
Date Completed:	2022-07-15

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36860  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220711  
**Sampling Date :** 2022-07-11

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36860-2	36860-3	36860-5	36860-6
Total Suspended Solids dried at 103-105°C (mg/L)	8	7	9	8
Arsenic (µg/L)	8	9	7	6

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36860A
Date of Issue:	2022-07-15
Date Received:	2022-07-11
Date Tested:	2022-07-11
Date Completed:	2022-07-15

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36860A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220711  
**Sampling Date :** 2022-07-11

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36860-8	36860-9	36860-11	36860-12
Total Suspended Solids dried at 103-105°C (mg/L)	5	5	5	4

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36860-14	36860-15	36860-17	36860-18
Total Suspended Solids dried at 103-105°C (mg/L)	5	5	9	10

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36864
Date of Issue:	2022-07-19
Date Received:	2022-07-13
Date Tested:	2022-07-13
Date Completed:	2022-07-19

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36864  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220713  
**Sampling Date :** 2022-07-13

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36864-2	36864-3	36864-5	36864-6
Total Suspended Solids dried at 103-105°C (mg/L)	6	6	7	8
Arsenic (µg/L)	7	7	6	6

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36864A
Date of Issue:	2022-07-19
Date Received:	2022-07-13
Date Tested:	2022-07-13
Date Completed:	2022-07-19

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36864A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220713  
**Sampling Date :** 2022-07-13

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36864-8	36864-9	36864-11	36864-12
Total Suspended Solids dried at 103-105°C (mg/L)	9	10	4	4

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36864-14	36864-15	36864-17	36864-18
Total Suspended Solids dried at 103-105°C (mg/L)	10	10	11	10

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36866
Date of Issue:	2022-07-21
Date Received:	2022-07-15
Date Tested:	2022-07-15
Date Completed:	2022-07-21

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36866  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220715  
**Sampling Date :** 2022-07-15

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36866-2	36866-3	36866-5	36866-6
Total Suspended Solids dried at 103-105°C (mg/L)	5	4	22	18
Arsenic (µg/L)	7	8	3	4

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36866A
Date of Issue:	2022-07-21
Date Received:	2022-07-15
Date Tested:	2022-07-15
Date Completed:	2022-07-21

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36866A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220715  
**Sampling Date :** 2022-07-15

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36866-8	36866-9	36866-11	36866-12
Total Suspended Solids dried at 103-105°C (mg/L)	8	9	10	10

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36866-14	36866-15	36866-17	36866-18
Total Suspended Solids dried at 103-105°C (mg/L)	9	10	7	8

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36881
Date of Issue:	2022-07-22
Date Received:	2022-07-18
Date Tested:	2022-07-18
Date Completed:	2022-07-22

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36881  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220718  
**Sampling Date :** 2022-07-18

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36881-2	36881-3	36881-5	36881-6
Total Suspended Solids dried at 103-105°C (mg/L)	6	6	30	25
Arsenic (µg/L)	8	8	5	5

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36881A
Date of Issue:	2022-07-22
Date Received:	2022-07-18
Date Tested:	2022-07-18
Date Completed:	2022-07-22

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36881A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220718  
**Sampling Date :** 2022-07-18

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36881-8	36881-9	36881-11	36881-12
Total Suspended Solids dried at 103-105°C (mg/L)	14	14	5	5

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36881-14	36881-15	36881-17	36881-18
Total Suspended Solids dried at 103-105°C (mg/L)	12	10	13	15

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36886
Date of Issue:	2022-07-26
Date Received:	2022-07-20
Date Tested:	2022-07-20
Date Completed:	2022-07-26

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36886  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220720  
**Sampling Date :** 2022-07-20

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36886-2	36886-3	36886-5	36886-6
Total Suspended Solids dried at 103-105°C (mg/L)	3	3	20	24
Arsenic (µg/L)	9	8	5	6

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.: 36886A  
Date of Issue: 2022-07-26  
Date Received: 2022-07-20  
Date Tested: 2022-07-20  
Date Completed: 2022-07-26

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36886A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220720  
**Sampling Date :** 2022-07-20

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36886-8	36886-9	36886-11	36886-12
Total Suspended Solids dried at 103-105°C (mg/L)	5	5	<2.5	<2.5

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36886-14	36886-15	36886-17	36886-18
Total Suspended Solids dried at 103-105°C (mg/L)	4	4	9	10

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36890
Date of Issue:	2022-07-28
Date Received:	2022-07-22
Date Tested:	2022-07-22
Date Completed:	2022-07-28

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36890  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220722  
**Sampling Date :** 2022-07-22

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36890-2	36890-3	36890-5	36890-6
Total Suspended Solids dried at 103-105°C (mg/L)	6	7	20	25
Arsenic (µg/L)	9	8	9	9

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36890A
Date of Issue:	2022-07-28
Date Received:	2022-07-22
Date Tested:	2022-07-22
Date Completed:	2022-07-28

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36890A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220722  
**Sampling Date :** 2022-07-22

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36890-8	36890-9	36890-11	36890-12
Total Suspended Solids dried at 103-105°C (mg/L)	14	14	11	13

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36890-14	36890-15	36890-17	36890-18
Total Suspended Solids dried at 103-105°C (mg/L)	16	15	14	14

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36902
Date of Issue:	2022-07-29
Date Received:	2022-07-25
Date Tested:	2022-07-25
Date Completed:	2022-07-29

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36902  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220725  
**Sampling Date :** 2022-07-25

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

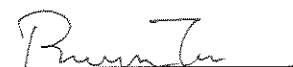
Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36902-2	36902-3	36902-5	36902-6
Total Suspended Solids dried at 103-105°C (mg/L)	16	14	16	19
Arsenic (µg/L)	9	9	10	10

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36902A
Date of Issue:	2022-07-29
Date Received:	2022-07-25
Date Tested:	2022-07-25
Date Completed:	2022-07-29

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36902A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220725  
**Sampling Date :** 2022-07-25

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36902-8	36902-9	36902-11	36902-12
Total Suspended Solids dried at 103-105°C (mg/L)	12	12	12	14

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36902-14	36902-15	36902-17	36902-18
Total Suspended Solids dried at 103-105°C (mg/L)	13	15	13	13

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36906
Date of Issue:	2022-07-31
Date Received:	2022-07-27
Date Tested:	2022-07-27
Date Completed:	2022-07-31

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36906  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220727  
**Sampling Date :** 2022-07-27

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36906-2	36906-3	36906-5	36906-6
Total Suspended Solids dried at 103-105°C (mg/L)	10	10	15	15
Arsenic (µg/L)	9	9	5	5

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36906A
Date of Issue:	2022-07-31
Date Received:	2022-07-27
Date Tested:	2022-07-27
Date Completed:	2022-07-31

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36906A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220727  
**Sampling Date :** 2022-07-27

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36906-8	36906-9	36906-11	36906-12
Total Suspended Solids dried at 103-105°C (mg/L)	17	18	11	13

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36906-14	36906-15	36906-17	36906-18
Total Suspended Solids dried at 103-105°C (mg/L)	7	6	16	19

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

**TEST REPORT****APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36910
Date of Issue:	2022-08-04
Date Received:	2022-07-29
Date Tested:	2022-07-29
Date Completed:	2022-08-04

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 36910  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220729  
**Sampling Date :** 2022-07-29

**Tests Requested & Methodology:**


Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

**Results:**

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	36910-2	36910-3	36910-5	36910-6
Total Suspended Solids dried at 103-105°C (mg/L)	9	10	28	27
Arsenic (µg/L)	8	9	10	10

Remarks: 1) &lt;= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*For and On Behalf of **WELLAB Ltd.****PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	36910A
Date of Issue:	2022-08-04
Date Received:	2022-07-29
Date Tested:	2022-07-29
Date Completed:	2022-08-04

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 36910A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/220729  
**Sampling Date :** 2022-07-29

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	36910-8	36910-9	36910-11	36910-12
Total Suspended Solids dried at 103-105°C (mg/L)	8	10	110	120

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	36910-14	36910-15	36910-17	36910-18
Total Suspended Solids dried at 103-105°C (mg/L)	26	32	100	90

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

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**APPENDIX I  
QUALITY CONTROL REPORTS FOR SS  
AND ARSENIC LABORATORY  
ANALYSIS**

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## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36843
Date of Issue:	2022-07-12
Date Received:	2022-07-06
Date Tested:	2022-07-06
Date Completed:	2022-07-12

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	103	97	80-120
Arsenic (%)	96	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	109	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	2	3	RPD≤5%
Arsenic (%)	1	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36843.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIA TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36843
Date of Issue:	2022-07-08
Date Received:	2022-07-04
Date Tested:	2022-07-04
Date Completed:	2022-07-08

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	105	103	80-120
Arsenic (%)	100	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	96	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	0	4	RPD≤5%
Arsenic (%)	7	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36843.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIA TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36851
Date of Issue:	2022-07-14
Date Received:	2022-07-08
Date Tested:	2022-07-08
Date Completed:	2022-07-14

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	106	106	80-120
Arsenic (%)	93	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	86	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	4	1	RPD≤5%
Arsenic (%)	5	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36851.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIA TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36860
Date of Issue:	2022-07-15
Date Received:	2022-07-11
Date Tested:	2022-07-11
Date Completed:	2022-07-15

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	101	106	80-120
Arsenic (%)	9791	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)		N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	2	4	RPD≤5%
Arsenic (%)	7	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36860.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36864
Date of Issue:	2022-07-19
Date Received:	2022-07-13
Date Tested:	2022-07-13
Date Completed:	2022-07-19

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	95	105	80-120
Arsenic (%)	89	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	85	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	4	1	RPD≤5%
Arsenic (%)	9	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36864.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36866
Date of Issue:	2022-07-21
Date Received:	2022-07-15
Date Tested:	2022-07-15
Date Completed:	2022-07-21

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	101	86	80-120
Arsenic (%)	83	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	90	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	4	2	RPD≤5%
Arsenic (%)	15	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36866.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36881
Date of Issue:	2022-07-22
Date Received:	2022-07-18
Date Tested:	2022-07-18
Date Completed:	2022-07-22

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	98	103	80-120
Arsenic (%)	91	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	88	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	1	1	RPD≤5%
Arsenic (%)	4	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36881.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRIC TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36886
Date of Issue:	2022-07-26
Date Received:	2022-07-20
Date Tested:	2022-07-20
Date Completed:	2022-07-26

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	95	96	80-120
Arsenic (%)	101	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	86	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	3	1	RPD≤5%
Arsenic (%)	5	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36886.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIA TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36890
Date of Issue:	2022-07-28
Date Received:	2022-07-22
Date Tested:	2022-07-22
Date Completed:	2022-07-28

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	99	94	80-120
Arsenic (%)	98	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	102	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	1	4	RPD≤5%
Arsenic (%)	8	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36890.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36902
Date of Issue:	2022-07-29
Date Received:	2022-07-25
Date Tested:	2022-07-25
Date Completed:	2022-07-29

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	110	108	80-120
Arsenic (%)	97	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	82	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	2	3	RPD≤5%
Arsenic (%)	2	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36902.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIA TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36906
Date of Issue:	2022-07-31
Date Received:	2022-07-27
Date Tested:	2022-07-27
Date Completed:	2022-07-31

**ATTN:** Mr. Marco Ma

Page: 1 of 1

### QC report

#### Method Blank

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

#### Method QC

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	105	104	80-120
Arsenic (%)	97	N/A	80-120

#### Sample Spike

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	93	N/A	80-120

#### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	1	2	RPD≤5%
Arsenic (%)	1	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36906.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC36910
Date of Issue:	2022-08-04
Date Received:	2022-07-29
Date Tested:	2022-07-29
Date Completed:	2022-08-04

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	98	100	80-120
Arsenic (%)	100	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	101	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	1	1	RPD≤5%
Arsenic (%)	4	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 36910.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager

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**APPENDIX J  
LANDFILL GAS MONITORING  
RESULTS**

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**Contract No. ND/2019/01**

**Development of Kwu Tung North & Fanling North New Development Area, Phase 1:  
Kwu Tung North New Development Area, Phase 1: Site formation & Infrastructure works**

堆填區附近區域(Consultation Zone)每月氣體監察記錄

日期及時間	位置	氣體及安全標準	氧氣 O <sub>2</sub> >19%	甲烷 CH <sub>4</sub> <10% LEL	二氧化碳 CO <sub>2</sub> <0.5%
29-07-2022 10:28	CZ PT 1		20.58	0.00	0.02
29-07-2022 10:30	CZ container 1		20.20	0.00	0.01
29-07-2022 10:22	CZ container 2		20.98	0.00	0.01
29-07-2022 10:24	CZ container 3		20.98	0.00	0.00
29-07-2022 10:26	CZ container 4		20.92	0.00	0.00
29-07-2022 10:32	CZ container 5		20.03	0.00	0.02

Prepared by : Y L Chan (Safety Officer)

Date : 29-07-2022



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**APPENDIX K  
BUILT HERITAGE MONITORING  
RESULTS**

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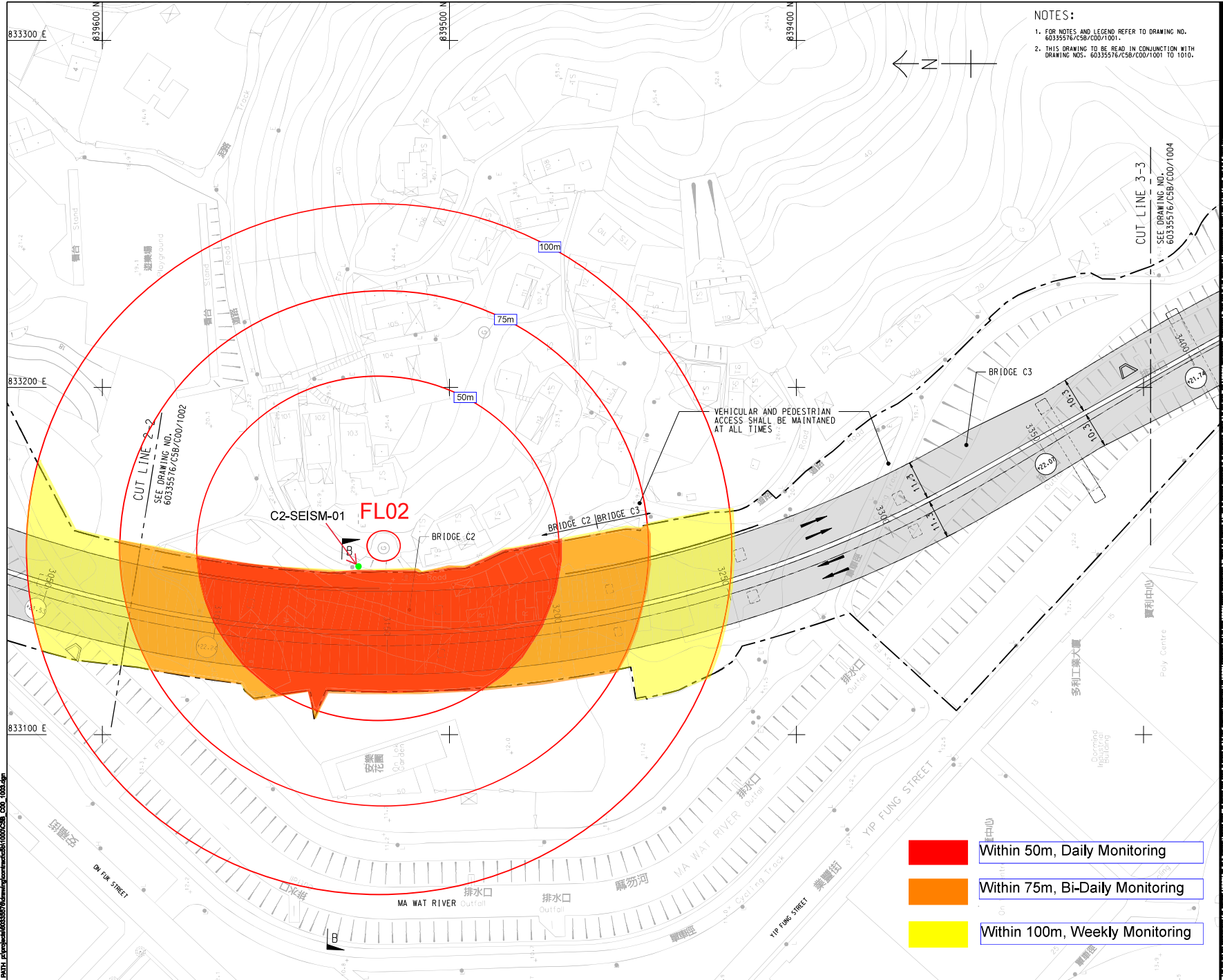
## Summary of vibration readings at FL02 (C2-SEISM-01)



Table 2.3: Vibration Limit from PNAP APP-137 & PS 34.01(2)

TYPE OF BUILDING	GUIDE VALUES OF MAXIMUM PPV* (MM/SEC)	
	TRANSIENT VIBRATION	CONTINUOUS VIBRATION
Vibration-sensitive / dilapidated buildings#	7.5	3.0

Date	Max. PPV recorded (mm/s)	Serial no. of device (Micromate/ Supergraph)
04 Jul 2022	1.100	UM17124
05 Jul 2022	0.262	UM17124
06 Jul 2022	0.381	UM17121
07 Jul 2022	0.361	UM17126
08 Jul 2022	0.315	UM17124
09 Jul 2022	0.311	UM17126
11 Jul 2022	0.652	UM17121
12 Jul 2022	0.561	UM17124
13 Jul 2022	0.501	UM17126
14 Jul 2022	0.277	UM17121
15 Jul 2022	0.244	UM17126
16 Jul 2022	0.200	UM17121
18 Jul 2022	0.368	UM17124
19 Jul 2022	0.444	UM17126
20 Jul 2022	0.090	UM17126
21 Jul 2022	1.239	UM17121
22 Jul 2022	0.060	UM17124
23 Jul 2022	0.088	UM17126
25 Jul 2022	0.062	UM17124
26 Jul 2022	0.236	UM17121
27 Jul 2022	0.274	UM17121
28 Jul 2022	0.061	UM17124
29 Jul 2022	0.065	UM17126
30 Jul 2022	0.138	UM17126



NOTES:  
 1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C5B/C00/1001.  
 2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C5B/C00/1001 TO 1010.

- Within 50m, Daily Monitoring
- Within 75m, Bi-Daily Monitoring
- Within 100m, Weekly Monitoring

**PROJECT**  
 DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

**CONTRACT TITLE:**  
 FANLING NORTH NEW DEVELOPMENT AREA, PHASE 1: FANLING BYPASS EASTERN SECTION (SHUNG HIM TONG TO KAU LUNG HANG)

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

**CONSULTANT**  
 AECOM Asia Company Ltd.  
 www.aecom.com

**SUB-CONSULTANTS**  
 2017/06/04

ISSUE/REVISION		
NO.	DATE	DESCRIPTION
1	JUN-19	TENDER DRAWING

**STATUS**  
 TENDER DRAWING

**SCALE**  
 A1: 800

**DIMENSION UNIT**  
 METRES

**KEY PLAN**  
 A1: 1:70000

**PROJECT NO.**  
 60335576

**CONTRACT NO.**  
 ND/2019/05

**SHEET TITLE**  
 GENERAL LAYOUT

**SHEET NUMBER**  
 60335576/C5B/C00/1003

SHEET 3 OF 10

## Summary of vibration readings at FL27 (C1-SEISM-04)

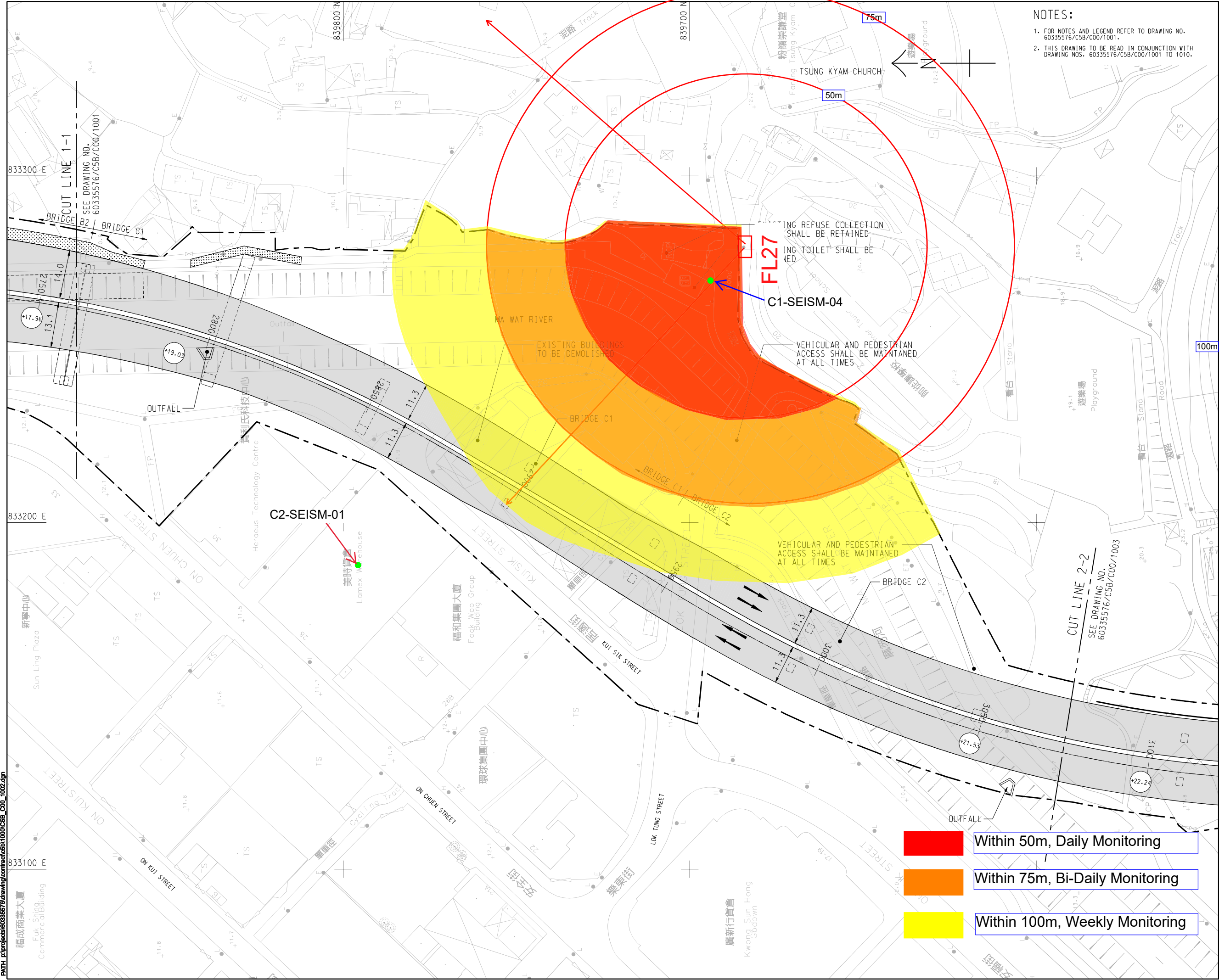


Table 2.3: Vibration Limit from PNAP APP-137 & PS 34.01(2)

TYPE OF BUILDING	GUIDE VALUES OF MAXIMUM PPV* (MM/SEC)	
	TRANSIENT VIBRATION	CONTINUOUS VIBRATION
Vibration-sensitive / dilapidated buildings#	7.5	3.0

Date	Max. PPV recorded (mm/s)	Serial no. of device (Micromate/ Supergraph)
04 Jul 2022	0.189	UM17121
05 Jul 2022	0.379	UM17124
06 Jul 2022	0.277	UM17126
07 Jul 2022	0.315	UM17121
08 Jul 2022	0.697	UM17121
09 Jul 2022	0.085	UM17124
11 Jul 2022	0.133	UM17126
12 Jul 2022	0.131	UM17124
13 Jul 2022	0.421	UM17121
14 Jul 2022	0.312	UM17121
15 Jul 2022	0.183	UM17124
16 Jul 2022	0.277	UM17124
18 Jul 2022	0.107	UM17126
19 Jul 2022	0.393	UM17121
20 Jul 2022	0.216	UM17124
21 Jul 2022	0.433	UM17121
22 Jul 2022	0.121	UM17124
23 Jul 2022	0.157	UM17126
25 Jul 2022	1.090	UM17121
26 Jul 2022	0.100	UM17124
27 Jul 2022	0.111	UM17126
28 Jul 2022	0.543	UM17121
29 Jul 2022	0.112	UM17124
30 Jul 2022	0.104	UM17126





NOTES:

- FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C5B/C00/1001.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C5B/C00/1001 TO 1010.

**AECOM**

PROJECT

**DEVELOPMENT OF  
KWU TUNG NORTH AND  
FANLING NORTH  
NEW DEVELOPMENT  
AREAS, PHASE 1**

CONTRACT TITLE:

**FANLING NORTH NEW  
DEVELOPMENT AREA, PHASE 1:  
FANLING BYPASS  
EASTERN SECTION  
(SHUNG HIM TONG TO  
KAU LUNG HANG)**

CLIENT

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

CONSULTANT

**AECOM Asia Company Ltd.**  
www.aecom.com

SUB-CONSULTANTS

分判工程顧問公司

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.
1	JUN-19	TENDER DRAWING	RPCM
2			
3			
4			
5			
6			
7			
8			
9			
10			

STATUS

擬定

SCALE

比例

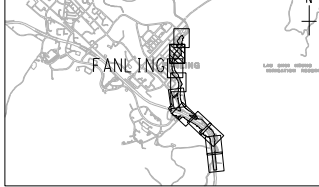
A1 1: 500

DIMENSION UNIT

尺寸單位

METRES

KEY PLAN A1 1: 70000



PROJECT NO.

項目編號

60335576

CONTRACT NO.

合約編號

ND/2019/05

SHEET TITLE

圖紙名稱

GENERAL LAYOUT

SHEET NUMBER

圖紙編號

60335576/C5B/C00/1002

SHEET 2 OF 10

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**APPENDIX L**  
**ECOLOGICAL MONITORING RESULTS**

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**Appendix L1a. Avifauna Species Recorded for Water Birds Monitoring, 7 & 8 July 2022, High Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date					7/7/2022 (T1 & T2), 8/7/2022 (T3 & T5)				
					Weather Condition					Sunny, Sunny				
					Tidal Condition					High				
					Tide Level (m)					1.6, 1.57				
					Start Time					1300, 1500				
					Abundance									
					Transect Walk									
					T1	T2	T3	T5						
WAL	DAL	SWH	P	Heard				Flight						
Asian Koel	<i>Eudynamys scolopacea</i>	噪鵲	R						1					
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv										1	
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R			2	1	5	3	2		1	2	
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC			2	14		13			10	
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵲	R		2		1		3				2	
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)		4	1	2		1			11	
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU					3					
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R						1					
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR			1		10						
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R			21			30				19	
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		1	19			30					
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)		3		5		1			1	
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC			2							
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R		6									
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)		2	6	12	1	18				

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				7/7/2022 (T1 & T2), 8/7/2022 (T3 & T5)				
					Weather Condition				Sunny, Sunny				
					Tidal Condition				High				
					Tide Level (m)				1.6, 1.57				
					Start Time				1300, 1500				
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R					2					
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵲	R		1	1			1				
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵲	R		2	1		1					
Rock Dove	<i>Columba livia</i>	原鵲	R		4	19			4				
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R						7				50
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		3	2	1		4				1
White Wagtail	<i>Motacilla alba</i>	白鵲鵲	PM, WV			1							
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R					1				1	3
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)			1						
Total No. of Species					7	12	8	9	12	5	0	2	10
Total No. of Conservation Interest Species					0	3	5	4	2	4	0	0	3



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				7/7/2022 (T1 & T2), 8/7/2022 (T3 & T5)					
					Weather Condition				Sunny, Sunny					
					Tidal Condition				High					
					Tide Level (m)				1.6, 1.57					
					Start Time				1300, 1500					
					Abundance									
					Transect Walk									
					T1	T2	T3	T5						
			WAL	DAL	SWH	P	Heard	Flight						

Note:

R – Resident; WV – Winter visitor; PM – Passage migrant; Sv – Summer Visitor; UR – Uncommon resident;

Status was decided according to AFCD biodiversity website ([www.hkbiodiversity.net](http://www.hkbiodiversity.net))

Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance

RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)

WAL: Wet Agricultural Land

DAL: Dry Agricultural Land

SWH: Shallow Water Habitat

P: Pond

**Appendix L1b. Avifauna Species Recorded for Water Birds Monitoring, 7 & 8 July 2022, Low Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			7/7/2022 (T1 & T2), 8/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.23, 1.28					
					Start Time			0900, 0900					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv				6						4
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		3		3	3	4				1
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV	LC									1
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷗	PM	RC				42		32			7
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R		6				1				
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)		4	3	7		8			8
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU			3						
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R					1					
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR										1
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷗	WV, PM					2		1			
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		2		4		1				7
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		5				5				3
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	3		2	3	1				1
Intermediate Egret	<i>Ardea intermedia</i>	中白鷺	CPM	RC				1		1			
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	2	2	12	18	2	5			6
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸕	WV, PM	LC				3	2				

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			7/7/2022 (T1 & T2), 8/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.23, 1.28					
					Start Time			0900, 0900					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵯	R		2		1	1					1
Plain Prinia	<i>Prinia inornata</i>	純色鷦鶯	R									1	
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵯	R										1
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R			2		1					4
White Wagtail	<i>Motacilla alba</i>	白鵲鵯	PM, WV					3		1			
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R				2	2					3
White-rumped munia	<i>Lonchura striata</i>	白腰文鳥	R					5					
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)			1						
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R		1							1	
Total No. of Species					8	3	10	14	7	6	0	2	14
Total No. of Conservation Interest Species					2	2	5	6	3	4	0	0	5

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			7/7/2022 (T1 & T2), 8/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.23, 1.28					
					Start Time			0900, 0900					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
								WAL	DAL	SWH	P	Heard	Flight

Note:

R – Resident; WV – Winter visitor; PM – Passage migrant; Sv – Summer Visitor; UR – Uncommon resident; Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)

Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance

RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)

WAL: Wet Agricultural Land

DAL: Dry Agricultural Land

SWH: Shallow Water Habitat

P: Pond



**Appendix L1c. Avifauna Species Recorded for Water Birds Monitoring, 13 & 15 July 2022, High Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				13/7/2022 (T1 & T2), 15/7/2022 (T3 & T5)				
					Weather Condition				Sunny, Sunny				
					Tidal Condition				High				
					Tide Level (m)				3.05, 3.03				
					Start Time				0900, 1000				
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv			3	5						7
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R			6	3		1			2	4
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC				32					8
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R		3	3			2				
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	4	4	4	6		7			2
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR		1	2			4				
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		5	4	5		2				
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		9	10			8				
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	3	2	2			1			
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷺	R	LC				2					
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	2	4	4	15	2	22			2
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R						1				
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵲	R		4	2		1					
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R									2	1
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵯	R			2							

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			13/7/2022 (T1 & T2), 15/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			High					
					Tide Level (m)			3.05, 3.03					
					Start Time			0900, 1000					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Rock Dove	<i>Columba livia</i>	原鴿	R		6								
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		2	9	4		3				3
White Wagtail	<i>Motacilla alba</i>	白鵲鴿	PM, WV		2								2
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R					5				1	1
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R		1								
Total No. of Species					12	12	7	6	8	3	0	3	9
Total No. of Conservation Interest Species					3	3	3	3	1	3	0	0	3

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident;  
Status was decided according to AFCD biodiversity website ([www.hkbiodiversity.net](http://www.hkbiodiversity.net))  
Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance  
RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)  
WAL: Wet Agricultural Land  
DAL: Dry Agricultural Land  
SWH: Shallow Water Habitat  
P: Pond

**Appendix L1d. Avifauna Species Recorded for Water Birds Monitoring, 13 & 15 July 2022, Low Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			13/7/2022 (T1 & T2), 15/7/2022 (T3 & T5)								
					Weather Condition			Sunny, Sunny								
					Tidal Condition			Low								
					Tide Level (m)			1.23, 1.23								
					Start Time			1500, 1600								
					Abundance											
					Transect Walk											
					T1	T2	T3	T5								
			WAL	DAL	SWH	P	Heard	Flight								
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv										4			
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領椋鳥	R		2				3	1						
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC				21	1	20			7			
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵲	R		1	2	2									
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	1	1	3	5		12			8			
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU			3									
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR		1				2				1			
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷸	WV, PM					1								
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		4				3				1			
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		17	12			20							
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	1	1	2	1		5						
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC			2						1			
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R		3											
Intermediate Egret	<i>Ardea intermedia</i>	中白鷺	CPM	RC						2						
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	2	1	5	8		61			1			

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			13/7/2022 (T1 & T2), 15/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.23, 1.23					
					Start Time			1500, 1600					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸕	WV, PM	LC						7			
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R						2				
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R						3				
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵲	R			2							
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R								5	2	
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鸕	R			1			1				
Rock Dove	<i>Columba livia</i>	原鸕	R		3								2
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R						3				1
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鸕	R		2	4							3
White Wagtail	<i>Motacilla alba</i>	白鸕鸕	PM, WV			1			3	1			1
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R					2					
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)								1	1
Wood Sandpiper	<i>Tringa glareola</i>	林鸕	PM, WV	LC				2					
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R									2	
Total No. of Species					11	9	6	7	10	8	0	3	13
Total No. of Conservation Interest Species					3	3	5	5	1	7	0	1	5



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			13/7/2022 (T1 & T2), 15/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.23, 1.23					
					Start Time			1500, 1600					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					

Note:

R – Resident; WV – Winter visitor; PM – Passage migrant; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident;

Status was decided according to AFCD biodiversity website ([www.hkbiodiversity.net](http://www.hkbiodiversity.net))

Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance

RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)

WAL: Wet Agricultural Land

DAL: Dry Agricultural Land

SWH: Shallow Water Habitat

P: Pond

**Appendix L1e. Avifauna Species Recorded for Water Birds Monitoring, 19 & 21 July 2022, High Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			21/7/2022 (T1 & T2), 19/7/2022 (T3 & T5)						
					Weather Condition			Sunny, Sunny						
					Tidal Condition			High						
					Tide Level (m)			1.53, 2.32						
					Start Time			1400, 1400						
					Abundance									
					Transect Walk									
					T1	T2	T3	T5						
WAL	DAL	SWH	P	Heard				Flight						
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv				5		2					6
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		5	3								
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC				25	1	13				3
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R		3	1		4	2	4				4
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	3	1								
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR		1		1		6					
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		6	3	4	2	35					19
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM	(LC)				1						
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		6	4	1		4					1
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	1	2		2						
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷸	R	LC				2						
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC			1							
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R											1
Intermediate Egret	<i>Ardea intermedia</i>	中白鷺	CPM	RC						1				
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	2	1	1	23	4	5				13

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			21/7/2022 (T1 & T2), 19/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.53, 2.32					
					Start Time			1400, 1400					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴝	WV, PM	LC					3	1			
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R						3				
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R		6							5	
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鴝	R		3	1							
Oriental Pratincole	<i>Glareola maldivarum</i>	普通燕鴝	PM	LC						1			
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R									1	
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM										16
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R		2	1							
Rock Dove	<i>Columba livia</i>	原鴿	R		4	4				1			2
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R						65				
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R						1				3
White Wagtail	<i>Motacilla alba</i>	白鶇鴝	PM, WV		1	1				1			4
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R				2	1					
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R					5					
Wood Sandpiper	<i>Tringa glareola</i>	林鶇	PM, WV	LC				8		3			2
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R		2							1	
Total No. of Species					11	14	7	10	11	9	0	3	12

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			21/7/2022 (T1 & T2), 19/7/2022 (T3 & T5)						
					Weather Condition			Sunny, Sunny						
					Tidal Condition			High						
					Tide Level (m)			1.53, 2.32						
					Start Time			1400, 1400						
					Abundance									
					Transect Walk									
					T1	T2	T3	T5						
WAL	DAL	SWH	P	Heard				Flight						
Total No. of Conservation Interest Species					3	3	3	4	6	1	0	0	3	
Note: R – Resident; WV – Winter visitor; PM – Passage migrant; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net) Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002) WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond														



**Appendix L1f. Avifauna Species Recorded for Water Birds Monitoring, 19 & 21 July 2022, Low Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				21/7/2022 (T1 & T2), 19/7/2022 (T3 & T5)				
					Weather Condition				Sunny, Sunny				
					Tidal Condition				Low				
					Tide Level (m)				1.27, 1.05				
					Start Time				0900, 0900				
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv					5					3
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv					1					
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		2		3		2				1
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC				6		13		1	9
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R		1								
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	1	2	4	6					5
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU			3						
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR			2							
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		2	13	4		3				1
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		4	13			16				1
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	1	3		1					1
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鵂	R	(VU)					1				
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷸	R	LC					1				1
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC									1
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	1	2	15	17	1	18			3

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			21/7/2022 (T1 & T2), 19/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.27, 1.05					
					Start Time			0900, 0900					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸕	WV, PM	LC						2			2
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R			6							
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵲	R		4	1							
Oriental Pratincole	<i>Glareola maldivarum</i>	普通燕鸕	PM	LC						1			
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM		4	2							15
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R				3						
Rock Dove	<i>Columba livia</i>	原鸕	R		3	4							
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R										32
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		4		1		4				3
White Wagtail	<i>Motacilla alba</i>	白鸕鶇	PM, WV					1					6
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R					8					1
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)					2				2
Wood Sandpiper	<i>Tringa glareola</i>	林鸕	PM, WV	LC						6			1
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鸕鶇	R										1
Total No. of Species					11	10	7	6	10	5	0	1	19
Total No. of Conservation Interest Species					3	3	3	4	4	5	0	1	9

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		21/7/2022 (T1 & T2), 19/7/2022 (T3 & T5)						
					Weather Condition		Sunny, Sunny						
					Tidal Condition		Low						
					Tide Level (m)		1.27, 1.05						
					Start Time		0900, 0900						
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
								WAL	DAL	SWH	P	Heard	Flight

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident;  
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WAL: Wet Agricultural Land  
DAL: Dry Agricultural Land  
SWH: Shallow Water Habitat  
P: Pond

**Appendix L1g. Avifauna Species Recorded for Water Birds Monitoring, 28 & 29 July 2022, High Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			28/7/2022 (T1 & T2), 29/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Rain					
					Tidal Condition			High					
					Tide Level (m)			2.67, 2.71					
					Start Time			1000, 1000					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv			3						17	
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV									1	
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		2	3							
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC				2		22		23	
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R		1								
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	2	1	3	1	6	2		11	
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU			1						
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR		2	1							
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷸	WV, PM				1		1				
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		10	12						17	
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM	(LC)		1							
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		8	11							
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	1	1		3					
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鵂	R	(VU)				1					
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷸	R	LC				1					



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			28/7/2022 (T1 & T2), 29/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Rain					
					Tidal Condition			High					
					Tide Level (m)			2.67, 2.71					
					Start Time			1000, 1000					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	1	2	2	4	3	15			16
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸕	WV, PM	LC				2		5			1
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R			4						2	
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵲	R		4	1	1						
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R					1	4				
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM		1								19
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鸕	R		1								
Rock Dove	<i>Columba livia</i>	原鸕	R						7				
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R						25				3
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鸕	R		2	4	1						2
White Wagtail	<i>Motacilla alba</i>	白鸕鵲	PM, WV		1								
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)				1					1
Wood Sandpiper	<i>Tringa glareola</i>	林鸕	PM, WV	LC						4			
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R					1					
Total No. of Species					13	11	7	10	5	6	0	1	11
Total No. of Conservation Interest Species					3	4	4	2	2	3	0	1	5

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			28/7/2022 (T1 & T2), 29/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Rain					
					Tidal Condition			High					
					Tide Level (m)			2.67, 2.71					
					Start Time			1000, 1000					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					

Note:

R – Resident; WV – Winter visitor; PM – Passage migrant; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident;

Status was decided according to AFCD biodiversity website ([www.hkbiodiversity.net](http://www.hkbiodiversity.net))

Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance

RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)

WAL: Wet Agricultural Land

DAL: Dry Agricultural Land

SWH: Shallow Water Habitat

P: Pond

**Appendix L1h. Avifauna Species Recorded for Water Birds Monitoring, 28 & 29 July 2022, Low Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				28/7/2022 (T1 & T2), 29/7/2022 (T3 & T5)							
					Weather Condition				Sunny, Sunny							
					Tidal Condition				Low							
					Tide Level (m)				1.45, 1.32							
					Start Time				1400, 1500							
					Abundance											
					Transect Walk											
					T1	T2	T3	T5								
			WAL	DAL	SWH	P	Heard	Flight								
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv											18		
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		3	1			8					10		
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV	LC										5		
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC				10	3	19				8		
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R		1											
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	1		2	6	4	1				4		
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU			3							2		
Common Greenshank	<i>Tringa nebularia</i>	青腳鷸	PM, WV	RC						2						
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR		1											
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷸	WV, PM				1									
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		4											
Domestic Pigeon	<i>Columba livia</i>	原鴿	R											48		
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		6	2			9							
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	1	2	1			1				1		
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷸	R	LC				4								

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			28/7/2022 (T1 & T2), 29/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.45, 1.32					
					Start Time			1400, 1500					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC			1						
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	3		13	12		7			5
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴝	WV, PM	LC						11			
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R			6			2				
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R										2
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鸲	R		1								
Rock Dove	<i>Columba livia</i>	原鴿	R		2				9				
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R										40
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		2	3	1						6
White Wagtail	<i>Motacilla alba</i>	白鶺鴒	PM, WV							7			10
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R					5					1
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)					1				1
Wood Sandpiper	<i>Tringa glareola</i>	林鴝	PM, WV	LC						27			
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R		2	1							
Total No. of Species					12	6	7	5	7	8	0	0	15
Total No. of Conservation Interest Species					3	1	5	4	3	7	0	0	7



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			28/7/2022 (T1 & T2), 29/7/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.45, 1.32					
					Start Time			1400, 1500					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident;  
Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)  
Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance  
RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)  
WAL: Wet Agricultural Land  
DAL: Dry Agricultural Land  
SWH: Shallow Water Habitat  
P: Pond

**Appendix L1i. Waterbirds Recorded in July 2022**

Common Name	Species Name	Chinese Name	Conservation Status	Recorded habitat from the survey	Distribution in Hong Kong*
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	LC	T5: In flight	Common resident and winter visitor. Widely distributed in Hong Kong.
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	RC	T3: River bed T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, Pond, In flight	Common passage migrant. Found in Deep Bay area, Long Valley, Kam Tin.
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	PRC(RC)	T1: River bank, In flight T2: River bank, In flight T3: River bank, River bed, in flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, Pond, In flight	Common resident. Widely distributed in Hong Kong.
Common Greenshank	<i>Tringa nebularia</i>	青腳鷸	RC	T5: Shallow Water Habitat	Abundant winter visitor and migrant. Found in Deep Bay area.
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞		T5: Wet Agricultural Land, Dry Agricultural Land	Common winter visitor, resident and migrant. Found in Deep Bay area, Shuen Wan, Starling Inlet.
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷸		T1: River bank T5: Wet Agricultural Land, Shallow Water Habitat	Common passage migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	(LC)	T2: River bank T5: Wet Agricultural Land	Resident and common passage migrant. Widely distributed in Hong Kong.
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷸	LC	T5: Wet Agricultural Land, In flight	Locally common resident. Found in Ha Tsuen, Lok Ma Chau, Kam Tin, Long Valley, Hong Kong Wetland Park.
Great Egret	<i>Ardea alba</i>	大白鷺	PRC(RC)	T1: River bank, In flight T2: River bank, In flight T3: River bank, River bed, In flight T5: Dry Agricultural Land, Shallow Water Habitat, In flight	Common resident and winter visitor. Widely distributed in Hong Kong.

Common Name	Species Name	Chinese Name	Conservation Status	Recorded habitat from the survey	Distribution in Hong Kong*
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	PRC	T3: River bank, River bed, In flight T5: Shallow Water Habitat, In flight	Common winter visitor. Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar.
Intermediate Egret	<i>Ardea intermedia</i>	中白鷺	RC	T3: River bank, In flight T5: Wet Agricultural Land, Dry Agricultural Land,, In flight	Resident and passage migrant. Found in Deep Bay area, Tai Long Wan, Starling Inlet, Tai O, Cape D'Aguilar
Little Egret	<i>Egretta garzetta</i>	小白鷺	PRC(RC)	T1: River bank, In flight T2: River bank, In flight T3: River bank, River bed, In flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Common resident. Widely distributed in coastal area throughout Hong Kong.
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴝	(LC)	T5: In flight	Common winter visitor and passage migrant. Widely distributed in freshwater areas throughout Hong Kong.
Oriental Pratincole	<i>Glareola maldivarum</i>	普通燕鴝	LC	T5: Shallow Water Habitat	Passage migrant. Found in Mai Po, Tsim Bei Tsui.
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥		T3: River bank T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Common resident. Widely distributed in wetland throughout Hong Kong.
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	(LC)	T1: River bank T5: Dry Agricultural Land, In flight	Common resident. Widely distributed in coastal areas throughout Hong Kong.
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	LC	T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Common migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.
<p>Note:</p> <p>Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)</p> <p>RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)</p> <p>*Source: Hong Kong Biodiversity Database, AFCD (<a href="https://www.afcd.gov.hk/English/conservation/hkbiodiversity/database/search.php">https://www.afcd.gov.hk/English/conservation/hkbiodiversity/database/search.php</a>)</p>					

**Appendix L1j. Birds Recorded in July 2022**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
Asian Koel	<i>Eudynamys scolopacea</i>	噪鵲	R	
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv	
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV	(RC), Cap.586
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R	
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV	LC
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵲	R	
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU
Common Greenshank	<i>Tringa nebularia</i>	青腳鷸	PM, WV	RC
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R	
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR	
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷸	WV, PM	
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM	(LC)
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R	
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鵂	R	(VU)
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷸	R	LC
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R	
Intermediate Egret	<i>Ardea intermedia</i>	中白鷺	CPM	RC
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴝	WV, PM	(LC)
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R	
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R	
Oriental Magpie Robin	<i>Copsychus saularis</i>	鵲鵲	R	
Oriental Pratincole	<i>Glareola maldivarum</i>	普通燕鴝	PM	LC
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R	
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM	
Red-whiskered bulbul	<i>Pycnonotus jocosus</i>	紅耳鵲	R	
Rock Dove	<i>Columba livia</i>	原鴝	R	
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R	
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	
White Wagtail	<i>Motacilla alba</i>	白鵲鴝	PM, WV	
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R	
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R	
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	PM, WV	LC
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R	
Note: R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident;				

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
<p>Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)</p> <p>RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)</p> <p>WAL: Wet Agricultural Land</p> <p>DAL: Dry Agricultural Land</p> <p>SWH: Shallow Water Habitat</p> <p>P: Pond</p> <p>RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)</p> <p>WAL: Wet Agricultural Land</p> <p>DAL: Dry Agricultural Land</p> <p>SWH: Shallow Water Habitat</p> <p>P: Pond</p>				

**Appendix L2. Freshwater Macroinvertebrate Species Recorded for Aquatic Fauna Monitoring**

Common Name	Scientific Name	Conservation Status	Occurrence Status	Date: 21 July 2022									
				Weather: Fine									
				Methods: Kick-netting, sweep netting and direct observation									
				Abundance									
				MS_01*	MS_02	MS_03	MS_04	MS_05*	MS_06	MS_07	MS_08	MS_09	MS_10
Apple Snail	<i>Pomacea canaliculata</i>	-	Introduced								+	+++	++
Atyid shrimp	<i>Caridina</i> sp.	-	-										
Black Fly	Diptera	-	-								+		
Bladder Snail	<i>Physella acuta</i>	-	-			+							
Blood Worm	Chironomidae	-	-								+		
Caddisfly	<i>Hydroptila</i> sp.	-	-			+++					+		
Chinese River Snail	<i>Sinotaia guangdongensis</i>	-	Native								+	++	
Common Blue Skimmer	<i>Orthetrum glaucum</i>	-	Native				+						
Common Red Skimmer	<i>Orthetrum pruinsum</i>	-	Native			+					+	+	
Freshwater Oligochaete	Oligochaeta	-	-								++		++
Leech	<i>Hirudinea</i>	-	-								+		
Mayfly	<i>Baetis</i> sp.	-	-							+++			
	<i>Cloeon</i> sp.	-	-							+			
Polychaete	Polychaeta	-	-								+		
Ram's Horn Snail	<i>Gyraulus convexiusculus</i>	-	Introduced		+	+++							
Red-rimmed Melania	<i>Melanooides tuberculata</i>	-	Introduced						+		++	+++	
River Snail	<i>Sinotaia quadrata</i>	-	-										
Saddlebag Glider	<i>Tramea virginia</i>	-	Native										

Variegated flutterer	<i>Rhyothemis variegata</i>	-	Native								+		
Water Strider	<i>Metrocoris sp.</i>	-	-									+	+
	<i>Microvelia sp.</i>		-								+	+++	
	<i>Ptilomera tigrina</i>		-								+	+	
Yellow Featherlegs	<i>Copera marginipes</i>	-	Native		+	+						+	
Total No. of species				0	2	5	1	0	1	2	13	8	3
Total No. of Conservation Interest Species				0	0	0	0	0	0	0	0	0	0
Note: *: dried-up station +: species recorded within the study area (no. of individuals from 1-10) ++: species commonly recorded within the study area (no. of individuals from 11-20) +++: most abundant species recorded within the study area (no. of individuals from 21 and above)													



**Appendix L2. Freshwater Macroinvertebrate Species Recorded for Aquatic Fauna Monitoring**

Common Name	Scientific Name	Conservation Status	Occurrence Status	Date: 16 July 2022				
				Weather: Fine				
				Methods: Kick-netting, sweep netting and direct observation				
				Abundance				
				MS_11	MS_12	MS_13	MS_14	MS_15
Apple Snail	<i>Pomacea canaliculata</i>	-	Introduced		+++	+	+	
Atyid shrimp	<i>Caridina</i> sp.	-	-				+++	
Black Fly	Diptera	-	-					
Bladder Snail	<i>Physella acuta</i>	-	-					++
Blood Worm	Chironomidae	-	-					
Caddisfly	<i>Hydroptila</i> sp.	-	-					++
Chinese River Snail	<i>Sinotaia guangdongensis</i>	-	Native					+
Common Blue Skimmer	<i>Orthetrum glaucum</i>	-	Native					
Common Red Skimmer	<i>Orthetrum pruinatum</i>	-	Native					
Freshwater Oligochaete	Oligochaeta	-						
Leech	<i>Hirudinea</i>	-	-					
Mayfly	<i>Baetis</i> sp.	-	-					
Ram's Horn Snail	<i>Cloeon</i> sp.	-						
Polychaete	Polychaeta							
Ram's Horn Snail	<i>Gyraulus convexiusculus</i>	-	Introduced					
Red-rimmed Melania	<i>Melanoides tuberculata</i>	-	Introduced			+	++	+
River Snail	<i>Sinotaia quadrata</i>	-	-			+		+
Saddlebag Glider	<i>Tramea virginia</i>	-	Native					

Variegated flutterer	<i>Rhyothemis variegata</i>	-	Native					
Water Strider	<i>Metrocoris sp.</i>	-	-					
River Snail	<i>Microvelia sp.</i>	-	-					
Saddlebag Glider	<i>Ptilomera tigrina</i>	-	Native					
Yellow Featherlegs	<i>Copera marginipes</i>	-	Native					
Total No. of species				0	1	3	3	5
Total No. of Conservation Interest Species				0	0	0	0	0

**Appendix L3. Freshwater Fish Species Recorded for Aquatic Fauna Monitoring**

Common Name	Scientific Name	Conservation Status	Occurrence Status	Date: 21 July 2022									
				Weather: Fine									
				Methods: Kick-netting, sweep netting and direct observation									
				Abundance									
				MS_01	MS_02	MS_03	MS_04	MS_05	MS_06	MS_07	MS_08	MS_09	MS_10
Goby	<i>Rhinogobius duospilus</i>	-	Native				+						+
Koi	<i>Cyprinus rubrofuscus</i>	-	Native								+++		
Predaceous chub	<i>Parazacco spilurus</i>	(VU)	Native				+						
Mosquito Fish	<i>Gambusia affinis</i>	-	Introduced						+++				++
Mozambique Tilapia	<i>Oreochromis mossambicus</i>	VU	Introduced				++		++				+
Nile Tilapia	<i>Oreochromis niloticus</i>	-	Introduced				++		+				++
Redbelly Tilapia	<i>Tilapia zillii</i>	-	Introduced						+				+
Spotted Snakehead	<i>Channa maculata</i>	-	Native								+		
Total No. of species				0	0	0	4	0	3	0	1	0	4
Total No. of Conservation Interest Species				0	0	0	2	0	1	0	0	0	1
Note: VU: Vulnerable on IUCN Red List of Threatened Species. (VU): Vulnerable on China Red Data Book Status  Occurrence Status was according to The IUCN Red List of Threatened Species website ( <a href="https://www.iucnredlist.org">https://www.iucnredlist.org</a> ) +: species recorded within the study area (no. of individuals from 1-10) ++: species commonly recorded within the study area (no. of individuals from 11-20) +++: most abundant species recorded within the study area (no. of individuals from 21 and above)													

Common Name	Scientific Name	Conservation Status	Occurrence Status	Date: 21 July 2022				
				Weather: Fine				
				Methods: Kick-netting, sweep netting and direct observation				
				Abundance				
				MS_11	MS_12	MS_13	MS_14	MS_15
Goby	<i>Rhinogobius duospilus</i>	-	Native					
Koi	<i>Cyprinus rubrofuscus</i>	-	Native					
Predaceous chub	<i>Parazacco spilurus</i>	(VU)	Native			+		
Mosquito Fish	<i>Gambusia affinis</i>	-	Introduced			+++		
Mozambique Tilapia	<i>Oreochromis mossambicus</i>	VU	Introduced					+++
Nile Tilapia	<i>Oreochromis niloticus</i>	-	Introduced			++		++
Redbelly Tilapia	<i>Tilapia zillii</i>	-	Introduced			++		+
Spotted Snakehead	<i>Channa maculata</i>	-	Native					
Total No. of species				0	0	3	0	2
Total No. of Conservation Interest Species				0	0	1	0	1
<p>Note:</p> <p>VU: Vulnerable on IUCN Red List of Threatened Species.</p> <p>(VU): Vulnerable on China Red Data Book Status</p> <p>Occurrence Status was according to The IUCN Red List of Threatened Species website (<a href="https://www.iucnredlist.org">https://www.iucnredlist.org</a>)</p> <p>+: species recorded within the study area (no. of individuals from 1-10)</p> <p>++: species commonly recorded within the study area (no. of individuals from 11-20)</p> <p>+++: most abundant species recorded within the study area (no. of individuals from 21 and above)</p>								



**Appendix L4. Mammal Species Recorded for Ecologically Sensitive Habitat Monitoring, 13 & 25 July 2022**

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Status	Date: 13/7 /2022, 25/7/2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Domestic Cat	<i>Felis catus</i>	野貓		Introduced	++	+			
Domestic Dog	<i>Canis lupus familiaris</i>	野狗		Introduced	+++	+++	+++	+	
Domestic Ox	<i>Bos taurus</i>	黃牛		Introduced	+				
Japanese Pipistrelle	<i>Pipistrellus abramus</i>	東亞家蝠	Cap. 170	Native	+++	+++	+	+++	+++
Short-nosed Fruit Bat	<i>Cynopterus sphinx</i>	短吻果蝠	Cap. 170, NT	Native	++				
Total No. of species					5	3	2	2	1
Total No. of Conservation Interest Species					2	1	1	1	1
<p>Note:</p> <p>Cap. 170: Species under protection of Wild Animals Protection Ordinance (Cap. 170)</p> <p>NT: Near Threatened in the Red List of China's Vertebrates</p> <p>Occurrence Status was according to The IUCN Red List of Threatened Species website (<a href="https://www.iucnredlist.org">https://www.iucnredlist.org</a>)</p> <p>+: species recorded within transect routes</p> <p>++: species commonly recorded within transect routes</p> <p>+++ : dominant species within transect routes</p>									

**Appendix L5. Herpetofauna Species Recorded for Ecologically Sensitive Habitat Monitoring, 13 & 25 July 2022**

Appendix E3: Herpetofauna Species Recorded for Ecologically Sensitive Habitat Monitoring, 15 & 25 July 2022

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Status	Date: 13/7 /2022, 25/7/2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Amphibian									
Asian Common Toad	<i>Bufo melanostictus</i>	黑眶蟾蜍		Native	++			+++	++
Brown Tree Frog	<i>Polypedates megacephalus</i>	斑腿泛樹蛙		Native	++	+++			++
Greenhouse Frog	<i>Eleutherodactylus planirostris</i>	溫室蟾		Introduced	+	+++			+
Gunther's Frog	<i>Hylarana guentheri</i>	沼蛙		Native	+++	+++		+++	+++
Paddy Frog	<i>Fejervarya limnocharis</i>	澤蛙		Native				+	
Reptile									
Bamboo Snake	<i>Trimeresurus albolabris</i>	白唇竹葉青		Native	+				
Bowring's Gecko	<i>Hemidactylus bowringii</i>	原尾蜥虎		Native	++	+		++	
Brook's Gecko	<i>Hemidactylus brookii</i>	密疣蜥虎		Native				+	
Total No. of species					6	4	0	5	1
Total No. of Conservation Interest Species					0	0	0	0	0
Note://									
Occurrence Status was according to The IUCN Red List of Threatened Species website ( <a href="https://www.iucnredlist.org">https://www.iucnredlist.org</a> )									
+: species recorded within transect routes									
++: species commonly recorded within transect routes									
+++: dominant species within transect routes									

**Appendix L6. Butterfly Species Recorded Ecologically Sensitive Habitat Monitoring, 13 & 25 July 2022**

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Stauts*	Date: 13/7 /2022, 25/7/2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Angled Castor	<i>Ariadne ariadne</i>	波蛺蝶						+	
Black Prince	<i>Rohana parisatis</i>	羅蛺蝶			+		+		
Blue-spotted Crow	<i>Euploea midamus</i>	藍點紫斑蝶			+				+
Ceylon Blue Glassy	<i>Ideopsis similis</i>	擬旖斑蝶			+			+	
Colour Sergeant	<i>Athyma nefte</i>	相思帶蛺蝶			+				
Common Archduke	<i>Lexias pardalis</i>	小豹律蛺蝶						++	
Common Bluebottle	<i>Graphium sarpedon</i>	青鳳蝶						+	
Common Five-ring	<i>Ypthima baldus</i>	矍眼蝶			+			+	
Common Grass Yellow	<i>Eurema hecabe</i>	寬邊黃粉蝶			++		+	+	
Common Indian Crow	<i>Euploea core</i>	幻紫斑蝶			+				
Common Jay	<i>Graphium doson axion</i>	木蘭青鳳蝶			++				
Common Mormon	<i>Papilio polytes</i>	玉帶鳳蝶			+++		++	++	+
Common Palmfly	<i>Elymnias</i>	翠袖鋸眼蝶					++		

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Stauts*	Date: 13/7 /2022, 25/7/2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
	<i>hypermnestra</i>								
Common Sailer	<i>Neptis hylas</i>	中環蛺蝶			++			+	
Dark Brand Bush Brown	<i>Mycalesis mineus</i>	小眉眼蝶			+			++	+
Forest Hopper	<i>Astictopterus jama</i>	腌翅弄蝶			+				
Gaudy Baron	<i>Euthalia lubentina</i>	紅斑翠蛺蝶			+			+	
Great Egg-fly	<i>Hypolimnas bolina</i>	幻紫斑蛺蝶			+++				
Great Mormon	<i>Papilio memnon</i>	美鳳蝶			++			++	+
Indian Cabbage White	<i>Pieris canidia</i>	東方菜粉蝶			++			+	
Lemon Emigrant	<i>Catopsilia pomona</i>	遷粉蝶					+	+	
Pale Grass Blue	<i>Pseudozizeeria maha</i>	酢漿灰蝶			++			+++	++
Paris Peacock	<i>Papilio paris</i>	巴黎翠鳳蝶			+++				+
Plum Judy	<i>Abisara echerius</i>	蛇目褐蛺蝶					+		
Red Helen	<i>Papilio Helenus</i>	玉斑鳳蝶						+	
Red Ring Skirt	<i>Hestina assimilis</i>	黑脈蛺蝶			++				
Spangle	<i>Papilio protenor</i>	藍鳳蝶			++		+	++	



Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Status*	Date: 13/7 /2022, 25/7/2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Tawny Rajah	<i>Charaxes bernardus</i>	白帶螯蛱蝶			+				
Three-spot Grass Yellow	<i>Eurema blanda</i>	槲黃粉蝶			++				
Total No. of species					22	0	7	16	6
Total No. of Conservation Interest Species					0	0	0	0	0
<p>Note:</p> <p>Occurrence Status was according to The IUCN Red List of Threatened Species website (<a href="https://www.iucnredlist.org">https://www.iucnredlist.org</a>)</p> <p>*Very limited data are available for the occurrence status (being native to Hong Kong) of butterflies</p> <p>+: species recorded within transect routes</p> <p>++: species commonly recorded within transect routes</p> <p>+++: dominant species within transect routes</p>									

**Appendix L7. Odonata Species Recorded for Ecologically Sensitive Habitat Monitoring 13 & 25 July 2022**

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Status	Date: 13/7 /2022, 25/7/2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Asian Amberwing	<i>Brachythemis contaminata</i>	黃翅蜻	Asian Amberwing	<i>Brachythemis contaminata</i>	++				
Common Blue Skimmer	<i>Orthetrum glaucum</i>	黑尾灰蜻	Common Blue Skimmer	<i>Orthetrum glaucum</i>	++				+
Common Red Skimmer	<i>Orthetrum pruinatum</i>	赤褐灰蜻	Common Red Skimmer	<i>Orthetrum pruinatum</i>	+++			+++	+
Common Flangetail	<i>Ictinogomphus pertinax</i>	霸王葉春蜓	Common Flangetail	<i>Ictinogomphus pertinax</i>	+				
Green Skimmer	<i>Orthetrum sabina</i>	狹腹灰蜻	Green Skimmer	<i>Orthetrum sabina</i>	+++				++
Red-faced Skimmer	<i>Orthetrum chrysis</i>	華麗灰蜻	Red-faced Skimmer	<i>Orthetrum chrysis</i>				+	
Russet Percher	<i>Neurothemis fulvia</i>	網脈蜻	Russet Percher	<i>Neurothemis fulvia</i>	++			+	
Saddlebag Glider	<i>Tamea virginia</i>	華斜痣蜻	Saddlebag Glider	<i>Tamea virginia</i>	+++		+		++
Variegated Flutterer	<i>Rhyothemis variegata</i>	斑麗翅蜻	Variegated Flutterer	<i>Rhyothemis variegata</i>	++				
Wandering Glider	<i>Pantala flavescens</i>	黃蜻	Wandering Glider	<i>Pantala flavescens</i>	+			+	+
Total No. of species					9	0	1	4	5
Total No. of Conservation Interest Species					0	0	0	0	0
Note: LC: Local Concern (Fellowes et al., 2002)									

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Stausts	Date: 13/7 /2022, 25/7/2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Occurrence Status was according to The IUCN Red List of Threatened Species website ( <a href="https://www.iucnredlist.org">https://www.iucnredlist.org</a> )									
+: species recorded within transect routes									
++: species commonly recorded within transect routes									
+++: dominant species within transect routes									

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**APPENDIX M**  
**WEATHER CONDITION**

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**APPENDIX M –  
GENERAL WEATHER CONDITIONS DURING THE MONITORING PERIOD**

<b>Date</b>	<b>Mean Air Temperature (°C)</b>	<b>Mean Relative Humidity (%)</b>	<b>Precipitation (mm)</b>
1 July 2022	<b>27.2</b>	<b>85</b>	<b>63</b>
2 July 2022	<b>26.9</b>	<b>89</b>	<b>72.4</b>
3 July 2022	<b>29</b>	<b>82</b>	<b>0</b>
4 July 2022	<b>28.8</b>	<b>83</b>	<b>0.4</b>
5 July 2022	<b>29</b>	<b>82</b>	<b>0.2</b>
6 July 2022	<b>28.8</b>	<b>81</b>	<b>0.5</b>
7 July 2022	<b>28.7</b>	<b>86</b>	<b>13.1</b>
8 July 2022	<b>30</b>	<b>79</b>	<b>Trace</b>
9 July 2022	<b>29.9</b>	<b>81</b>	<b>Trace</b>
10 July 2022	<b>30.5</b>	<b>77</b>	<b>Trace</b>
11 July 2022	<b>30.9</b>	<b>73</b>	<b>0</b>
12 July 2022	<b>31.1</b>	<b>72</b>	<b>0</b>
13 July 2022	<b>31</b>	<b>71</b>	<b>0</b>
14 July 2022	<b>30.4</b>	<b>75</b>	<b>0</b>
15 July 2022	<b>30.4</b>	<b>77</b>	<b>0.2</b>

<b>Date</b>	<b>Mean Air Temperature (°C)</b>	<b>Mean Relative Humidity (%)</b>	<b>Precipitation (mm)</b>
16 July 2022	<b>30.5</b>	<b>77</b>	<b>1.5</b>
17 July 2022	<b>30.5</b>	<b>76</b>	<b>1.2</b>
18 July 2022	<b>30.4</b>	<b>78</b>	<b>2.7</b>
19 July 2022	<b>30.8</b>	<b>75</b>	<b>Trace</b>
20 July 2022	<b>30.8</b>	<b>76</b>	<b>0.6</b>
21 July 2022	<b>30.9</b>	<b>74</b>	<b>0.3</b>
22 July 2022	<b>31.2</b>	<b>72</b>	<b>0</b>
23 July 2022	<b>31.4</b>	<b>74</b>	<b>0</b>
24 July 2022	<b>32</b>	<b>72</b>	<b>0</b>
25 July 2022	<b>32</b>	<b>74</b>	<b>0</b>
26 July 2022	<b>31.2</b>	<b>71</b>	<b>0</b>
27 July 2022	<b>31</b>	<b>69</b>	<b>0</b>
28 July 2022	<b>31.2</b>	<b>73</b>	<b>0</b>
29 July 2022	<b>31.7</b>	<b>74</b>	<b>0</b>
30 July 2022	<b>29.5</b>	<b>81</b>	<b>2.4</b>
31 July 2022	<b>30.8</b>	<b>76</b>	<b>0</b>

\* The above information was extracted from the daily weather summary by Hong Kong Observatory.

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**APPENDIX N**  
**EVENT ACTION PLANS**

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**Appendix N:****Table N-1: Event / Action Plan for Air Quality**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>ACTION LEVEL</b>				
1. 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.
2. 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	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	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



	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.	Implementation of remedial measures.		agreed proposals; and 4. Amend proposal if appropriate.
<b>LIMIT LEVEL</b>				
1.Exceedance for one sample	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; 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; 5. Supervise implementation of remedial	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.

		measures.		
2.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; 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; 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative

**Table N-2: Event / Action Plan for Construction Noise**

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

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	7. Assess effectiveness of Contractor's remedial actions and keep IEC informed of the results;  8. If exceedance stops, cease additional monitoring.		Contractor to stop that portion of work until the exceedance is abated.	determined by the ER until the exceedance is abated.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative



**Table N-3: Event / Action Plan for Water Quality**

EVENT	ACTION				
	ET		IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	1. Conduct addition site investigation on the same day;	1. Discuss with ET, ER and Contractor on the implemented mitigation measures;	1. Review proposals on remedial measures submitted by Contractor;	1. Identify source(s) of impact;	
	2. Inform IEC, Contractor and ER;	2. Review proposals on remedial measures submitted by Contractor and advise the ER accordingly; and	2. Discuss with IEC, ET and Contractor on the Implemented mitigation measures;	2. Inform the ER and confirm notification of the noncompliance in writing;	
	3. Check monitoring data, all plant, equipment, Contractor’s working methods and other relative information;	3. Review submit proposal and advise the ET and ER on the Effectiveness of the implemented mitigation measures.	3. Make agreement on the remedial measures to be implemented; and	3. Rectify unacceptable practice;	
	4. Review proposals on remedial measures submitted by Contractor;		4. Supervise the implementation of agreed remedial measures.	4. Check all plant and equipment;	
	5. Discuss remedial measures with IEC and Contractor and ER; and			5. Consider changes of working methods;	
	6. Review submit proposal and ensure the effectiveness of the implemented mitigation measures.			6. Discuss with ER, ET and IEC and submit proposal of remedial measures to ER and IEC; and	
				7. Implement the agreed mitigation measures.	
Action level being exceeded by more than one consecutive sampling days	1. Conduct addition site investigation on the same day;	1. Discuss with ET, Contractor and ER on the implemented mitigation measures;	1. Discuss with ET, IEC and Contractor on the proposed mitigation measures;	1. Identify source(s) of impact;	
	2. Inform IEC, Contractor and ER;	2. Review the proposed remedial measures submitted by Contractor and advise	2. Make agreement on the remedial measures to be implemented; and	2. Inform the ER and confirm notification of the non-compliance in writing;	
	3. Check monitoring data, all plant, equipment,			3. Rectify unacceptable	

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	Contractor's working methods and other relative information; 4. Discuss remedial measures with IEC, contractor and ER; and 5. Review submit proposal and ensure the agreed remedial measures are implemented	the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.	3. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures	practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of remedial measures to ER and IEC within 3 working days of notification; and 6. Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day	1. Conduct addition site investigation on the same day; 2. Inform IEC, Contractor and ER; 3. Rectify unacceptable practice; 4. Check monitoring data, all plant, equipment, Contractor's working methods and other relative information; 5. Consider changes of working methods; 6. Discuss mitigation measures with IEC, ER and Contractor; 7. Review the submit	1. Discuss with ET, Contractor and ER on the implemented mitigation measures; 2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.	1. Discuss with ET, IEC and Contractor on the implemented remedial measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the remedial measures to be implemented; and 4. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures.	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the noncompliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	proposal and ensure the agreed remedial measures are implemented;			notification; and 6. Implement the agreed remedial measures.
Limit level being exceeded by more than one consecutive sampling days	<ol style="list-style-type: none"> <li>1. Conduct addition site investigation on the same day;</li> <li>2. Inform IEC, contractor and ER;</li> <li>3. Check monitoring data, all plant, equipment, Contractor's working methods and other relative information;</li> <li>4. Discuss mitigation measures with IEC, ER and Contractor; and</li> <li>5. Review the submit proposal and ensure the agreed remedial measures are implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET, Contractor and ER on the implemented mitigation measures;</li> <li>2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and</li> <li>3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET, IEC and Contractor on the implemented remedial measures</li> <li>2. Request Contractor to critically review the working methods;</li> <li>3. Make agreement on the remedial measures to be implemented;</li> <li>4. Discuss with ET and IEC on the effectiveness of the implemented mitigation measures; and</li> <li>5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the dredging activities until no exceedance of Limit level.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify source(s) of impact;</li> <li>2. Inform the ER and confirm notification of the noncompliance in writing;</li> <li>3. Rectify Unacceptable practice;</li> <li>4. Check all plant and equipment and consider changes of working methods;</li> <li>5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and</li> <li>6. Implement the agreed remedial measures.</li> <li>7. As directed by the ER, to slow down or stop all or part of the dredging activities until no exceedance of Limit level.</li> </ol>

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative

**Table N-4: Actions in the event of LFG being detected**

Parameter	Monitoring Results	Actions
O <sub>2</sub>	<19% v/v	Increase underground ventilation to restore O <sub>2</sub> to >19% v/v
	<18% v/v	Stop works, evacuate all personnel, prohibit entry, and increase ventilation to restore O <sub>2</sub> level to >19%
CH <sub>4</sub>	>10% LEL	Prohibit hot works, increase ventilation to restore CH <sub>4</sub> to <10% LEL
	>20% LEL	Stop works, evacuate all personnel, increase ventilation further to restore CH <sub>4</sub> to <10% LEL
CO <sub>2</sub>	>0.5% v/v	Increase ventilation to restore C O <sub>2</sub> to <0.5% v/v
	>1.5% v/v	Stop works, evacuate all personnel, increase ventilation further to restore CO <sub>2</sub> to <0.5%

Note: Depending on the results of the measurements, actions required will vary and should be set down by the Safety Officer or another appropriately qualified person. As a minimum these should encompass those actions specified in the above table.



**Table N-5: Event / Action Plan for Ambient Arsenic Monitoring**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>ACTION LEVEL</b>				
1. 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. Rectify any unacceptable practice; 2. Amend working methods if appropriate
2. 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	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. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 2. Implement the agreed proposals; and 3. Amend proposal if appropriate.

	actions required; 7. If exceedance continues, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring.			
<b>LIMIT LEVEL</b>				
1.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; 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; 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.
2.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	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure	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	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification;

	<p>procedures to determine possible mitigation to be implemented;</p> <p>6. Arrange meeting with IEC, Contractor and ER to discuss the remedial actions to be taken;</p> <p>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</p> <p>8. If exceedance stops, cease additional monitoring.</p>	<p>their effectiveness and advise the ER accordingly;</p> <p>3. Supervise the implementation of remedial measures</p>	<p>remedial measures to be implemented;</p> <p>4. Supervise and ensure remedial measures properly implemented; and</p> <p>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.</p>	<p>3. Implement the agreed proposals;</p> <p>4. Resubmit proposals if problem still not under control;</p> <p>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</p>
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Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative

**Table N-6.1 Action and Limit Levels and Responses for Avifauna Monitoring and General Site Inspection in the LVNP during Construction Phase.**

EVENT	RESPONSE			
	ET	IEC	Contractor	Project Proponent
<b>AVIFAUNA MONITORING</b>				
Action Level exceeded.	1. Check monitoring data and repeat data analysis to confirm findings;  2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;  3. Identify potential source(s) of impact;  4. Immediately inform IEC, Contractor and PP.  5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and  6. Conduct necessary site inspections/audits to ensure all remedial	1. Check monitoring data, analysis and investigation by ET;  2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and  3. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	1. Confirm receipt of notification of the exceedance of Action Level in writing; and  2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	1. Check the monitoring results and findings from ET and IEC;  2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and  3. Supervise the instigated further mitigation measure(s).



	measures are properly implemented by the Contractor, as agreed with the PP.			
Limit Level exceeded.	<ol style="list-style-type: none"> <li>1. Check monitoring data and repeat data analysis to confirm findings;</li> <li>2. Identify potential source(s) of impact;</li> <li>3. Immediately inform IEC, Contractor and PP.</li> <li>4. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</li> <li>5. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</li> <li>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data, analysis and investigation by ET;</li> <li>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</li> <li>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</li> <li>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</li> <li>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</li> <li>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</li> <li>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the monitoring results and findings from ET and IEC;</li> <li>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</li> <li>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</li> <li>4. Supervise the instigated further mitigation measure(s).</li> </ol>

	implemented by the Contractor, as agreed with the PP.	feedback the audit results to the PP.		
<b>General Site Inspection</b>				
Action Level exceeded.	1. Investigate if the activity identified is related to the construction works;  2. Immediately inform IEC, Contractor and PP.  3. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and  4. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	1. Check the investigation and findings of the ET;  2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and  3. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	1. Confirm receipt of notification of the exceedance of Action Level in writing; and  2. Propose and implement the remedial measures(s) to mitigate the impact(s) of the activity identified.	1. Check the investigation and findings of the ET and IEC;  2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and  3. Supervise the instigated further mitigation measure(s).
Limit Level exceeded	1. Investigate if the activity identified is related to the construction works;	1. Check the investigation and findings or the ET;  2. Discuss with the PP,	1. Confirm receipt of notification of the exceedance of Limit Level in writing;	1. Check the monitoring results and findings from ET and IEC;  2. Discuss the need for

	<p>2. Immediately inform IEC, Contractor and PP.</p> <p>3. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</p> <p>4. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>5. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>ET, and Contractor on the need for further mitigation measure(s);</p> <p>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</p> <p>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</p> <p>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</p> <p>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</p> <p>4. Supervise the instigated further mitigation measure(s).</p>
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**Table N-6.2 Action and Limit Levels and Responses to Evidence of Disturbance to Waterbirds using in Ng Tung, Sheung Yue and Shek Sheung Rivers**

EVENT	RESPONSE			
	ET	IEC	Contractor	Project Proponent
<b>Construction Phase</b>				
Action Level	1. Check monitoring	1. Check monitoring data,	1. Confirm receipt of	1. Check the monitoring

exceeded.	<p>data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>analysis and investigation by ET;</p> <p>2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>notification of the exceedance of Action Level in writing; and</p> <p>2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and</p> <p>3. Supervise the instigated further mitigation measure(s).</p>
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Limit Level Exceeded.	1. Check monitoring data and repeat data analysis to confirm findings;  2. Identify potential source(s) of impact;  3. Immediately inform IEC, Contractor and PP.  4. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;  5. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and  6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	1. Check monitoring data, analysis and investigation by ET;  2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);  3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;  4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and  5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	1. Confirm receipt of notification of the exceedance of Limit Level in writing;  2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and  3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	1. Check the monitoring results and findings from ET and IEC;  2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;  3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and  4. Supervise the instigated further mitigation measure(s).
<b>Operational Phase</b>				
Action Level	1. Check monitoring	1. Check monitoring	1. Confirm receipt of	1. Check the monitoring

exceeded.	<p>data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>data, analysis and investigation by ET;</p> <p>2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>3. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>notification of the exceedance of Action Level in writing; and</p> <p>2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and</p> <p>3. Supervise the instigated further mitigation measure(s).</p>
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Limit Level exceeded.	<ol style="list-style-type: none"> <li>1. Check monitoring data and repeat data analysis to confirm findings;</li> <li>2. Identify potential source(s) of impact;</li> <li>3. Immediately inform IEC, Contractor and PP.</li> <li>4. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</li> <li>5. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</li> <li>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data, analysis and investigation by ET;</li> <li>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</li> <li>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</li> <li>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</li> <li>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</li> <li>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</li> <li>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the monitoring results and findings from ET and IEC;</li> <li>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</li> <li>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</li> <li>4. Supervise the instigated further mitigation measure(s).</li> </ol>
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**Table N-6.3 Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna**  
 WMA20002\App N - Event Action Plan

EVENT	RESPONSE			
	ET	IEC	Contractor	Project Proponent
<b>Construction Phase</b>				
Action Level exceeded.	1. Check monitoring data and repeat data analysis to confirm findings;  2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;  3. Identify potential source(s) of impact;  4. Immediately inform IEC, Contractor and PP.  5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and  6. Conduct necessary site inspections/audits to ensure all remedial measures are properly	1. Check monitoring data, analysis and investigation by ET;  2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and  3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	1. Confirm receipt of notification of the exceedance of Action Level in writing; and  2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	1. Check the monitoring results and findings from ET and IEC;  2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and  3. Supervise the instigated further mitigation measure(s).

	implemented by the Contractor, as agreed with the PP.			
Limit Level exceeded.	<ol style="list-style-type: none"> <li>1. Check monitoring data and repeat data analysis to confirm findings;</li> <li>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</li> <li>3. Identify potential source(s) of impact;</li> <li>4. Immediately inform IEC, Contractor and PP.</li> <li>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</li> <li>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data, analysis and investigation by ET;</li> <li>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</li> <li>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</li> <li>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</li> <li>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</li> <li>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</li> <li>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the monitoring results and findings from ET and IEC;</li> <li>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</li> <li>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</li> <li>4. Supervise the instigated further mitigation measure(s).</li> </ol>



	7. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	results to the PP.		
<b>Operational Phase</b>				
Action Level exceeded.	1. Check monitoring data and repeat data analysis to confirm findings;  2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;  3. Identify potential source(s) of impact;  4. Immediately inform IEC, Contractor and PP.  5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;	1. Check monitoring data, analysis and investigation by ET;  2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and  3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	1. Confirm receipt of notification of the exceedance of Action Level in writing; and  2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	1. Check the monitoring results and findings from ET and IEC;  2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and  3. Supervise the instigated further mitigation measure(s).

	and  6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.			
Limit Level exceeded.	1. Check monitoring data and repeat data analysis to confirm findings;  2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;  3. Identify potential source(s) of impact;  4. Immediately inform IEC, Contractor and PP.  5. Discuss with the Contractor on the remedial measure(s) to mitigate the	1. Check monitoring data, analysis and investigation by ET;  2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);  3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;  4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and	1. Confirm receipt of notification of the exceedance of Limit Level in writing;  2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and  3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	1. Check the monitoring results and findings from ET and IEC;  2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;  3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and  4. Supervise the instigated further mitigation measure(s).

	<p>impact(s) identified;</p> <p>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>7. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>		
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**Table N-6.4 Action and Limit Levels and Responses to Evidence of Declines in the Seasonal Non-aquatic Fauna (Herptofauna, Butterfly and Odonates) in Ecologically Sensitive Habitats**

EVENT	RESPONSE			
	ET	IEC	Contractor	Project Proponent
<b>Construction Phase</b>				
Action Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p>	<p>1. Confirm receipt of notification of the exceedance of Action Level in writing; and</p> <p>2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and</p>

	<p>construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>		<p>3. Supervise the instigated further mitigation measure(s).</p>
Limit Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</p>	<p>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</p> <p>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s),</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the</p>

	<p>natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</p> <p>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>7. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</p> <p>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>then propose and implement the further mitigation measure(s); and</p> <p>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>Contractor;</p> <p>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</p> <p>4. Supervise the instigated further mitigation measure(s).</p>
<b>Operational Phase</b>				



Action Level exceeded.	<ol style="list-style-type: none"> <li>1. Check monitoring data and repeat data analysis to confirm findings;</li> <li>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</li> <li>3. Identify potential source(s) of impact;</li> <li>4. Immediately inform IEC, Contractor and PP.</li> <li>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</li> <li>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data, analysis and investigation by ET;</li> <li>2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</li> <li>3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of the exceedance of Action Level in writing; and</li> <li>2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the monitoring results and findings from ET and IEC;</li> <li>2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and</li> <li>3. Supervise the instigated further mitigation measure(s).</li> </ol>
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Limit Level exceeded.	<ol style="list-style-type: none"> <li>1. Check monitoring data and repeat data analysis to confirm findings;</li> <li>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</li> <li>3. Identify potential source(s) of impact;</li> <li>4. Immediately inform IEC, Contractor and PP.</li> <li>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</li> <li>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</li> <li>7. Conduct necessary</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data, analysis and investigation by ET;</li> <li>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</li> <li>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</li> <li>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</li> <li>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</li> <li>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</li> <li>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the monitoring results and findings from ET and IEC;</li> <li>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</li> <li>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</li> <li>4. Supervise the instigated further mitigation measure(s).</li> </ol>

	<p>site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>			
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**Table N-6.5 Action and Limit Levels and Responses to Evidence of Declines in the Non-seasonal Non-aquatic Fauna (Mammals) in Ecologically Sensitive Habitats**

EVENT	RESPONSE			
	ET	IEC	Contractor	Project Proponent
<b>Construction Phase</b>				
Action Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>3. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit</p>	<p>1. Confirm receipt of notification of the exceedance of Action Level in writing; and</p> <p>2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and</p> <p>3. Supervise the instigated further mitigation measure(s).</p>

	<p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	results to the PP.		
Limit Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</p> <p>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</p> <p>4. Review the remedial measure(s) proposed by the Contractor and advise the PP</p>	<p>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</p> <p>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</p> <p>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</p> <p>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</p> <p>4. Supervise the instigated further mitigation measure(s).</p>

	<p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</p> <p>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>7. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>accordingly; and</p> <p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>		
<b>Operational Phase</b>				
Action Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Review the remedial measure(s) proposed by the Contractor and</p>	<p>1. Confirm receipt of notification of the exceedance of Action Level in writing; and</p> <p>2. Propose and implement the</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection/audit</p>



	<p>check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>advise the PP accordingly; and</p> <p>3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>remedial measures(s) to mitigate the impact(s) identified.</p>	<p>frequency proposed by ET with IEC and the Contractor; and</p> <p>3. Supervise the instigated further mitigation measure(s).</p>
Limit Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p>	<p>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p>

	<p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</p> <p>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>7. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed</p>	<p>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</p> <p>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</p> <p>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</p> <p>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</p> <p>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</p> <p>4. Supervise the instigated further mitigation measure(s).</p>
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	with the PP.			
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**APPENDIX O**  
**SUMMARY OF EXCEEDANCE**

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**Appendix O: Exceedance Report****(A) Exceedance Report for Air Quality**

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Air Quality	1-hr TSP	0	0	0	0
	24-hr TSP	0	0	0	0
	24-hr RSP (Ambient Arsenic)	0	0	0	0

**(B) Exceedance Report for Construction Noise**

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Noise	$L_{eq}(30 \text{ min.}) \text{ dB(A)}$	0	0	0	0

**(C) Exceedance Report for Water Quality**

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Water Quality	DO	2	6	0	0
	Turbidity	0	9	0	0
	SS	0	9	0	0
	Arsenic	0	0	0	0



**(D) Exceedance Report for Landfill Gas**

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Landfill Gas	O <sub>2</sub> (% v/v) CH <sub>4</sub> (% LEL) CO <sub>2</sub> (% v/v)	0	0	0	0

**(E) Exceedance Report for Built Heritage Monitoring**

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Cultural Heritage	Built Heritage Monitoring	0	0	0	0

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**APPENDIX P**  
**SITE AUDIT SUMMARY**

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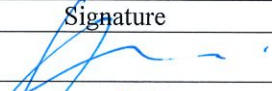

*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work*

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220705
Date	5 July 2022 (Tuesday)
Time	9:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Noise</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Land Contamination</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Landfill Gas Hazard</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Cultural Heritage</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>J. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>K. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>L. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.:220628), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		5 July 2022
Checked by	Dr. Priscilla Choy		5 July 2022

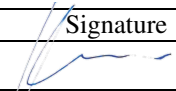

**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220713
Date	13 July 2022 (Wednesday)
Time	9:15 - 11:15

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Land Contamination</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landfill Gas Hazard</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>K. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:220705), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		14 July 2022
Checked by	Dr. Priscilla Choy		14 July 2022



***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220719
Date	19 July 2022 (Tuesday)
Time	09:30 - 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Noise</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Land Contamination</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Landfill Gas Hazard</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Cultural Heritage</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>J. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>K. Permits/Licences</i></b>	
220719-R01	• Environmental Permit should be displayed conspicuously on site at Portion 9C.	K 5
	<b><i>L. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.:220713), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		19 July 2022
Checked by	Dr. Priscilla Choy		19 July 2022




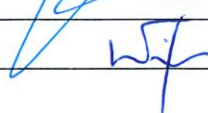
**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220726
Date	26 July 2022 (Tuesday)
Time	09:30 - 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Land Contamination</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landfill Gas Hazard</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>K. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:220719), all environmental deficiency was observed improved/rectified by the contractor during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		26 July 2022
Checked by	Dr. Priscilla Choy		26 July 2022



*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/02 – Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development and Shek Wu Hui*

Weekly Site Inspection Record Summary

Checklist Reference Number	220706
Date	6 July 2022 (Wednesday)
Time	09:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:220629), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Adrian Lam		6 July 2022
Checked by	Dr. Priscilla Choy		6 July 2022


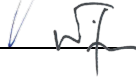
**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/02 – Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development and Shek Wu Hui**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220715
Date	15 July 2022 (Friday)
Time	14:00 – 16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
220715-R02	• To clarify the fallen tree status.	G 1
	<b>H. Ecology</b>	
220715-R01	• Dull green barrier should be maintained properly.	H 1
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:220629), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		15 July 2022
Checked by	Dr. Priscilla Choy		15 July 2022





*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/02 – Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development and Shek Wu Hui*

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220720
Date	20 July 2022 (Wednesday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
220720-R01	• To clarify the fallen tree status.	G 1
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:220715), item 220715-R01 was observed improved/rectified by the contractor during site inspection. Item 220715-R02 was remarked as 220720-R01. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Marco Ma		20 July 2022
Checked by	Dr. Priscilla Choy		20 July 2022

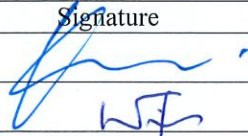

*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/02 – Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development and Shek Wu Hui*

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220727
Date	27 July 2022 (Wednesday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
220727-R02	• To enhance mitigation measures to prevent surface runoff into the Sheung Yue River near 1.43.7.	D-18
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
220727-R01	• To clarify the nearly fallen tree status.	G 1
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:220720), item 220720-R01 was remarked as 220727-R01. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Marco Ma		27 July 2022
Checked by	Dr. Priscilla Choy		27 July 2022





**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220708
Date	8 July 2022 (Friday)
Time	15:00-16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
220708-R01	• Vehicle entrance within 30m of construction site should be kept clean of dust.	B9
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
220708-R02	• Drip tray should be provided for chemical container.	E14
	<b>F. Landscape &amp; Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Others</b>	
	• Follow-up on previous audit section (Ref. No.:220628), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Him Ng		11 July 2022
Checked by	Dr. Priscilla Choy		11 July 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220715
Date	15 July 2022 (Friday)
Time	14:00-14:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Landscape &amp; Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Others</b>	
	• Follow-up on previous audit section (Ref. No.:220708), all environmental deficiency were rectified/ improved by the contractor.	

	Name	Signature	Date
Recorded by	Adrian Lam		18 July 2022
Checked by	Dr. Priscilla Choy		18 July 2022

***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220719
Date	19 July 2022 (Tuesday)
Time	14:00-14:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape &amp; Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.:220715), no major environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Adrian Lam		20 July 2022
Checked by	Dr. Priscilla Choy		20 July 2022



***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220729
Date	29 July 2022 (Friday)
Time	10:00-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
220729	<ul style="list-style-type: none"> <li>Dusty debris were observed at Yin Kong Road. Contractor was reminded to clear the dusty debris immediately.</li> </ul>	B9
	<b><i>C. Construction Noise Impact</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>D. Water Quality</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>E. Waste / Chemical Management</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>F. Landscape &amp; Visual</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>G. Ecology</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>H. Permits/Licences</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>I. Others</i></b>	
	<ul style="list-style-type: none"> <li>Follow-up on previous audit section (Ref. No.:220719), no major environmental deficiency was identified during site inspection.</li> </ul>	

	Name	Signature	Date
Recorded by	Him Ng		29 July 2022
Checked by	Dr. Priscilla Choy		29 July 2022





**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/04 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220707
Date	7 July 2022 (Thursday)
Time	11:00-12:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
220707-R01	• Replace the faded NRMM labels.	B24
220707- R02	Cover the stockpile of dusty materials at the site near Ma Wat River.	B2
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
220707-R03	• Maintain the silt curtain to avoid muddy water entering the river.	H5
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220630), item 220630-R01 was remarked as 220707-R01. Other environmental deficiency was observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Tim Lui		7 July 2022
Checked by	Dr. Priscilla Choy		7 July 2022



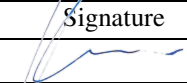

**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/04 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220714
Date	14 July 2022 (Thursday)
Time	14:00 - 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220707), all environmental deficiencies were observed improved/rectified during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		14 July 2022
Checked by	Dr. Priscilla Choy		14 July 2022

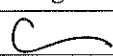
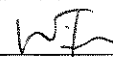
**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/04 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220721
Date	21 July 2022 (Thursday)
Time	14:00 - 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220714), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Camus Yeung		21 July 2022
Checked by	Dr. Priscilla Choy		22 July 2022



*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/04 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)*

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220728
Date	28 July 2022 (Thursday)
Time	14:00 - 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220721), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Camus Yeung		29 July 2022
Checked by	Dr. Priscilla Choy		29 July 2022


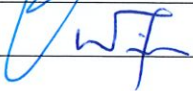
*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/05 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section between Shung Him Tong to Kau Lung Hang*

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220704
Date	4 July 2022 (Monday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
220704-R01	• Sand bag barrier should be provided to direct stormwater efficiently.	D 3
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220627), 220627-R01 was observed improved/rectified by the contractor during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		5 July 2022
Checked by	Dr. Priscilla Choy		5 July 2022



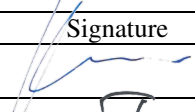

**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/05 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section between Shung Him Tong to Kau Lung Hang**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220714
Date	14 July 2022 (Thursday)
Time	09:00 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
220714-R01	• Should prevent dusty stockpile to enter the river with sufficient mitigation measure.	D 3
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220704), 220704-R01 was observed improved/rectified by the contractor during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		14 July 2022
Checked by	Dr. Priscilla Choy		14 July 2022





**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/05 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section between Shung Him Tong to Kau Lung Hang**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220718
Date	18 July 2022 (Monday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
220718-R01	• Should prevent muddy stockpile entering the river with sufficient mitigation measures.	D 3
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220714), 220714-R01 was observed improved/rectified by the contractor during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		19 July 2022
Checked by	Dr. Priscilla Choy		19 July 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/05 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section between Shung Him Tong to Kau Lung Hang**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220725
Date	25 July 2022 (Monday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220718), 220718-R01 was observed improved/rectified by the contractor during site inspection.	

	Name	Signature	Date
Recorded by	Him Ng		27 July 2022
Checked by	Dr. Priscilla Choy		27 July 2022





**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220707
Date	7 July 2022 (Thursday)
Time	12:45-13:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220630), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Tim Lui		8 July 2022
Checked by	Dr. Priscilla Choy		8 July 2022



***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220714
Date	14 July 2022 (Thursday)
Time	15:30-16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Noise</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 220707), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		14 July 2022
Checked by	Dr. Priscilla Choy		14 July 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220721
Date	21 July 2022 (Thursday)
Time	15:30-16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220714), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Camus Yeung		21 July 2022
Checked by	Dr. Priscilla Choy		22 July 2022





**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220728
Date	28 July 2022 (Thursday)
Time	15:30-16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220721), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Camus Yeung		29 July 2022
Checked by	Dr. Priscilla Choy		29 July 2022


*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/07 – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works*

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220708
Date	8 July 2022 (Friday)
Time	13:30 – 14:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220629), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		11 July 2022
Checked by	Dr. Priscilla Choy		11 July 2022




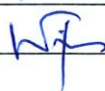
***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/07 – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220715
Date	15 July 2022 (Friday)
Time	14:00 – 15:10

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 220708), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Tim Lui		15 July 2022
Checked by	Dr. Priscilla Choy		15 July 2022

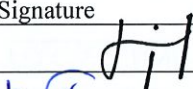

*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/07 – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works*

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220722
Date	22 July 2022 (Friday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 220715), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Him Ng		25 July 2022
Checked by	Dr. Priscilla Choy		25 July 2022





***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/07 – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	220729
Date	29 July 2022 (Friday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 220722), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		1 August 2022
Checked by	Dr. Priscilla Choy		1 August 2022



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**APPENDIX Q  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

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EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
<b>Construction Dust Impact</b>							
S3.8	D1	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 92.1%. 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 1.7 L/m <sup>2</sup> to achieve the respective dust removal efficiencies	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	^
S3.8	D2	The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	^
S3.8	D3	<p>Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction Phase</p> <ul style="list-style-type: none"> <li>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;</li> <li>Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones;</li> <li>The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;</li> <li>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 section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;</li> </ul>	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	<p>*</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

		<ul style="list-style-type: none"> <li>• When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period.</li> <li>• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;</li> <li>• 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;</li> <li>• 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;</li> <li>• 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;</li> <li>• Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>• 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;</li> <li>• Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed;</li> <li>• Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and</li> <li>• Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser</li> </ul>					^
							^
							^
							^
							^
							N/A
							N/A
							^

		within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.					^
SURFACE S3.8	D4	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction phase	^
<b>Noise Impact (Construction Phase)</b>							
S4.9	N1	Implement the following good site management practices: <ul style="list-style-type: none"> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>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;</li> <li>Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> <li>Mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>	Control construction airborne noise	Contractor	All construction sites	Construction phase	^  ^  ^  ^  ^
S4.9	N2	Install temporary site hoarding (approx 2.4m 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 noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	Construction phase	^
S4.9	N3	Install movable noise barriers and 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 sites where practicable	Construction phase	^
S4.9	N4	Use of “Quiet” Plant and Working Methods	Reduce the noise levels of plant items	Contractor	All construction sites where	Construction phase	^

4



		<p>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.</p> <ul style="list-style-type: none"> <li>• The dikes or embankments for flood protection 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 trap. The silt/sediment traps should be incorporated in the permanent drainage channels to enhance deposition rates.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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 sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.</li> <li>• All open stockpiles of construction materials (for example,</li> </ul>					<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
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		<p>aggregates, sand and fill material) of more than 50m<sup>3</sup> should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.</p> <ul style="list-style-type: none"> <li>• Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.</li> <li>• Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events.</li> <li>• All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction 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 section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.</li> <li>• 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.</li> <li>• Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water</li> </ul>					<p>^</p> <p>^</p> <p>*</p> <p>N/A</p> <p>^</p>
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		<p>quality impacts.</p> <ul style="list-style-type: none"> <li>All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby.</li> <li>Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the meander, wetlands and fish ponds.</li> </ul>					<p>^</p> <p>^</p>
S5.7	W2	<p><u>Stream Diversion</u></p> <ul style="list-style-type: none"> <li>In order to prevent sediment transport during riverbank works, deployment of silt curtain should be implemented, especially when construction works encroach or occur in close distance to water body. It is recommended to carry out all the riverbank works and diversion works within a cofferdam or diaphragm wall and the work areas on riverbed should be kept in dry condition.</li> </ul>	Minimize water quality impact due to stream diversion	Contractor	All streams that required diversion	Construction phase	^
S5.7	W3	<p><u>Groundwater from Contaminated Area</u></p> <ul style="list-style-type: none"> <li>For other inaccessible sites, site investigation is required when they are resumed and handed over to the Project Proponent to identify if contaminated groundwater is found.</li> <li>If the investigation results indicated that the groundwater to be generated from construction works would be contaminated, the contaminated groundwater should be either discharged into recharged wells, or properly treated in compliance with the requirements of Technical Memorandum on Standards for</li> </ul>	Minimize water quality impact due to potential groundwater from contaminated area	Contractor	All identified groundwater-contaminated areas	Construction phase	<p>N/A</p> <p>N/A</p>

		<p>Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters.</p> <ul style="list-style-type: none"> <li>• If recharged well method were used, the groundwater quality in the recharged well should not be affected by recharging operation, i.e. the pollution levels of the recharged groundwater should not be higher than that in the recharging wells.</li> <li>• If treatment and discharge method were used, the design of wastewater treatment facilities, such as active carbon and petrol interceptor, should be submitted to the EPD and a discharge license should be obtained under the WPCO through the Regional Offices of EPD.</li> </ul>					<p>N/A</p> <p>N/A</p>
S5.7	W4	<p><u>Sewage from Workforce</u></p> <p>Portable chemical toilets and sewage holding tanks should be provided for handling the construction sewage generated by the workforce. A licensed Contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p> <p>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 phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause water quality impact after undertaking all required measures.</p>	Handling of site sewage	Contractor	All construction sites	Construction Phase	^
<b>Waste Management (Construction Waste)</b>							

S7.6	WM1	<p><u>Waste Reduction Measures</u></p> <p>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:</p> <ul style="list-style-type: none"> <li>• segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>• proper storage and site practices to minimize the potential for damage and contamination of construction materials;</li> <li>• plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste;</li> <li>• sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc);</li> <li>• provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.</li> </ul>	Reduce waste generation	Contractor	All construction sites where practicable	Prior to the commencement of construction	<p>^</p> <p>^</p> <p>^</p> <p>N/A</p> <p>^</p>
S7.6	WM2	Prepare Waste Management Plan and submit to the Engineer for approval	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	^
S7.6	WM3	<p><u>Good Site Practice</u></p> <p>The following good site practices are recommended throughout the construction activities:</p> <ul style="list-style-type: none"> <li>• Nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;</li> <li>• Training of site personnel in site cleanliness, appropriate waste</li> </ul>	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p>



		<p>management procedures and concepts of waste reduction, reuse and recycling;</p> <ul style="list-style-type: none"> <li>• Provision of sufficient waste disposal points and regular collection for disposal;</li> <li>• Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;</li> <li>• Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;</li> </ul>					<p>^</p> <p>^</p> <p>^</p>
S7.6	WM4	<p><u>Storage of Waste</u></p> <p>The following recommendation should be implemented to minimize the impacts:</p> <ul style="list-style-type: none"> <li>• Waste such as soil should be handled and stored well to ensure secure containment;</li> <li>• Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away;</li> <li>• Different locations should be designated to stockpile each material to enhance reuse;</li> </ul>	Minimize waste impacts from storage	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p> <p>^</p>
S7.6	WM5	<p><u>Collection and Transportation of Waste</u></p> <p>The following recommendation should be implemented to minimize the impacts:</p> <ul style="list-style-type: none"> <li>• Remove waste in timely manner;</li> <li>• Employ the trucks with cover or enclosed containers for waste</li> </ul>	Minimize waste impact from storage	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p>

		<p>transportation;</p> <ul style="list-style-type: none"> <li>Obtain relevant waste disposal permits from the appropriate authorities; and</li> <li>Disposal of waste should be done at licensed waste disposal facilities.</li> </ul>					<p>^</p> <p>^</p>
S7.6	WM6	<p><u>Excavated and C&amp;D Material</u></p> <p>Wherever practicable, C&amp;D materials should be segregated from other wastes to avoid contamination and ensure acceptability at Public Fill Reception Facilities areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&amp;D materials:</p> <ul style="list-style-type: none"> <li>Maintain temporary stockpiles and reuse excavated fill material for backfilling;</li> <li>Carry out on-site sorting;</li> <li>Deliver surplus artificial hard materials to Tuen Mun Area 38 recycling plant or its successor for recycling into subsequent useful products;</li> <li>Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; and</li> <li>Implement a recording system for the amount of waste generated, recycled and disposed of for checking;</li> </ul> <p>Standard formwork should be used as far as practicable in order to minimize the arising of C&amp;D waste. The use of more durable formwork (e.g. metal hoarding) or plastic facing should be encouraged in order to enhance the possibility of recycling. The purchasing of construction materials should be carefully planned in order to avoid over ordering and wastage.</p>	Minimize waste impacts from excavated and C&D material	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>^</p> <p>N/A</p>

		Wheel wash facilities have to be provided at the site entrance before the trucks leaving the works area.					^
S7.6	WM7	<p><u>Contaminated Soil</u></p> <p>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.</p>	Remediate contaminated soil	Contractor	All construction sites where applicable	Construction phase	^
S7.6	WM8	<p><u>Chemical Waste</u></p> <p>If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers. 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 Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p>	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction phase	^
S7.6	WM9	<p><u>General Waste</u></p> <ul style="list-style-type: none"> <li>General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling.</li> <li>Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean.</li> <li>A reputable waste collector should be employed to remove</li> </ul>	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	^  *  ^

		general refuse on a daily basis.					
S7.6	WM10	<u>Sewage</u> <ul style="list-style-type: none"> <li>The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities.</li> <li>Regularly collection by licensed collectors should be arranged to minimize potential environmental impacts.</li> </ul>	Minimize production of sewage impacts	Contractor	All construction sites	Construction phase	N/A
S7.6	WM11	Topsoil reuse – Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. This is considered a general measure for good site practice.	Good site practice	Contractor/ Project Proponent	Onsite	Construction phase	N/A
<b>Land Contamination</b>							
S 8.4	LC2	Detailed site investigation (SI) for all inaccessible potentially contaminated sites in 2 NDAs	Verify the land contamination potential before the commencement of construction	Project Proponent Detailed Design Consultant Contractor	All inaccessible potentially contaminated sites in 2 NDAs as listed in the CAP	After the land is resumed and handed over to the Project Proponent	N/A
S 8.5	LC3	Preparation and submission of supplementary Contamination Assessment Report (CAR) and Remediation Action Plan (RAP) for all inaccessible potentially contaminated sites in 2 NDAs to EPD for agreement if land contamination is confirmed	Present the findings of SI and evaluate the potential environmental and human health impacts  Recommend appropriate mitigation measures for the contaminated soil and groundwater identified in	Project Proponent/ Detailed Design Consultant	All inaccessible potentially contaminated sites in 2 NDAs as listed in the CAP	Prior to the commencement of any proposed construction works if land contamination is confirmed	N/A

			the assessment if remediation is required			and remediation is required	
S 8.5	LC4	Preparation and submission of Remediation Report to EPD for agreement	Demonstrate that the decontamination work is adequate and is carried out in accordance with the endorsed supplementary CAR and RAP	Project Proponent/ Detailed Design Consultant	All inaccessible potentially contaminated sites in 2 NDAs as listed in the CAP	Prior to the commencement of any proposed construction works if land contamination is confirmed and remediation is required	N/A
S 8.6	LC5	Re-appraisal of surveyed sites (if they become part of the land requirement for NDA development) that were not identified as potentially contaminated or could not be accessed for visual inspection during the site survey	Verify the land contamination potential due to potential change of land uses before the commencement of construction	Project Proponent/ Detailed Design Consultant	All surveyed sites (if they become part of the land requirement for NDA development (that were not identified as potentially contaminated or could not be accessed for visual inspection during the site survey as	After the land is resumed and handed over to the Project Proponent.	N/A



					listed in the CAP		
S 8.7.2 and Appendix 8.4	LC6	<p>Treatment of arsenic-containing soil</p> <p>“Solidification/Stabilization” (S/S) treatment method was proposed for the treatment of arsenic-containing soil. Toxicity Characteristic Leaching Procedure (TCLP) test should be undertaken after S/S in order to ensure that the contaminant will not leach to the environment. Unconfined Compressive Strength (UCS) test should be conducted, and not less than 1MPa should be met prior to the backfilling or stockpiled for future reuse within the study area.</p>	To treat the arsenic containing soil	Government Developer/ Contractor	KTN NDA	Prior to commencement of construction works within KTN NDA	N/A
S 8.7.2 and Appendix 8.4	LC7	<p>Excavation and Transportation</p> <ul style="list-style-type: none"> <li>Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety;</li> <li>In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table;</li> <li>Excavation should be carried out during dry season as far as possible to minimize runoff from excavated soils;</li> <li>Stockpiling site(s) should be lined with impermeable sheeting and banded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or contaminated run-off during rainy season. Watering should be avoided on stockpiles of soil to minimize runoff;</li> <li>Supply of suitable backfill material after excavation, if require; Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or run-off, and</li> </ul>	To minimize the potential environmental impacts arising from the handling of contaminated materials	Contractor	KTN NDA	Prior to commencement of construction works within KTN NDA	N/A  ^

		<p>truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet season;</p> <ul style="list-style-type: none"> <li>Speed control for the trucks carrying excavated materials should be enforced; and Vehicle wheel washing facilities at the site's exit points should be established and used.</li> </ul>					
S 8.7.2 and Appendix 8.4	LC8	<p>Solidification/Stabilization</p> <ul style="list-style-type: none"> <li>The loading, unloading, handling, transfer or storage of cement should be carried out in an enclosed system;</li> <li>Mixing process and other associated material handling activities should be properly scheduled to minimize potential noise impact and dust emission;</li> <li>The mixing facilities should be sited as far apart as practicable from the nearby noise sensitive receivers;</li> <li>Mixing of soil and cement / water / other additive(s) should be undertaken at a solidification plant to minimize the potential for leaching;</li> <li>Runoff from the solidification / stabilization area should be prevented by constructing a concrete bund along the perimeter of the solidification / stabilization area;</li> <li>If stockpile of treated soil is required, the stockpiling site(s) should be lined with impermeable sheeting and banded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or site run-off during rainy season; and</li> </ul> <p>If necessary, there should be clear and separated areas for stockpiling of untreated and treated materials.</p>	To minimize the potential environmental impacts arising from the handling of contaminated materials	Contractor	KTN NDA	The course of treatment	<p>N/A</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

S 8.7.2 and Appendix 8.4	LC9	<u>Safety Measures</u> <ul style="list-style-type: none"> <li>Set up a list of safety measures for site workers;</li> <li>Provide written information and training on safety for site workers;</li> <li>Keep a log-book and plan showing the zones requiring treatment and clean zones;</li> <li>Maintain a hygienic working environment;</li> <li>Avoid dust generation;</li> <li>Provide face and respiratory protection gear to site workers if necessary;</li> <li>Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight gloves) to site workers if necessary;</li> <li>Provide first aid training and materials to site worker;</li> <li>Bulk earth moving equipment should be utilized as much as possible to minimize worker</li> </ul> <p>Eating, drinking and smoking should not be allowed in the excavation areas and treatment area to avoid inadvertent ingestion of arsenic containing soil.</p>	To minimize the potential adverse effects on health and safety of construction workers	Contractor	KTN NDA	The course of treatment	N/A
<b>Landfill Gas Hazard</b>							
S10.6	LFG1	<ul style="list-style-type: none"> <li>Underground rooms or void should be avoided as far as practicable in the proposed developments within the Consultation Zone and should be avoided totally in the proposed developments within the MTLL.</li> <li>Buildings or structures within the MTLL should be at ground level with raised floor slabs which are less prone to gas ingress.</li> <li>For the high risk category, the use of active control of gas, including barriers and detection systems are recommended. These measures include the control of gas by mechanical means</li> </ul>	To minimize the risk of LFG hazards to occupants within MTLL and its 250m Consultation Zone	Government / Developer/ Detailed Design Consultant within MTLL and its 250m Consultation Zone	Buildings within MTLL and its 250m Consultation Zone	Detailed design phase	N/A

		<p>e.g. ventilation of spaces with air to dilute gas, or extraction of gas using fans or blowers.</p> <ul style="list-style-type: none"> <li>For the low risk category, the provision of barriers to the movement of gas is recommended. Measures recommended include the use of membranes in floors or walls, or in trenches, coupled with high permeability vents such as nofines gravel in trenches or voids/permeable layers below structures.</li> <li>The need and practicality of incorporating such measures should be reviewed in the detailed Qualitative LFG Hazards Assessment (QLFGHA) during the detailed design stage for developments within the 250m Consultation Zone and within MTLL. Recommendations on the detailed precautionary and protection measures to be adopted should be given in the QLFGHA.</li> <li>The design and construction method of the proposed development within MTLL (i.e. the proposed recreational area in site E1-1) should be provided to EPD for agreement in the design stage to ensure compatibility with the landfill restoration facilities and aftercare works within MTLL, such that these facilities and works will not be affected by the construction or operation of the proposed development.</li> </ul>					
S10.6	LFG2	<ul style="list-style-type: none"> <li>During all works, safety procedures should be implemented to minimize the risks of fires and explosions, asphyxiation of workers (especially in confined space) and toxicity effects resulting from contact with contaminated soils and groundwater.</li> <li>Safety officers, specifically trained with regard to LFG and leachate related hazards and the appropriate actions to take in</li> </ul>	To minimize the risk of LFG hazards to the staff and visitors within MTLL and its 250m Consultation Zone	Contractor	Construction sites within MTLL and its 250m Consultation Zone	Construction phase	<p>^</p> <p>^</p>

		<p>adverse circumstances, should be present on all worksites throughout the works.</p> <ul style="list-style-type: none"> <li>• All personnel who work on site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of the works, the possible presence of contaminated water and the need to avoid physical contact with it.</li> <li>• Those staff who work in, or have responsibility for “at risk” areas, including bore pilling and excavation works, should receive appropriate training on working in areas susceptible to LFG.</li> <li>• Enhanced personal hygiene practices including washing thoroughly after working and eating only in “clean” areas should be adopted where contact may have been made with any groundwater which is thought to be contaminated with leachate.</li> <li>• Any offices / quarters set up on site should take precautions against LFG ingress, such as being raised off the ground. Other storage premises, e.g. shipping containers, where this is not possible should be well ventilated prior to entry.</li> <li>• Adequate precautions to prevent the accumulation of LFG under site buildings and within storage shed should be taken by raising buildings off the ground where appropriate and “airing” storage containers prior to entry by personnel and ensuring adequate ventilation at all times.</li> <li>• Smoking and naked flames should be prohibited within confined spaces. “No Smoking” and “No Naked Flame” notices in Chinese and English should be posted prominently around the construction site. Safety notices should be posted warning of the</li> </ul>						<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
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		<p>potential hazards.</p> <ul style="list-style-type: none"> <li>Welding, flame-cutting or other hot works may only be carried out in confined spaces when controlled by a “permit to work” procedure, properly authorized by the Safety Officer. The permit to work procedure should set down clearly the requirements for continuous monitoring of methane, carbon dioxide and oxygen throughout the period during which the hot works are in progress. The procedure should also require the presence of an appropriately qualified person who shall be responsible for reviewing the gas measurements as they are made, and who shall have executive responsibility for suspending the work in the event of unacceptable or hazardous conditions. Only those workers who are appropriately trained and fully aware of the potentially hazardous conditions which may arise should be permitted to carry out hot works in confined areas.</li> <li>During the construction works, adequate fire extinguishers and breathing apparatus sets should be made available on site and appropriate training given in their use.</li> <li>Ongoing gas monitoring should be considered for offices, stores etc set up on site.</li> </ul>					<p>^</p> <p>N/A</p> <p>^</p> <p>^</p>
S10.6	LFG3	<p>Utility Companies</p> <ul style="list-style-type: none"> <li>The developers should make the utility companies aware of the location and features of the site within the Consultation Zone during the respective detailed design stage as part of the QLFGHA.</li> <li>The utilities companies should have a responsibility to train and ensure their staff to take appropriate precautions at all times</li> </ul>	To minimize the risk of LFG hazards to the occupants, maintenance personnel, visitors and other users within MTLL and its 250m Consultation Zone	Government / Developer within MTLL and its 250m Consultation Zone	Buildings within MTLL and its 250m Consultation Zone	Operation phase	N/A

		<p>when entering enclosed spaces or plant rooms.</p> <ul style="list-style-type: none"> <li>Should utility installation be required in site E1-1, the developers should make the utility companies aware of the potential constraints imposed by the landfill restoration facilities and aftercare works to ensure these facilities and works will remain unaffected. Appropriate precautionary measures against landfill gas should also be taken should utility installation be required within the MTLL.</li> </ul> <p>Building Management</p> <ul style="list-style-type: none"> <li>The management committee of the building estate will hold a special responsibility to ensure that the occupants of the building, its staff and maintenance workers are protected from LFG and that visitors to the site are also made aware as to the dangers and the precautions required to be taken.</li> <li>Of primary importance to satisfactorily upholding this responsibility will be to ensure that strict procedures for maintaining control over all temporary and /or permanent works proposed at the site are reviewed with regard to the LFG hazard. This needs to be accompanied by a comprehensive contingency plan in case of incidents, including liaison with EPD officers, Fire Services Department, Landfill Restoration Contractors and others, as necessary.</li> <li>All construction and maintenance (including utilities) personnel working at the site should be made aware of the hazards of LFG and its possible presence on site. This should be achieved through a combination of posting warning signs in prominent places and also by access to detailed information on LFG</li> </ul>					
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		<p>hazards and the designs and procedural means by which these hazards are being minimized on site. In addition, entry to confined spaces such as refuse/store rooms, drainage manholes etc. should be preceded by a period of “airing” the space by opening the door widely allowing fresh air to enter. Where appropriate, monitoring of gas should also precede entry.</p> <ul style="list-style-type: none"> <li>Any proposed modifications or additions to the building structure should be subject to a further assessment of LFG hazard, particularly in areas where a gas membrane has been installed. Any penetrations of the membrane must be repaired as soon as possible after detection or works completion using similar products.</li> <li>The building management company should also make arrangement with Landfill Restoration Contractor so that they are advised of all situations which may potentially threaten the safety of the building occupants resulting from any accidents or failures at the landfill site. The building management company should also have available suitable gas monitoring equipment for any ad hoc investigations necessary relating to LFG and be in a position to undertake any future routine monitoring of gas which may be considered necessary soloing completion of the defects correction period.</li> <li>To ensure that all the above protection and precautionary measures and issues pertaining to LFG are properly and consistently addressed by future users and owners of the site, it is recommended that a comprehensive LFG hazard management system be developed by the owner of the building or its property</li> </ul>					
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		management agency. The system should be developed by the developers of the sites as part of the QLFGHA before the occupation of the building and implemented during its operational phase.					
<b><i>Cultural Heritage (Pre-construction Phase)</i></b>							
S11.6.1	CH1	<p><u>Undertaking Further Archaeological Survey to Cover the Outstanding Areas</u></p> <p>Further archaeological surveys to cover the outstanding areas of the not-yet-surveyed-area with medium archaeological potential located in the areas with proposed development as presented in Figure 11.9 should be implemented after land resumption to confirm and verify the findings of the EIA. The survey should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance. It should be noted that the scope of further archaeological survey is based on the current proposed alignment. Any additional works areas which have not been covered by the current archaeological impact assessment should be covered as soon as possible. Subject to the findings of the archaeological survey to be conducted after land resumption, additional mitigation measures would be designed and implemented before the commencement of construction works to mitigate the adverse impact.</p>	To confirm and verify the findings of the EIA	Project Proponent/ Contractor/ Qualified Archaeologist	In the not-yet-surveyed-areas with medium archaeological potential located in the areas within Areas D1-11, A3-5, A3-6, B1-1, and B1-7,	After land resumption but before construction	N/A
S11.6.1	CH2	<p><u>Undertaking Survey-cum-Rescue Excavation</u></p> <p>A Survey-cum-Rescue Excavation should be conducted after land resumption and before the commencement of construction works to define the precise archaeological deposits extent and to preserve the</p>	To define the precise archaeological deposits extent and to preserve the archaeological resources as far	Project Proponent/ Contractor/ Qualified Archaeologist	In KTN NDA, for Site 3 and In FLN NDA for Site 5.	After land resumption but before construction commencement of	N/A

		archaeological resources by record. The excavation should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance.	as possible			the zone	
S11.6.1	CH3	<p><u>Undertaking Preservation in-situ for Site 7</u></p> <p>Preservation in-situ of the cultivation deposits in Site 7 is proposed. If disturbance to the site by the design of the Central Park is unavoidable, further archaeological survey should be conducted after land resumption prior to the pre-construction stage to assess the feasibility to incorporate Site 7 into the design of the development plan of the proposed zone. Appropriate followup actions, including preservation of the significant archaeological deposits in-situ in the Central Park, would then be considered with the consent of AMO.</p> <p>The recommended mitigation measure of preservation in-situ with further archaeological survey should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance.</p>	To preserve the archaeological resources as far as possible.	Project Proponent/ Contractor/ Qualified Archaeologist	Site 7 in FLN NDA	After land resumption prior to preconstruction stage of the proposed Central Park (Area C2-8, Zoning O)	N/A
S11.6.1	CH4	<p><u>Undertaking Induction Training</u></p> <p>Induction training should be provided to the construction Contractor before the commencement of the excavation works in Spots A, D, F to H. An induction will be conducted as part of the environmental health and safety induction programme to all site staff before they are deployed on site. The induction will include an introduction on the historical development of the Site, the possible archaeological remains</p>	To preserve the archaeological resources as far as possible	Project Proponent/ Contractor/ Qualified Archaeologist	Spots A, D, F to H	Before the commencement of the excavation works and before site staff are deployed on site	N/A



		that may be encountered during ground excavation works as well as the reporting procedures in case suspected archaeological remains are identified. A set of the presentation material (in the form of power point presentation) with content details will be prepared by an archaeologist and submitted to AMO for reference and record purpose. The first induction briefing will be video recorded and it will be used as induction briefing material for new site staff.					
S11.6.1	CH5	<p><u>Undertaking Archaeological Impact Assessment before Construction at A1</u></p> <p>It is recommended that an Archaeological Impact Assessment to be conducted in the impacted area in Area B1-8 and B1-9 at A1 (Sheung Shui Wa Shan Site of Archaeological Interest) after land resumption and before construction when detail construction work information is available to determine the need for further archaeological follow up actions.</p>	To define the precise archaeological deposits extent and to preserve the archaeological resources as far as possible	Project Proponent/ Contractor/ Qualified Archaeologist	Area B1-8 and B1-9 zoned as R4 and R3 in A1	After land resumption but before construction	N/A
S11.6.1	CH6	<p><u>Undertaking Archaeological Impact Assessment before Construction within A1 but except Area B1-8 and B1-9</u></p> <p>Should there be any development work within the Sheung Shui Wa Shan Site of Archaeological Interest, it is recommended that an Archaeological Impact Assessment is required after land resumption and before construction when detail construction work information is available to determine the need for further archaeological follow up actions.</p>	To define the precise archaeological deposits extent and to preserve the archaeological resources as far as possible.	Project Proponent/ Contractor/ Qualified Archaeologist	Area within A1 except Area B1-8 and B1-9 in R4 & R3 zoning	After land resumption but before construction	N/A

S11.6.2	CH7	<p><u>Undertaking baseline condition survey and baseline vibration impact assessment</u></p> <p>In case any potential vibration impact on any nearby built heritage features are identified during the pre-construction stage of the Project, prior to commencement of construction works, a baseline condition survey and baseline vibration impact assessment should be conducted by a qualified building surveyor or a qualified structural engineer to define the vibration limit (a vibration limit at 7.5mm/s could be adopted for graded historic buildings) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction phase so as to ensure the construction performance meets with the vibration standard stated in the EIA report. The condition survey of graded historic building should be submitted to AMO for information.</p>	<p>To minimize the vibration impacts during preconstruction stage on any identified potential vibration impacted built heritage features</p>	<p>Project Proponent/ Contractor</p>	G303 and G308	<p>Preconstruction stage  before  commencement of construction works during Schedule 3 study</p>	N/A
S11.6.2	CH8	<p><u>Undertaking baseline condition survey and baseline vibration impact assessment</u></p> <p>In case any potential vibration impact on any nearby built heritage features are identified during the pre-construction stage of the Project, prior to commencement of construction works, a baseline condition survey and baseline vibration impact assessment should be conducted by a qualified building surveyor or a qualified structural engineer to define the vibration limit (a vibration limit at 7.5mm/s and 15mm/s could be adopted for graded historic buildings and historic buildings respectively) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction phase so as to ensure the construction performance meets with the vibration standard stated in the EIA report. The condition survey of</p>	<p>To minimize the vibration impacts during preconstruction stage on any identified potential vibration impacted built heritage features</p>	<p>Project Proponent/ Contractor</p>	KT57, FL05, FL18, and FL2	<p>Preconstruction stage before commencement of construction works</p>	N/A

		graded historic building should be submitted to AMO for information.					
S11.6.2	CH9	<u>Conducting Photographic and Cartographic Records Prior to Removal/Relocation of Impacted Built Heritages</u> Prior to removal/relocation of the directly impacted historical buildings and cultural/historical landscape features, photographic and cartographic records should be conducted to preserve them by record. Liaison with and obtaining agreement from the descendants of these features will be carried out the Project Proponent.	To preserve the directly impacted sites by record prior to their removal / relocation	Project Proponent/ Contractor	Ancillary structures of G303, HKT01, HKT02, Entrance Gate of HKT03, HKT04, KT01 to KT10, KT13, KT36, KT39, KT40, KT41, KT43, KT45, KT47, KT50, KT54, KT62 to KT63, KT69, FL01, FL16, and FL35	Prior to Removal / Relocation of features before commencement of construction works during Schedule 3 study	N/A
S11.6.2	CH10	<u>Conducting Photographic and Cartographic Records Prior to Removal/Relocation of Impacted Built Heritages</u> Prior to removal/relocation of the directly impacted historical buildings and cultural/historical landscape features, photographic and cartographic records should be conducted to preserve them by record. Liaison with and obtaining agreement from the descendants of these features will be carried out by the Project Proponent.	To preserve the directly impacted sites by record prior to their removal / relocation	Project Proponent/ Contractor	KT12 and KT61	Prior to Removal / Relocation of features before commencement of construction works	N/A
S11.6.2	CH11	Relocation of Built Heritages Relocation of built heritages to a reasonable location nearby may be required.	To preserve the directly impacted sites by relocation	Project Proponent/ Contractor	HKT01, HKT02, Entrance Gate of HKT03	After the photographic and cartographic records and before commencement of construction works	N/A

S11.6.2	CH12	Drainage System and Access Route Design For the retained built heritage items in developable area, drainage system and access route would be designed to prevent the persevered flooding and maintain the accessibility to the built heritage.	To prevent the persevered flooding and maintain the accessibility to the built heritage	Contractor /Detailed Design consultant	The retained built heritage items	Pre-construction phase	N/A
<b><i>Cultural Heritage (Construction Phase)</i></b>							
S11.6.1	CH13	<u>Inform Upon Archaeological Discovery</u> Pursuant to the Antiquities and Monuments Ordinance, the construction Contractor should inform the AMO immediately in case of discovery of antiquities or supposed antiquities in the course of excavation works in construction phase.	Special attention should be given to areas evaluated to have archaeological potential or significance.	Contractor	All soil excavation works	Immediately upon discovery during excavation works	N/A
S11.6.2	CH14	<u>Watertable Monitoring</u> Since the construction works and development activities may induce change in the watertable. It is recommended the Contractor should ensure that the change of watertable induced by the construction works and development activities will not result in settlement of built heritage.	To minimize the potential impacts to the built heritage items by the change of watertable induced by the works during the Construction phase	Contractor	Within NDAs	Construction phase	N/A
S11.6.2	CH15	<u>Conducting Construction Vibration Monitoring and Structural Strengthening Measures</u> Construction vibration monitoring and structural strengthening measures should be conducted during Construction phase based on the assessment result of baseline condition survey and baseline vibration impact assessment, so as to ensure the construction performance meets with the vibration standard stated in the EIA report.	To minimize the potential impacts during Construction phase on any identified potential vibration impacted built heritage features	Contractor	Identified potential vibration impacted built heritage features	Construction phase, with details specified in baseline condition survey and baseline vibration impact assessment	^
<b><i>Landscape and Visual Impact (Detailed Design, Prior to Construction, Construction and Operation Phases)</i></b>							
S.12.9	LV1	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use,		Detailed design consultant/ Contractor	Throughout NDAs,	Prior to Construction, Construction & for	N/A

		<p>should be adhered to.</p> <p>With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.</p>				<p>all planting, this should be installed as the areas become available, to achieve early establishment</p>	
S.12.9 MM1	LV2	<p>Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.</p>	<p>Reduce topographical changes and minimize land resumption</p>	<p>Government / Detailed Design Consultant/ Contractor</p>	<p>Throughout NDAs, particularly for reservoirs</p>	<p>Prior to Construction</p>	<p>N/A</p>
S.12.9 MM2	LV3	<p>Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural</p>	<p>Improve visual amenity of the new buildings, NDAs in general and integrate as best possible into the surrounding landscape</p>	<p>Detailed Design Consultant</p>	<p>Throughout NDAs</p>	<p>Prior to Construction</p>	<p>N/A</p>



		building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines. All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated. Construction time frame should also be considered and designs seek to keep it to a practical minimum.					
S12.9 MM14.4	LV 4	Avoid affecting Watercourses – In the detailed design, consideration should be made of watercourses, to minimize any impacts e.g. at new bridge crossings, viaducts, road alignment etc. Guidelines stated should be followed.  For example, for the stream at Siu Hang San Tsuen in FLN NDA, much of the stream is located underneath the viaduct for the proposed Fanling Bypass. In order to avoid impacts to the stream, the detailed final design of the viaduct should follow guidelines and ensure that no viaduct footings or other structures are placed in the stream.	Avoid direct impacts to watercourses	Detailed Design Consultant/ Contractor	All watercourses, particularly the stream at Siu Hang San Tsuen that will flow under the Fanling Bypass Eastern Section	Prior to Construction and Construction Phase	^

		Bridges and box culverts should also be used to minimize the necessity of watercourse modification and protect the watercourses where necessary.					
<b>Landscape and Visual (Construction)</b>							
S.12.9 MM3	LV5	Open Space Provision - the principles adopted in the RODP planning ensure that public open space systems are incorporated. All requirements for open space areas stipulated in the planning documents for the formulation of the Preliminary Layout Plan should be adhered to.	Reprovision of open space. Enhance visual amenity of the area and improve the overall landscape character	Government Developer/ Detailed Design Consultant/ Contractor/	Onsite as stipulated in the planning documents for the formulation of the Preliminary Layout Plan	Prior to Construction and Construction Phas	N/A
S.12.9 MM4	LV6	Tree Protection & Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.  A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained	Protect and Preserve Trees	Government / Detailed Design Consultant/ Contractor	Onsite	Prior to Construction and Construction Phase	N/A
S.12.9 MM5	LV7	Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be	Transplant Trees where suitable for transplantation	Government / Detailed Design	Onsite where possible.	Prior to Construction,	N/A

		<p>transplanted straight to their final receptor site and not held in a temporary nursery as far as possible.</p> <p>A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.</p>		Consultant/ Contractor	Otherwise consider offsite locations	Construction Phase & Maintenance in Operation Phase	
S.12.9 MM6	LV8	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow.</p> <p>All slope landscaping works should comply with GEO Publication</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	Government / Detailed Design Consultant/ Contractor	Onsite	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

		No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.					
S.12.9 MM7	LV9	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p> <p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.</p> <p>Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i> are suggested.</p>	Compensate for trees and shrubs lost due to the Project.	Government / Detailed Design Consultant/ Contractor	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM8	LV10	Woodland Compensatory Planting –Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.					N/A

		<p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 &amp; E27 also).</p> <p>Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>, <i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>. In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i>.</p> <p>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</p>					
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**App Q - IMPLEMENTATION SCHEDULE AND RECOMMENDED MITIGATION MEASURES**
**June 2022**

S.12.9 MM9	LV11	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. building edges, piers).	Soften hard surfaces and facilities	Government / Developer/ Detailed Design Consultant/ Contractor	On appropriate structures	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM10	LV12	Green Roof – Roof greening where appropriate should be established on proposed buildings as per the guidelines stated. These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable.	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels.  Provide greening.	Government / Developer/ Detailed Design Consultant/ Contractor	On appropriate buildings	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM11	LV13	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings.  Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Detailed Design Consultant/ Contractor	Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

S.12.9 MM12	LV14	<p>Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics.</p> <p>For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)</p>	To soften the hard, straight edges and provide greening along roads.	Government / Developer/ Detailed Design Consultant/ Contractor	On viaducts or along roads	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM13 & EIA Annex 13	LV15	<p>Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance on- wetland areas within the LVNP. (See E4,E15 and E25 also)</p> <p>Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ reprovisioned watercourses.</p>	Compensate for Marsh/ Wetland lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

S.12.9 MM14.1	LV16	<p>Reprovision of Natural Stream – Where natural streams are unavoidably affected along some of their length, they can be diverted to avoid the proposed new developments and retain the integrity of the whole stream. Detailed design of any stream diversion should follow the Guidelines in ETWB Technical Circular (Works) No. 5/2005 (Protection of natural streams/rivers from adverse impacts arising from construction works) and appropriate construction methods should be used.</p> <p>Two short stretches of the Ma Tso Lung Stream will be affected by Project in the KTN NDA; by the LMC Eastern Connection Road on the western border of Site F1-3 and further upstream by Site E-2.</p> <p>At both these locations, the stream will be reprovisioned and maintain the flow between unaffected sections of the stream. The reprovisioned stream will be provided with a natural bed and banks, as well as having an area of marsh/ pool next to it and trees and shrubs further from the banks. (See E2, E14 and E24 also)</p>	Achieve a natural stream, similar to existing, including wetland planting provision for embankments	Government / Developer/ Detailed Design Consultant/ Contractor	Streams and channelized watercourses e.g. a Ma Tso Lung and Siu Han San Tsuen	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S12.9 MM14.2	LV17	<p>Stream Buffer Planting –Providing a minimum 10 m buffer with planting (where there is a general presumption against any development taking place) along streams where they flow close to developments, confers a degree of protection to the stream course and its associated vegetation.</p> <p>For the stream at Ma Tso Lung in KTN NDA, the middle and upper sections will be designated as Green Belt zone where there is a general presumption against development as buffer to the stream.</p>	Protect natural streams	Government / Developer/ Detailed Design Consultant/ Contractor	Streams and channelized watercourses e.g. a Ma Tso Lung and Siu Han San Tsuen	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

		For the stream at Siu Hang San Tsuen in FLN NDA, within the NDA boundary much of the stream would be located underneath the viaduct for the proposed Fanling Bypass. To the south of the viaduct the stream flows through an Open Space area D1-3. In this Open Space zone a 10m buffer is proposed in which natural vegetation will be retained and enhanced and human activities will be limited in order to avoid direct impacts to the stream bed and to minimize potential indirect impacts to the stream and riparian corridor. (See E3 also)					
S12.9 MM14.3	LV18	<p>Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc.</p> <p>For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.</p>	Minimize the necessity of watercourse modification, protect watercourses where possible and enhance channelized watercourses	Government / Developer/ Detailed Design Consultant/ Contractor	Channelized watercourse, particularly the Ma Wat River Channel Diversion	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

S12.9 MM15	LV19	<p>Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs.</p> <p>All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.</p>	Reprovision for ponds lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	E1-7 and C1-9 (LVNP) in KNT NDA and generally throughout NDA	Prior to Construction, Construction Phase Maintenance in Operation Phase	N/A
S.12.9 MM16	LV20	<p>Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non- reflective, recessive colours be used.</p> <p>Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).</p>	To screen undesirable views of the works site.	Contractor	Throughout NDAs	Construction Phase	^
S.12.9 MM17	LV21	<p>Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.</p> <p>Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.</p>	To minimize glare impact to adjacent VSRs	Government / Developer/ Contractor	Throughout NDAs	Construction and Operation Phases	N/A



<i>Ecology (Prior to Construction Phase or throughout the project)</i>							
S. 13.9	E1	Egretry Habitat Creation & Management Plan (EHCMP) and Woodland Planting and Management Plan (WPMP)	Compensate for loss of Man Kam To Road egretry. Compensate for loss of secondary woodland and hillside plantation of ecological significance.	Project Proponent/ Detailed Design Consultant (EHCMP and WPMP).	FLN area A1-7 (egretry compensation). KTN areas E1-8 and G1-3 (woodland compensation).	Detailed design phase	N/A
S. 13.9	E2	Detailed design of development along lower reaches of Ma Tso Lung Stream and Ma Tso Lung San Tsuen Stream in OU zones F1-2 and F1-3 and detailed design of LMC Loop Eastern Connection Road with restoration of diverted stream and riparian corridor, permanent barrier and underpass on the at-grade section  Compensation for the loss of seasonally wet grassland at Ma Tso Lung by habitat restoration and enhancement along diverted section of Ma Tso Lung Stream	Minimize impacts on Ma Tso Lung Stream and Ma Tso Lung San Tsuen Stream and riparian corridor of importance to species of conservation significance.	Project Proponent/ Detailed Design Consultant. (design of Ma Tso Lung Stream diversion and buffer zone habitat restoration measures)	KTN areas F1-2 and F1-3 and LMC Loop Eastern Connection Road.	Detailed design and construction phases.	N/A
S13.9	E3	Detailed design, implementation and management of Siu Hang San Tsuen Stream to have 10m wide vegetated buffer in Open Space zone D1-3, Fanling Bypass to cross stream on viaduct.	Minimize impacts on Siu Hang San Tsuen Stream and stream fauna.	PlanD, Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	FLN area D1-3.	Detailed design, construction and operation phases.	N/A
S.13.9	E4	Long Valley Nature Park (LVNP) designation, design and implementation.	Compensate for wetland loss arising from the project and protection of Long Valley from	Project Proponent/ Detailed Design Consultant (Long	Long Valley KTN area C1-9 and any suitable areas to be	Detailed design phase	N/A

		Enhancement of non-wetland habitats in LVNP. Planning for the advanced provision of alternative foraging habitat along main river channels for large waterbirds.	adverse ecological impacts including provision of additional/alternative habitat for large waterbirds using Ng Tung, Sheung Yue and Shek Sheung River channels.	Valley Nature Park Habitat Creation & Management Plan)	identified during the planning stage		
S13.9	E5	Stringent planning control requirements in Long Valley north and west of Sheung Yue River, including Ho Sheung Heung egretty.	Protect these wetland areas from indirect impacts to habitats and fauna especially breeding ardeids foraging in these areas and utilizing flight-lines from Ho Sheung Heung egretty.  Avoid habitat loss and disturbance to fauna of conservation significance, especially nesting ardeids  Maintenance of ecological linkages with Deep Bay ecosystem and avoidance of severance of these linkages, especially for waterbirds	PlanD.	KTN areas C2-1 and C2-2 , Ho Sheung Heung egretty and areas north of Long Valley along the Ng Tung River to the Shenzhen River	Detailed design phase	N/A
S13.9	E6	Planning for creation of Green Corridors along the Sheung Yue, Ng Tung and Shek Sheung Rivers, retention and provision of screen plantings where feasible; and detailed design of Open Space areas and development areas along river corridors.	Minimize disturbance to large waterbirds using Ng Tung, Sheung Yue and Shek Sheung River channels.	Project Proponent/ Detailed Design  Consultant/ Contractor/ Maintenance	Area along Ng Tung, Sheung Yue and Shek Sheung River	Detailed design, construction and operational phases.	N/A

			Maintain ecological linkages within NDA Project Area and between Project Area and Deep Bay ecosystem, especially for Long Valley and waterbirds.	Authority			
S13.9	E7	Building setback and mounding in locations near Long Valley.  KTN area B3-12 (30m setback from road D3) and KTN area C1-1 (15m setback and mounding along northern and northeastern boundaries).	Minimization of disturbance impacts to fauna using Long Valley.	PlanD	KTN area B3-12 (30m setback from road D3) and KTN area C1-1 (15m setback and mounding along northern and northeastern boundaries.	Detailed design phase	N/A
S13.9	E8	Preparation and implementation of Guidelines for building design measures to minimize mortality and light and glare impacts to fauna. Guidelines to address the following measures: Use opaque, non-transparent, non-reflective noise barriers for all developments associated with the Project.  Measures to include the following: <ul style="list-style-type: none"> <li>Fritting, or the placement of ceramic lines or dots on glass, which creates a visual barrier to birds and reduces air conditioning loads by lowering heat gain, while still allowing light transmission for interior spaces. It is most successful when the frits are applied on the outside surface. Frosted glass has similar effects;</li> </ul>	Minimize mortality and disturbance impacts on fauna, especially mammals and birds.	PlanD/ Project Proponent/ Developer/ Detailed Design Consultant	Near Long Valley	Detailed design phase	N/A

		<ul style="list-style-type: none"> <li>Angled glass to be used only for smaller panes in buildings with a limited amount of glass;</li> <li>The use of glass that reflects UV light (primarily visible to birds, but not to humans) to reduce collisions;</li> <li>Film and art treatment allow glass surfaces to be used a medium of expression, often related to the nature and use of the building, as well indicating to birds their impenetrability;</li> <li>Lightweight external screens can be added to windows or become a façade element of larger buildings, and are suitable where non-operable windows are prevalent, which is often the case in modern buildings in HK</li> </ul>					
	E9	Not used					N/A
S13.8	E10	Review development footprint and layout of proposed developments in KTN areas D1-11a and G1-5 to avoid/minimize direct and indirect impacts on secondary woodland at Ho Sheung Heung and shrubland at Crest Hill.	Minimize loss of secondary woodland and shrubland of ecological value.	Project Proponent/Detailed Design Consultant	KTN areas D1-11a and G1-5 to avoid/minimize direct and indirect impacts on secondary woodland at Ho Sheung Heung and Crest Hill	Detailed design phase	N/A

S13.9	E11	<p>No construction during ardeid breeding season (1 March to 31 July) along Sheung Yue River north or east of KTN D1-5 and east of D1-9 and C2-3, construction hours restricted to 09.00 to 17.30 during 1 March to 31 July on new pedestrian bridge over the Sheung Yue River, new pedestrian bridge over the tidal section of the Ng Tung River and existing bridge between KTN areas C2-2 and C1-8.</p> <p>Review Design and construction methods for all bridges especially those on the Sheung Yue and tidal Ng Tung Rivers and adopt methods which minimize impacts on Long Valley and the rivers, and disturbance and fragmentation impacts on fauna.</p> <p>No overlap in construction of bridges over main river channels.</p> <p>Measures to ensure no hydrological disruption to Long Valley Watercourse and water supply to Long Valley to be designed at the detailed design stage for the rechannelisation of the Long Valley Watercourse and the development of areas through which it passes, including KTN area B3-12. Contingency plan to address any disruption to be included in LVNP HCMP. Avoid removal or interference with screen planting undertaken under the Construction of Cycle Tracks and Associated Supporting Facilities from Sha Po Tsuen to Shek Sheung project.</p>	Minimize disturbance impacts (including cumulative impacts with cycle track project) to flight-lines of breeding ardeids.	Project Proponent/ Detailed Design Consultant Contractor	Along and within Sheung Yue and Ng Tung Rivers, Long Valley, Long Valley and watercourse upstream areas including KTN area B3-12	Detailed design/ construction phase.	^
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<i>Ecology (Construction Phase)</i>							
S13.9	E12	<p>Compensatory egretty habitat provision and establishment.</p> <p>Review condition and location of egrettries before commencement of works. Formulate and implement additional mitigation measures as appropriate.</p> <p>Phasing of works near and within Man Kam To Road Egretty outside breeding season</p>	<p>Compensate for loss of Man Kam To Road egretty habitat.</p> <p>Avoid mortality of breeding egrets</p>	<p>Project Proponent/ Detailed Design Consultant/ Contractor</p>	<p>FLN area A1-7 500m from Man Kam To Road Egretty.</p>	Construction phase.	^
S13.9	E13	<p>Review design and construction methods for bridges, especially those on the Sheung Yue and tidal Ng Tung Rivers, and adopt measures which minimize impacts on rivers and disturbance and fragmentation impacts on fauna.</p> <p>No construction during ardeid breeding season (1 March to 31 July) along Sheung Yue River north and east of KTN area D1-5 and east of D1-9 and C2-3 and restriction of working hours on new pedestrian bridges over the Sheung Yue River and tidal Ng Tung River to 09.00 to 17.30 during the ardeid breeding season (1 March to 31 July)</p> <p>Provision of alternative foraging habitat along main river channels for large waterbirds.</p>	<p>Minimize impacts on rivers and disturbance and fragmentation impacts on fauna</p>	<p>Project Proponent/ Detailed Design Consultant/ Contractor</p>	<p>Along and within the Sheung Yue, Ng Tung and Shek Sheung Rivers</p>	Detailed design and construction phases.	^

S13.9	E14	<p>Buffer zone of 15-30m as appropriate on both sides (not less than 45m total width) of Ma Tso Lung Stream north of the point where it is crossed by the LMC Loop Eastern Connection Road, and Ma Tso Lung Stream diversion during construction of the LMC Loop Eastern Connection Road; development along lower reaches of Ma Tso Lung Stream and Ma Tso Lung San Tsuen Stream in OU zones in KTN areas F1-2 and F1-3 to be set back beyond buffer.</p> <p>Construction and maintenance of permanent 1.2m high solid faunal barrier at all at-grade sections of LMC Loop eastern connection Road north of junction with road D4 within 15-30m as appropriate of Ma Tso Lung Stream buffer and construction of faunal underpass beneath road.</p> <p>Compensation for the loss of seasonally wet grassland at Ma Tso Lung by habitat restoration and enhancement along diverted section of Ma Tso Lung Stream.</p>	Minimize impacts direct and indirect impacts of habitat loss, disturbance, pollution and fragmentation on Ma Tso Lung Stream and marsh and riparian corridor of importance to species of conservation significance.	<p>PlanD/ Project Proponent/ Developer/ Detailed Design Consultant/ Contractor.</p> <p>(Design of Ma Tso Lung Stream diversion and buffer zone habitat restoration measures)</p>	KTN areas H1-1, F12 and F1-3 and Lok Ma Chau Loop Eastern Connection Road.	Detailed design and construction phases.	N/A
S.13.9	E15	Creation and enhancement of proposed Long Valley Nature Park and creation and enhancement of wetland and buffer planting within LVNP.	Compensate for wetland loss arising from the project	Project Proponent/ Contractor (LVNP Detailed Habitat Creation & Management Plan)	Long Valley, (KTN area C1-9).	Construction phase.	^

S13.9	E16	<p>Creation of Green Corridors along the Sheung Yue, Ng Tung and Shek Sheung Rivers, retention and provision of screen plantings where feasible; provision of Open Space areas and development areas along river corridors;</p> <p>Design and erection of 2m high solid dull green site barrier fence between river channel and any active works area along or adjacent to Ng Tung, Sheung Yue and Shek Sheung Rivers.</p> <p>Ng Tung, Sheung Yue and Shek Sheung Rivers screen planting.</p>	<p>Minimize disturbance to waterbirds using Ng Tung, Sheung Yue and Shek Sheung River channels.</p>	<p>Detailed Design Consultant/ Contractor</p>	<p>Ng Tung, Sheung Yue and Shek Sheung Rivers</p>	<p>Detailed design and Construction phases.</p>	^
S13.9	E17	<p>Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance on edge of development areas, including along any roads adjacent to or penetrating into areas/habitats of ecological importance.</p> <p>Erection of a 2m high dull green site barrier fence at the edge of the works area or 30m from Ma Tso Lung Stream and tributaries, whichever distance is the greater.</p>	<p>Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna. Measures to minimize flight- line impacts to birds, especially breeding ardeids.</p>	<p>Contractor</p>	<p>Interface between areas/habitats/ fauna/ flora of ecological importance (e.g. KTN areas B1-3, C1-5, C1- 6, C1-9, C2-2, C2-4, C2-5, D1-8, E1-8, G1- 3, H1-1, Ma Tso Lung Stream and tributaries; FLN areas A1-3, A1-7 and A1-9) and works areas; and around any works areas north of the</p>	<p>Construction phase.</p>	^

					Fanling Bypass and north of the Ng Tung River west of the western terminus of the Fanling Bypass. Riparian corridor of Ma Tso Lung Stream and tributaries.		
S13.9	E18	Compensatory woodland planting, management and maintenance.	Compensate for loss of secondary woodland and hillside plantation of ecological significance.	Project Proponent/ Contractor	KTN areas E1-8 and G1-3.	Construction phase.	N/A
S13.9	E19	Use opaque, non-transparent, non-reflective noise barriers for all construction sites.  Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Contractor	All construction sites	Construction phase.	^
S13.9	E20	Pre-site clearance check for presence of flora or fauna of conservation significance and bat roosts. If any are found, measures should be proposed and implemented to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works, transplantation and translocation. Seek agreement of relevant authorities including AFCD in respect of proposed measures, then implement.	Minimize impacts to flora and fauna of conservation significance. Minimize impacts to protected fauna and flora species. Formulate and implement mitigation measures to avoid, minimize and/or compensate for impacts;	Government/ Developer/ Contractor/ Ecologist	All construction sites.	Prior to clearance of vegetation and structures.	N/A

		<p>Pre-site clearance check on all construction sites and pre –works commencement check on watercourses to be physically and/or hydrologically impacted by construction activities for presence of protected plant species/specimens of conservation significance. If any are found consider adjustments to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works,</p> <p>Pre-site clearance of construction sites in Crest Hill area, KTN areas D1-7, D1-11 and G1-5 (where Eurasian Hobby was recorded) and on Cheung Po Tau, FLN area A3-1 (where Grey Nightjar was recorded) for presence of any breeding birds/breeding sites. If any are found consider adjustments to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works, transplantation and translocation. Seek agreement of relevant authorities including AFCD in respect of proposed measures, then implement.</p> <p>Pre-site clearance check on all construction sites for presence of Chinese Bullfrog, translocation to suitable areas including LVNP.</p>	including adjustments to design, timing of works, transplantation and translocation.				
S13.9	E21	<p>Pre-works commencement check on watercourses to be physically and/or hydrologically impacted by construction activities for presence of flora or fauna of conservation significance and bat roosts. If any are found consider adjustments to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works, transplantation and translocation. Seek agreement of relevant authorities including AFCD in respect of proposed measures, then implement.</p>	<p>Minimize impacts to flora and fauna of conservation significance. Minimize impacts to protected fauna and flora species. Consider and implement adjustments to avoid, minimize or compensate for impacts; including adjustments to design, timing of</p>	Government/ Developer/ Contractor/ Ecologist	All construction sites.	Prior to clearance of vegetation and structures.	N/A



		<p>Pre-site clearance check on all construction sites for presence of reptile species of conservation significance, capture and translocate to receptor site; review translocation options in respect to species in Ma Tso Lung area and determine whether release locally or elsewhere is appropriate. Seek agreement of relevant authorities including AFCD in respect of proposed measures then implement</p> <p>Pre-works commencement check on watercourses to be physically and/or hydrologically impacted by construction activities for presence of Small Snakehead and <i>Sommaniathelphusa zanklon</i>. Capture any <i>Sommaniathelphusa zanklon</i> found and translocate to Ma Tso Lung Stream/ other suitable areas including LVNP</p>	works, transplantation and translocation				
S13.9	E22	Prevention of dust, run-off and pollutants impacting Deep Bay catchment area and areas of ecological importance.	Avoid increase to pollution entering ecologically sensitive Deep Bay ecosystem.	Contractor	All construction sites.	Construction	N/A
<b>Specific Mitigation Measures for Designated Projects</b>							
<b>DP2- Castle Peak Road Diversion (Major Improvement)</b>							
<b>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</b>							
S.12.A9	LV1-DP2	<p>General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.</p> <p>With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.</p>		Detailed Design Consultant/ Contractor	Throughout NDAs,	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become available, to	N/A

						achieve early establishment	
S.12.A9 MM14.4	LV4- DP2	<p>Avoid affecting Watercourses – In the detailed design, consideration should be made of watercourses, to minimize any impacts e.g. at new bridge crossings, viaducts, road alignment etc. Guidelines stated should be followed.</p> <p>For example, for the stream at Siu Hang San Tsuen in FLN NDA, much of the stream is located underneath the viaduct for the proposed Fanling Bypass. In order to avoid impacts to the stream, the detailed final design of the viaduct should follow guidelines and ensure that no viaduct footings or other structures are placed in the stream. Bridges and box culverts should also be used to minimize the necessity of watercourse modification and protect the watercourses where necessary.</p>	Avoid direct impacts to watercourses	Detailed Design Consultant/ Contractor	All watercourses, particularly the stream at Siu Hang San Tsuen that will flow under the Fanling Bypass Eastern Section	Prior to Construction and Construction Phase	N/A
S.12.A9 MM4	LV5- DP2	<p>Tree Protection &amp; Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction.</p> <p>In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will</p>	Protect and Preserve Trees	Government/ Detailed Design Consultant/ Contractor	Onsite	Prior to Construction and Construction Phase	N/A

		include details of tree protection measures for those trees to be retained.					
S.12.A9 MM5	LV6- DP2	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme. A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit" should be referred to.</p>	Transplant Trees where suitable for transplantation	Government Detailed Design Consultant/ Contractor	<i>Onsite where possible, otherwise consider offsite locations</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM6	LV7- DP2	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow. In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	Government Detailed Design Consultant/ Contractor	<i>Onsite</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM8	LV9- DP2	Woodland Compensatory Planting – Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably	Reprovide areas of woodland to compensate for	Project Proponent/	<i>In areas identified in</i>	Prior to Construction,	N/A

	<p>affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.</p> <p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 &amp; E27 also).</p> <p>Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>, <i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>. In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i>.</p> <p>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</p>	those areas of quality woodland lost.	Detailed Design Consultant/ Contractor/ Maintenance Authority	<i>the EIA Landscape Mitigation Plans and as agreed with AFCD</i>	Construction Phase & Maintenance in Operation Phase	
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S.12.A9 MM9	LV10- DP2	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government Detailed Design Consultant/ Contractor	<i>On appropriate structures</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM11	LV11- DP2	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government Detailed Design Consultant/ Contractor	<i>Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM12	LV12- DP2	Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics. For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered	To soften the hard, straight edges and provide greening along roads.	Government Detailed Design Consultant/ Contractor	<i>On viaducts or along roads.</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A



		part of Screen Planting)					
S.12.A9 MM13 & EIA Annex 13	LV13- DP2	Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance onwetland areas within the LVNP. (See E4,E15 and E25 also)  Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ reprovisioned watercourses.	Compensate for Marsh/ Wetland lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	<i>Onsite where possible. Otherwise consider offsite locations</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM14.3	LV14- DP2	Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc.  For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.	Minimize the necessity of watercourse modification, protect watercourses where possible and enhance channelized watercourses	Government / Detailed Design Consultant/ Contractor	<i>Channelized watercourse, particularly the Ma Wat River Channel Diversion</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM15	LV15- DP2	Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs.  All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung	Reprovision for ponds lost due to the Project.	Project Proponent/ Detailed Design Consultant/	<i>EI-7 and CI-9 (LVNP) in KNT NDA and generally</i>	Prior to Construction, Construction Phase	N/A

		Kong Shan Park in E1-7 of KNT ND) should be adhered to.		Contractor/ Maintenance Authority	<i>throughout NDA</i>	Maintenance in Operation Phase	
<b>Landscape and Visual (Construction)</b>							
S.12.A9 MM16	LV16- DP2	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, nonreflective, recessive colours be used. Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	To screen undesirable views of the works site.	Contractor	<i>Throughout NDAs</i>	Construction Phase	^
S.12.A9 MM17	LV17- DP2	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.  Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	<i>Throughout NDAs</i>	Construction and Operation Phases	^
<b>Ecology (Detailed Design, Construction and Operational Phases)</b>							
S13.9	E2-DP2	Use opaque, non-transparent, non-reflective noise barriers.  Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Detailed Design Consultant/ Contractor/ Maintenance Authority	Within NDA.	Detailed design phase, Construction phase and Operation phase.	^
<b>Ecology (Construction Phase)</b>							
S.13.9	E3-DP2	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance.	Minimize dust, disturbance, mortality and other adverse	Contractor.	Interface between areas/habitats of	Construction phase.	*

			ecological impacts on habitats, flora and fauna.		ecological importance (KTN area B1-3) and works areas.		
S13.9	E4-DP2	Compensatory native woodland planting.	Compensate for loss of plantation of ecological significance.	Project Proponent / Contractor	KTN NDA areas E1-8 and G1-3.	Construction phase.	N/A
<b>Cultural Heritage (Construction Phase)</b>							
S11.6.2	CH5-DP2	Conducting Construction Vibration Monitoring and Structural Strengthening Measures Construction vibration monitoring and structural strengthening measures should be conducted during Construction phase based on the assessment result of baseline condition survey and baseline vibration impact assessment, so as to ensure the construction performance meets with the vibration standard stated in the EIA report.	To minimize the potential impacts during Construction phase on any identified potential vibration impacted built heritage features	Project Proponent/ Contractor	Identified potential vibration impacted built heritage features	Construction phase, with details specified in baseline condition survey and baseline vibration impact assessment,	N/A
<b>DP3- KTN NDA Road P1 and P2 (New Road) and associated new Kwu Tung Interchange (New Road) and Pak Shek Au Interchange Improvement (Major Improvement)</b>							
<b>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</b>							
S.12.A9	LV1-DP3	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to. With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity		Detailed Design Consultant/ Contractor	Throughout NDAs,	Prior to Construction, Construction & for all planting, this should be installed as	^

		strips, and open space sites.				soon as the areas become available, to achieve early establishment	
S.12.A9 MM14.4	LV4- DP3	<p>Avoid affecting Watercourses – In the detailed design, consideration should be made of watercourses, to minimize any impacts e.g. at new bridge crossings, viaducts, road alignment etc.</p> <p>Guidelines stated should be followed.</p> <p>For example, for the stream at Siu Hang San Tsuen in FLN NDA, much of the stream is located underneath the viaduct for the proposed Fanling Bypass. In order to avoid impacts to the stream, the detailed final design of the viaduct should follow guidelines and ensure that no viaduct footings or other structures are placed in the stream.</p> <p>Bridges and box culverts should also be used to minimize the necessity of watercourse modification and protect the watercourses where necessary.</p>	Avoid direct impacts to watercourses	Detailed Design Consultant/ Contractor	<i>All watercourses, particularly the stream at Siu Hang San Tsuen that will flow under the Fanling Bypass Eastern Section</i>	Prior to Construction and Construction Phase	^
S.12.A9 MM4	LV5- DP3	<p>Tree Protection &amp; Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction.</p> <p>In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later</p>	Protect and Preserve Trees	Government Detailed Design Consultant/ Contractor	<i>Onsite</i>	Prior to Construction and Construction Phase	N/A

		detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.					
S.12.A9 MM5	LV6- DP3	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 „Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit“ should be referred to.</p>	Transplant Trees where suitable for transplantation	Government Detailed Design Consultant/ Contractor	<i>Onsite where possible. Otherwise consider offsite locations.</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM6	LV7- DP3	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as</p>	Government Detailed Design Consultant/ Contractor	<i>Onsite</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A



		Technical Guidelines on Landscape Treatment for Slopes.	possible.				
S.12.A9 MM7	LV8- DP3	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments.</p> <p>Required numbers and locations of compensate oryrtrees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p> <p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots. Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i> are suggested.</p>	Compensate for trees and shrubs lost due to the Project.	Government Detailed Design Consultant/ Contractor	<i>Onsite where possible. Otherwise consider offsite locations</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM8	LV9- DP3	<p>Woodland Compensatory Planting –Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.</p> <p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 &amp; E27 also). Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>,</p>	Reprovide areas of woodland to compensate for those areas of quality woodland lost.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	<i>In areas identified in the EIA Landscape Mitigation Plans and as agreed with AFCD</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

		<p><i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>. In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomertus tomentosa</i>, <i>Raphiolepis indica</i>, and <i>Rhododendron simsii</i>. The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</p>					
S.12.A9 MM9	LV10- DP3	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government  Detailed Design Consultant/ Contractor	<i>On appropriate structures</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM11	LV11- DP3	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment	Government  Detailed Design Consultant/ Contractor	<i>Along roads, around suitable built structures, or around</i>	Prior to Construction, Construction Phase & Maintenance	N/A

			and create a pleasant pedestrian environment		<i>VSRs to contain their view out to the NDA structures.</i>	in Operation Phase	
S.12.A9 MM12	LV12- DP3	Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics. For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)	To soften the hard, straight edges and provide greening along roads.	Government Detailed Design Consultant/ Contractor	<i>On viaducts or along roads.</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM13 EIA Annex 13	LV13- DP3	Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance onwetland areas within the LVNP. (See E4,E15 and E25 also)  Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ reprovisioned watercourses.	Compensate for Marsh/ Wetland lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	<i>Onsite where possible. Otherwise consider offsite locations</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM14.3	LV14- DP3	Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River	Minimize the necessity of watercourse modification, protect watercourses where	Government / Detailed Design	<i>Channelized watercourse, particularly the Ma</i>	Prior to Construction, Construction	N/A

		Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc. For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.	possible and enhance channelized watercourses	Consultant/ Contractor	<i>Wat River Channel Diversion</i>	Phase & Maintenance in Operation Phase	
S.12.A9 MM15	LV15- DP3	Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs.  All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.		Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	<i>E1-7 and C1-9 (LVNP) in KNT NDA and generally throughout NDA</i>	Prior to Construction, Construction Phase Maintenance in Operation Phase	N/A
<b><i>Landscape and Visual (Construction)</i></b>							
S.12.A9 MM16	LV16- DP3	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, nonreflective, recessive colours be used.  Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological	To screen undesirable views of the works site.	Contractor	<i>Throughout NDAs</i>	Construction Phase	N/A

		impact assessment (Chapter 13 of the EIA report).					
S.12.A9 MM17	LV17- DP3	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.  Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	Throughout NDAs	Construction and Operation Phases	N/A
<b>Ecology (Detailed Design, Construction and Operational Phases)</b>							
S13.9	E3-DP3	Use opaque, non-transparent, non-reflective noise barriers.  Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Detailed Design Consultant/ Contractor Maintenance Authority.	Throughout.	Detailed design, Construction and Operation phases.	^
<b>Ecology (Construction Phase)</b>							
S.13.9	E4-DP3	Creation of proposed Long Valley Nature Park and creation and enhancement of wetland and woodland areas and buffer planting within LVNP.	Compensate for wetland loss arising from the project.	Project Proponent/ Contractor (LVNP Detailed Habitat Creation & Management Plan).	Long Valley	Construction phase.	N/A
S.13.9	E5-DP3	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance on edge of development areas, including along any roads adjacent to or penetrating into areas/habitats of ecological importance.	Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna.	Contractor.	Interface between areas/habitats of ecological importance (KTN	Construction phase.	N/A



			Measures to minimize flightline impacts to birds,		areas B1-3, H1-1) and works areas.		
S13.9	E6-DP3	Compensatory native woodland planting.	Compensate for loss of plantation of ecological significance.	Project Proponent / Contractor	KTN areas E1-8 and G1-3.	Construction phase.	N/A
<b>DP4- KTN NDA Road D1 to D5 (New Road)</b>							
<b>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</b>							
S.12.A9	LV1-DP4	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.  With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.		Detailed Design Consultant/ Contractor	<u>Throughout NDAs,</u>	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become available, to achieve early establishment	N/A
S.12.A9 MM1	LV2-DP4	Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and	Reduce topographical changes and minimize land resumption	Government / Detailed Design Consultant/ Contractor/	<u>Throughout NDAs,</u> <u>particularly for</u> <u>reservoirs</u>	Prior to Construction	N/A

		continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.					
S.12.A9 MM2	LV3- DP4	<p>Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines.</p> <p>All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated.</p> <p>Construction time frame should also be considered and designs seek to keep it to a practical minimum.</p>	<p>Improve visual amenity of the new buildings, NDAs in general and integrate as best possible into the surrounding landscape</p>	<p>Detailed Design Consultant/</p>	<p>Throughout NDAs</p>	<p>Prior to Construction</p>	<p>N/A</p>

S.12.A9 MM4	LV4- DP4	<p>Tree Protection &amp; Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.</p>	Protect and Preserve Trees	Government / Detailed Design Consultant/ Contractor	Onsite	Prior to Construction and Construction Phase	^
S.12.A9 MM5	LV5- DP4	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along</p>	Transplant Trees where suitable for transplantation	Government / Detailed Design Consultant/ Contractor	Onsite possible. Consider locations where Otherwise offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

		highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 „Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit’ should be referred to.					
S.12.A9 MM6	LV6- DP4	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	<p>Government Detailed Design  Consultant/ Contractor</p>	Onsite	<p>Prior to Construction, Construction Phase &amp; Maintenance in Operation Phase</p>	N/A
S.12.A9 MM7	LV7- DP4	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p> <p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.</p> <p>Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and</p>	Compensate for trees and shrubs lost due to the Project.	<p>Government Detailed Design  Consultant/ Contractor</p>	Onsite where possible. Otherwise consider offsite locations	<p>Prior to Construction, Construction Phase &amp; Maintenance in Operation Phase</p>	N/A

		Rhododendron simsii are suggested..					
S.12.A9 MM8	LV8- DP4	<p>Woodland Compensatory Planting –Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.</p> <p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 &amp; E27 also).</p> <p>Native tree species are suggested for planting in the appropriate locations, including Ailanthus fordii, Bischofia javanica, Castanopsis fissa, Celtis sinensis, Cinnamomum burmannii, Cinnamomum camphora, Xanthoxylum avicennae, Hibiscus tiliaceus, Liquidambar formosana, Sapium discolor, Schefflera heptaphylla and Ilex rotunda.</p> <p>In addition some understory vegetation may be planted including shrubs such as Atalantia buxifolia, Diospyros vaccinioides, Gardenia jasminoides, Ixora chinensis, Ligustrum sinense, Litsea rotundifolia, Melastoma malabathricum, Melastoma dodecandrum, Rhodomyrtus tomentosa, Rhamphiolepis indica, and Rhododendron simsii.</p> <p>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of</p>	Reprovide areas of woodland to compensate for those areas of quality woodland lost.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	In areas identified in the EIA Landscape Mitigation Plans and as agreed with AFCD	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A



		topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.					
S.12.A9 MM9	LV9- DP4	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government / Detailed Design Consultant/ Contractor	On appropriate structures	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM11	LV10- DP4	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Detailed Design Consultant/ Contractor	Along roads, around suitable built structures , or around VSRs to contain their view out to the NDA structures.	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM12	LV11- DP4	Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics.  For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts.	To soften the hard, straight edges and provide greening along roads.	Government Detailed Design Consultant/ Contractor	On viaducts or along roads.	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

		(Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)					
S.12.A9 MM13 & EIA Annex 13	LV12- DP4	Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance on-wetland areas within the LVNP. (See E4,E15 and E25 also)  Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ re-provisioned watercourses.	Compensate for Marsh/ Wetland lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM15	LV13- DP4	Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs.  All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.	Reprovision for ponds lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	E1-7 and C1-9 (LVNP) in KNT NDA and generally throughout NDA	Prior to Construction, Construction Phase Maintenance in Operation Phase	N/A
<b><i>Landscape and Visual (Construction)</i></b>							
S.12.A9 MM16	LV14- DP4	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used.  Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	To screen undesirable views of the works site.	Contractor			N/A
S.12.A9 MM17	LV15- DP4	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	<u>Throughout NDAs</u>	Construction and Operation Phases	N/A

		Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.					
<b>Ecology (Prior to Detailed Design Prior to Construction Phase)</b>							
S. 13.9	E1-DP4	Egretry Habitat Creation & Management Plan (EHCMP) and Woodland Planting and Management Plan (WPMP)	Compensate for loss of Man Kam To Road egretry.  Compensate for loss of secondary woodland and hillside plantation of ecological significance.	Project Proponent/  Detailed Design Consultant  (EHCMP and WPMP).	FLN area A1-7 (egretry compensation).  KTN areas E1-8 and G1-3 (woodland compensation).	Detailed design phase.	N/A
<b>Ecology (Detailed Design, Construction and Operational Phases)</b>							
S13.9	E2-DP4	Use opaque, non-transparent, non-reflective noise barriers.  Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Detailed Design Consultant/  Contractor Maintenance Authority.	Throughout.	Throughout.	N/A
<b>Ecology (Construction Phase)</b>							
S.13.9	E3-DP4	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance.	Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna.	Contractor.	Interface between areas/habitats of ecological importance (KTN areas B1-3, E1-8, G1-3 and H1-1) and works areas	Construction phase.	N/A
S13.9	E4-DP4	Compensatory native woodland planting.	Compensate for loss of plantation of ecological significance.	Project Proponent / Contractor	KTN areas E1-8 and G1-3.	Construction phase.	N/A
S13.8	E5-DP4	Maintenance of compensatory native woodland planting.	Compensate for loss of	Maintenance	KTN areas E1-8 and	Operation	N/A

			plantation of ecological significance.	Authority.	G1-3.	phase	
<b><i>Cultural Heritage (Pre-construction Phase)</i></b>							
S11.6.1	CH1- DP4	<u>Undertaking Survey-cum-Rescue Excavation</u>  A Survey-cum-Rescue Excavation should be conducted after land resumption and before the commencement of construction works to define the precise archaeological deposits extent and to preserve the archaeological resources by record. The excavation should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance.	To define the precise archaeological deposits extent and to preserve the archaeological resources as far as possible.	Project Proponent / Contractor/ Qualified Archaeologist	In KTN NDA, for Site 1	After land resumption but before Construction commencement of the zones	N/A
S11.6.1	CH2- DP4	<u>Undertaking Further Archaeological Survey to Cover the Outstanding Areas</u>  Further archaeological surveys to cover the outstanding areas of the not-yet-surveyed-area with medium archaeological potential located with areas with proposed development as presented in <b>Figure 11.9</b> should be implemented after land resumption to confirm and verify the findings of the EIA. The survey should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance. It should be noted that the scope of further archaeological survey is based on the current proposed alignment. Any additional works areas which have not been covered by the current archaeological impact assessment should be covered as soon as possible. Subject to the findings of the archaeological survey to be conducted after land resumption, additional mitigation measures	To confirm and verify the findings of the EIA	Project Proponent/ Contractor/ Qualified Archaeologist	In the not-yet-surveyed- areas with medium archaeological potential located within the work extent of DP4	After land resumption but before construction	N/A

		would be designed and implemented before the commencement of construction works to mitigate the adverse impact.					
S11.6.1	CH3-DP4	<p><u>Undertaking Induction Training</u></p> <p>Induction training should be provided to the construction Contractor before the commencement of the excavation works in Spot E. An induction will be conducted as part of the environmental health and safety induction programme to all site staff before they are deployed on site. The induction will include an introduction on the historical development of the Site, the possible archaeological remains that may be encountered during ground excavation works as well as the reporting procedures in case suspected archaeological remains are identified. A set of the presentation material (in the form of power point presentation) with content details will be prepared by an archaeologist and submitted to AMO for reference and record purpose. The first induction briefing will be video recorded and it will be used as induction briefing material for new site staff.</p>	To preserve the archaeological resources as far as possible	Project Proponent/ Contractor/ Qualified Archaeologist	Spot E	Before the commencement of the excavation works and before site staff are deployed on site	N/A
S11.6.2	CH4-DP4	<p><u>Conducting Photographic and Cartographic Records Prior to Removal/Relocation of Impacted Built Heritages</u></p> <p>Prior to removal/relocation of the directly impacted historical buildings and cultural/historical landscape features, photographic and cartographic records should be conducted to preserve them by record. Liaison with and obtaining agreement from the descendants of these features will be carried out by the Project Proponent.</p>	To preserve the directly impacted sites by record prior to their removal / relocation	Project Proponent/ Contractor	Entrance Gate of HKT03, KT16, KT17 and KT18	Prior to Removal / Relocation of features before commencement of construction works	N/A
S11.6.2	CH5-DP4	<p><u>Undertaking baseline condition survey and baseline vibration impact assessment</u></p> <p>In case any potential vibration impact on any nearby built heritage features are identified during the pre-construction stage of the Project,</p>	To minimize the vibration impacts during preconstruction stage on any identified potential vibration impacted	Project Proponent/ Contractor	HKT03 (Main Building) and G308	Preconstruction stage before commencement of construction works	N/A



		prior to commencement of construction works, a baseline condition survey and baseline vibration impact assessment should be conducted by a qualified building surveyor or a qualified structural engineer to define the vibration limit (a vibration limit at 15mm/s could be adopted for historic buildings) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction phase so as to ensure the construction performance meets with the vibration standard stated in the EIA report.	built heritage features				
S11.6.2	CH6-DP4	<u>Relocation of Built Heritages</u> Relocation of built heritages to a reasonable location nearby may be required.	To preserve the directly impacted sites by relocation	Project Proponent/ Contractor	Entrance Gate of HKT03	After the photographic and cartographic records and before commencement of construction works	N/A
<b><i>Cultural Heritage (Construction Phase)</i></b>							
S11.6.2	CH7-DP4	<u>Conducting Construction Vibration Monitoring and Structural Strengthening Measures</u> Construction vibration monitoring and structural strengthening measures should be conducted during Construction phase based on the assessment result of baseline condition survey and baseline vibration impact assessment, so as to ensure the construction performance meets with the vibration standard stated in the EIA report.	To minimize the potential impacts during Construction phase on any identified potential vibration impacted built heritage features	Contractor	Identified potential vibration impacted built heritage features	Construction phase, with details specified in baseline condition survey and baseline vibration impact assessment,	N/A
<b><i>DP5- New sewage pumping stations (SPSs) in KTN NDA</i></b>							
<b><i>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</i></b>							
S.12.B9	S.12.B9	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try		Detailed Design	Throughout NDAs,	Prior to Construction,	N/A

		and restore these to their former state to suit future land use, should be adhered to. With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.		Consultant/ Contractor/		Construction & for all planting,  this should be installed as soon as the areas become available, to achieve early establishment	
S.12.B9 MM1	LV2- DP5	Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.	Reduce topographical changes and minimize land resumption	Government /  Detailed Design Consultant/ Contractor/	Throughout NDAs, particularly for reservoirs	Prior to Construction	N/A
S.12.B9 MM2	LV3- DP5	Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of	Improve visual amenity of the new buildings, NDAs in general and integrate as best possible into the surrounding landscape	Detailed Design Consultant/	Throughout NDAs	Throughout NDAs	N/A

		<p>structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines.</p> <p>All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/or elevated, should follow the guidelines stated Construction time frame should also be considered.</p>					
S.12.B9 MM4	LV4- DP5	<p>Tree Protection &amp; Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of</p>	Protect and Preserve Trees	Government Detailed Design Consultant/ Contractor	Onsite	Prior to Construction and Construction Phase	^

		the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.					
S.12.B9 MM5	LV5- DP5	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 „Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit“ should be referred to.</p>	Transplant Trees where suitable for transplantation	Government  Detailed Design Consultant/ Contractor	Onsite where possible.  Otherwise consider offsite location.	Prior to Construction,, Construction Phase & Maintenance in Operation Phase	N/A
S.12.B9 MM6	LV6- DP5	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011- Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes</p>	Government/  Detailed Design Consultant/	Onsite	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

			are as visually amenable as possible.				
S.12.B9 MM7	LV7- DP5	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments.</p> <p>Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p> <p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.</p> <p>Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Raphiolepis indica</i>, and <i>Rhododendron simsii</i> are suggested.</p>	Compensate for trees and shrubs lost due to the Project.	Government/ Detailed Design Consultant/ Contractor	Onsite where possible.  Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.B9 MM8	LV8- DP5	<p>Woodland Compensatory Planting – Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.</p> <p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like</p>	Reprovide areas of woodland to compensate for those areas of quality woodland lost.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	In areas identified in the EIA Landscape Mitigation Plans and as agreed with AFCD	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A



		<p>for like basis (See E18 &amp; E27 also).</p> <p>Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>, <i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>. In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomyrtus omentosa</i>, <i>Raphiolepis indica</i>, and <i>Rhododendron simsii</i>.</p> <p>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</p>					
S.12.B9 MM9	LV9- DP5	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government / Detailed Design Consultant/ Contractor	<i>On appropriate structures</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

S.12.B9 MM10	LV10- DP5	Green Roof – Roof greening where appropriate should be established on proposed buildings as per the guidelines stated. These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable.	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels. Provide greening.	Government / Detailed Design Consultant/ Contractor	<i>On appropriate buildings</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.B9 MM11	LV11- DP5	Screen Planting – Tall screen/buffer trees and shrubs should be implanted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Detailed Design Consultant/ Contractor	<i>Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.B9 MM14.3	LV12- DP5	Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc.  For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass	Minimize the necessity of watercourse modification, protect watercourses where possible and enhance channelized watercourses	Government / Detailed Design Consultant/ Contractor	<u>Channelized watercourse,</u>  <u>particularly the Ma Wat River Channel</u>  <u>Diversion</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

		Eastern Section. This measure will be particularly relevant in this area.					
<b>Landscape and Visual (Construction)</b>							
S.12.B9 MM16	LV13- DP5	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, nonreflective, recessive colours be used. Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	To screen undesirable views of the works site.	Contractor	<i>Throughout NDAs</i>	Construction Phase	N/A
S.12.B9 MM17	LV14- DP5	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.  Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	<i>Throughout NDAs</i>	Construction and Operation Phases	^
<b>Ecology (Construction Phase)</b>							
S.13.9	E1-DP5	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance.	Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna.	Contractor.	<i>Interface between areas/habitats of ecological importance and works areas (all sides of KTN area F1-2).</i>	Construction phase.	N/A
<b>DP7-Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works (SWHSTW)</b>							
<b>Landscape and Visual (Construction Phase and Operational Phase)</b>							
S.12.9 MM4	LV1- DP7	Tree Protection & Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In	Protect and Preserve Trees	Government / Detailed	<u>Onsite</u>	Prior to Construction and	N/A

		<p>particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.</p>		Design Consultant/ Contractor		Construction Phase	
S.12.9 MM9	LV2- DP7	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. building edges, piers).	Soften hard surfaces and facilities	Government / Detailed Design Consultant/ Contractor	<u>On appropriate structures</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM10	LV3- DP7	<p>Green Roof – Roof greening where appropriate should be established on proposed buildings as per the guidelines stated.</p> <p>These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable.</p>	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels. Provide greening.	Government / Detailed Design Consultant/ Contractor	<u>On appropriate buildings</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

DP10- Fanling Bypass Eastern Section (New Road)							
Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)							
S.12.D9	LV1-DP10	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.  With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.		Detailed Design  Consultant/  Contractor	<u>Throughout NDAs,</u>	Prior to  Construction,  Construction & for  all planting, this  should be installed  as soon as the areas  become available, to  achieve early  establishment	^
S.12.D9 MM1	LV2-DP10	Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.	Reduce topographical changes and minimize land resumption	Government/  Detailed Design  Consultant/  Contractor	<u>Throughout NDAs,</u>  <u>particularly for</u>  <u>reservoirs</u>	Prior to  Construction	N/A
S.12.D9 MM4	LV3-DP10	Tree Protection & Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification	Protect and Preserve Trees	Government/  Detailed Design  Consultant/  Contractor	<u>Onsite</u>	Prior to  Construction and  Construction Phase	^



		<p>shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.</p>					
S.12.D9 MM5	LV4- DP10	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.</p>	Transplant Trees where suitable for transplantation	Government/ Detailed Design Consultant/ Contractor	<u>Onsite where possible. Otherwise consider offsite locations</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

S.12.D9 MM6	LV5- DP10	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	<p>Government/ Detailed Design</p> <p>Consultant/ Contractor</p>	<u>Onsite</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.D9 MM7	LV6- DP10	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p> <p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.</p> <p>Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i> are suggested.</p>	Compensate for trees and shrubs lost due to the Project.	<p>Government/ Detailed Design</p> <p>Consultant/ Contractor</p>	<p><u>Onsite where possible. Otherwise consider offsite locations</u></p>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.D9 MM8	LV7- DP10	Woodland Compensatory Planting –Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the	Reprovide areas of woodland to compensate for those areas of quality woodland lost.	<p>Project Proponent/ Detailed Design</p> <p>Consultant/</p>	<p><u>In areas identified in the EIA Landscape Mitigation Plans</u></p>	Prior to Construction, Construction Phase	N/A

	<p>woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.</p> <p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 &amp; E27 also).</p> <p>Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>, <i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>.</p> <p>In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i>.</p> <p><i>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</i></p>		Contractor/ Maintenance Authority	<u>and as agreed with</u>  <u>AFCD</u>	& Maintenance in Operation Phase	
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S.12.D9 MM9	LV8- DP10	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government/ Detailed Design  Consultant/  Contractor	<u>On appropriate structures</u>	Prior to  Construction,  Construction Phase & Maintenance in  Operation Phase	N/A
S.12.D9 MM11	LV9- DP10	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings.  Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government/ Detailed Design  Consultant/  Contractor	<u>Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.</u>	Prior to  Construction,  Construction Phase & Maintenance in  Operation Phase	N/A
S.12.D9M M12	LV10- DP10	Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics.  For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)	To soften the hard, straight edges and provide greening along roads.	Government/ Detailed Design  Consultant/  Contractor	<u>On viaducts or along roads.</u>	Prior to  Construction,  Construction Phase & Maintenance in  Operation Phase	N/A
S.12.D9 MM14.3	LV11- DP10	Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department	Minimize the necessity of watercourse modification,	Government/ Detailed Design	<u>Channelized watercourse.</u>	Prior to  Construction,	N/A

		<p>Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc.</p> <p>For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.</p>	<p>protect watercourses where possible and enhance channelized watercourses</p>	<p>Consultant/ Contractor</p>	<p><u>particularly the Ma Wat River Channel Diversion</u></p>	<p>Construction Phase &amp; Maintenance in Operation Phase</p>	
<b><i>Landscape and Visual (Construction)</i></b>							
S.12.D9 MM16	LV12- DP10	<p>Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used.</p> <p>Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).</p>	<p>To screen undesirable views of the works site.</p>	<p>Contractor</p>	<p><u>Throughout NDAs</u></p>	<p>Construction Phase</p>	<p>^</p>
S.12.D9 MM17	LV13- DP10	<p>Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.</p>	<p>To minimize glare impact to adjacent VSRs</p>	<p>Government / Contractor</p>	<p><u>Throughout NDAs</u></p>	<p>Construction and Operation phases</p>	<p>^</p>



		Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.					
<b>Ecology (Detailed Design, Construction and Operational Phases)</b>							
S13.8	E1-DP10	Use opaque, non-transparent, non-reflective noise barriers.  Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Detailed Design  Consultant/  Contractor  Maintenance  Authority.	<u>Throughout NDAs</u>	Detailed design, construction and Operation phases.	^
<b>Ecology (Construction Phase)</b>							
S13.9	E3-DP10	Lower reaches of Siu Hang San Tsuen Stream to have 10m wide vegetated buffer in Open Space Zone D1-3 and Fanling Bypass to cross stream on viaduct.	Minimize impacts on Siu Hang San Tsuen Stream and stream fauna.	Contractor.	<u>FLN area D1-3.</u>	Construction phase.	N/A
S.13.9	E4-DP10	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance.	Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna.  Measures to minimize flight-line impacts to birds, especially breeding ardeids.	Contractor.	<u>Interface between areas/habitats of ecological importance and works areas (all of the north side of the Bypass works areas west of interchange with Sha Tau Kok Road).</u>	Construction phase.	N/A
<b>Cultural Heritage (Construction Phase)</b>							
S11.6.2	CH4-DP10	<u>Conducting Construction Vibration Monitoring and Structural Strengthening Measures</u>  Construction vibration monitoring and structural strengthening measures should be conducted during Construction phase based on the	To minimize the potential impacts during Construction phase on any identified potential vibration impacted	Contractor.	<u>Identified potential vibration impacted built heritage features</u>	Construction phase, with details specified in baseline condition survey and	N/A

		assessment result of baseline condition survey and baseline vibration impact assessment, so as to ensure the construction performance meets with the vibration standard stated in the EIA report.	built heritage features			baseline vibration impact assessment,	
<b><i>DP12-Reprovision of temporary wholesale market in FLN NDA</i></b>							
<b><i>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</i></b>							
S.12.D9	LV1-DP12	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.  With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.		Detailed design consultant/ Contractor	Throughout NDAs,	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become available, to achieve early establishment	N/A
S.12.D9 MM1	LV2-DP12	Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.	Reduce topographical changes and minimize land resumption	Government / Detailed Design Consultant/ Contractor	Throughout NDAs, particularly for reservoirs	Prior to Construction	N/A

S.12.D9 MM2	LV3- DP12	<p>Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines.</p> <p>All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated.</p> <p>Construction time frame should also be considered and designs seek to keep it to a practical minimum.</p>	Improve visual amenity of the new buildings, NDAs in general and integrate as best possible into the surrounding landscape	Detailed Design Consultant	Throughout NDAs	Prior to Construction	N/A
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S.12.D9 MM4	LV4- DP12	<p>Tree Protection &amp; Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor’s works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.</p>	Protect and Preserve Trees	Government / Detailed Design Consultant/ Contractor	Onsite	Prior to Construction and Construction Phase	N/A
S.12.D9 MM5	LV5- DP12	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be</p>	Transplant Trees where suitable for transplantation	Government / Detailed Design Consultant/ Contractor	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

		<p>agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.</p>					
S.12.D9 MM6	LV6- DP12	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow.</p> <p>All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	Government / Detailed Design  Consultant/  Contractor	Onsite	Prior to  Construction,  Construction Phase  & Maintenance in  Operation Phase	N/A
S.12.D9 MM7	LV7- DP12	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p> <p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.</p>	Compensate for trees and shrubs lost due to the Project.	Government / Detailed Design  Consultant/  Contractor	Onsite where possible.  Otherwise consider offsite locations	Prior to  Construction,  Construction Phase  & Maintenance in  Operation Phase	N/A



		Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i> , <i>Diospyros vaccinioides</i> , <i>Gardenia jasminoides</i> , <i>Ixora chinensis</i> , <i>Ligustrum sinense</i> , <i>Litsea rotundifolia</i> , <i>Melastoma dodecandrum</i> , <i>Atalantia buxifolia</i> , <i>Rhodomyrtus tomentosa</i> , <i>Raphiolepis indica</i> , and <i>Rhododendron simsii</i> are suggested.					
S.12.D9 MM11	LV8- DP12	Screen Planting – Tall screen/buffer trees and shrubs should be planted.  This measure may additionally form part of the compensatory planting	To screen proposed structures such as roads and buildings.  Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Detailed Design  Consultant/  Contractor	Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
<b>Landscape and Visual (Construction)</b>							

S.12.D9 MM16	LV9- DP12	<p>Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, nonreflective, recessive colours be used.</p> <p>Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).</p>	To screen undesirable views of the works site.	Contractor	Throughout NDAs	Construction Phase	N/A
S.12.D9 MM17	LV10- DP12	<p>Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.</p> <p>Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.</p>	To minimize glare impact to adjacent VSRs	Government / Contractor	Throughout NDAs	Construction and Operation Phases	N/A

**Implementation status:**

- ^ Mitigation measure was fully implemented
- \* Observation/reminder was made during site audit but improved/rectified by the contractor
- # Observation/reminder was made during site audit but not yet improved/rectified by the contractor
- X Non-compliance of mitigation measure
- Non-compliance but rectified by the contractor
- N/A Not Applicable at this stage as no such site activities were conducted in the reporting period

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**APPENDIX R  
WASTE GENERATION IN THE  
REPORTING MONTH**

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## **Waste Flow Table of ND/2019/01**

Name of Department: Civil Engineering and Development Department

**Monthly Summary Waste Flow Table for 2022**

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 (a)	Reused in the Contract (b)	Reused in Other Projects (c)	Disposed as Public Fill (d)	Imported Fill (e)	Metals	Paper / Cardboard Packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
January	17.001	0.000	9.565	4.775	2.661	1.060	0.004	0.278	0.004	47.200	1.918
February	6.211	0.000	5.760	0.000	0.451	0.496	0.000	0.178	0.000	129.600	2.085
March	8.648	0.000	7.500	0.832	0.316	0.273	0.000	0.225	0.000	70.800	2.408
April	15.315	0.000	13.017	0.875	1.423	0.000	0.000	0.000	0.000	185.558	2.248
May	11.397	0.000	9.052	0.126	2.219	3.002	0.000	0.262	0.000	90.900	1.775
June	3.683	0.000	1.718	0.949	1.016	0.184	0.000	0.000	0.000	0.000	0.581
Sub-total	62.255	0.000	46.612	7.557	8.086	5.015	0.004	0.943	0.004	524.058	11.015
July	9.751	0.000	9.633	0.000	0.118	4.907	0.000	0.365	0.000	0.000	2.845
August	0.000										
September	0.000										
October	0.000										
November	0.000										
December	0.000										
Total	72.006	0.000	56.245	7.557	8.204	9.922	0.004	1.308	0.004	524.058	13.860



Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
1,310.619	300.000	1,010.619	0.000	0.000	0.000	20.000	10.000	20.000	0.500	10.000

- Notes: (1) The performance target are given in PS Clause 1.115(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 amount of C&D materials expected to be generated from the Works, together with a break down of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m<sup>3</sup>.  
(5) Conversion factors for reporting purpose:  
in-situ: rock = 2.5 tonnes/m<sup>3</sup>; soil = 2.0 tonnes/m<sup>3</sup>  
excavated: rock = 2.0 tonnes/m<sup>3</sup>; soil = 1.8 tonnes/m<sup>3</sup>  
broken concrete and bitumen = 2.4 tonnes/m<sup>3</sup>  
C&D Waste = 0.9 tonnes/m<sup>3</sup>  
Slurry = 1.0 tonnes/m<sup>3</sup>  
(6) Numbers are rounded off to the nearest three decimal places  
\* Forecast  
(7) Total Quantity Generated = a+b+c+d

## **Waste Flow Table of ND/2019/02**



俊和 - 群利聯營體  
CW - KL JV

Name of Department: CEDD

## Appendix F

Contract No.: ND/2019/02

Year **2022**

**Waste Flow Table**

Month	Total Quantity Generated (a) = (c)+(d)+(e)  (in tonnes)	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-Inert C&D Wastes Generated Monthly				
		Hard Rock and Large Broken Concrete (b)	Reused in the Contract (c)	Reused in other Projects (d)	Disposed as Public Fill* (e)	Imported Fill (f)	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse#
		(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
Jan	252.48	0.00	0.00	0.00	252.48	576.91	0.00	0.00	0.00	0.00	8.24
Feb	8.76	0.00	0.00	0.00	8.76	0.00	0.00	0.00	0.00	0.00	9.34
Mar	2,193.94	0.00	0.00	102.40	2,091.54	0.00	0.00	0.00	0.00	0.00	47.52
Apr	9,471.29	0.00	0.00	9,327.00	144.29	0.00	0.00	0.00	0.00	0.00	18.03
May	2,431.62	0.00	0.00	2,431.62	0.00	0.00	0.00	0.00	0.00	0.00	18.09
June	47.93	0.00	0.00	0.00	47.93	0.00	0.00	0.00	0.00	0.00	18.86
Sub-total	14,406.02	0.00	0.00	11,861.02	2,545.00	576.91	0.00	0.00	0.00	0.00	120.08
July	4,919.97	0.00	0.00	4,919.97	0.00	0.00	0.00	0.00	0.00	0.00	108.05
Aug											
Sept											
Oct											
Nov											
Dec											
Sub-total	4,919.97	0.00	0.00	4,919.97	0.00	0.00	0.00	0.00	0.00	0.00	108.05
Total	19,325.99	0.00	0.00	16,780.99	2,545.00	576.91	0.00	0.00	0.00	0.00	228.13

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.
- (3) Broken concrete for recycling into aggregates.

Forecast of Total Quantities of C&D Materials to be Generated from the ND/2009/02											
Forecast Made at the End of the Project	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	Chemicals Waste	Others, e.g. general refuse
									(see Note 2)		
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
Total:	234,210	8,400	2,500	0	231,710	600	100	1.0	0.5	0.5	375

## **Waste Flow Table of ND/2019/03**



Name of Department: CEDD

Contract No.: ND/2019/03

### Monthly Summary Waste Flow Table for **2019** (Year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-
Sub-total	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	0	0	0	0	0	0	0	0	0	0	0
Total	-	-	-	-	-	-	-	-	-	-	-

\*Remark: Imported Fill not taken into account of Total Quantity Generated

#Revised Figure

Name of Department: CEDD

Contract No.: ND/2019/03

### Monthly Summary Waste Flow Table for **2020** (Year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0.01
Mar	0	0	0	0	0	0	0	0	0	0	0.004
Apr	0	0	0	0	0	0	0	0	0	0	0.038
May	0	0	0	0	0	0	0	0	0	0	0.004
June	0	0	0	0	0	0	0	0	0	0	0.015
Sub-total	0	0	0	0	0	0	0	0	0	0	0.071
July	0	0	0	0	0.1	0	0	0	0	0	0.03
Aug	0	0	0	0	0	0	0	0	0	0	0
Sept	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0.08	0	0	0	0	0	Oct
Nov	0.18	0	0	0	0.08	0	0	0	0	0	0.1
Dec	0.578	0	0	0	0.54	0	0	0	0	0	0.038
Total	1.077	0	0	0	0.8	0	0	0	0	0	0.277

\*Remark: Imported Fill not taken into account of Total Quantity Generated

#Revised Figure

Contract No.: ND/2019/03

Name of Department: CEDD

### Monthly Summary Waste Flow Table for 2021 (Year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0.83	0	0	0.22	0.61	0	0	0	0	0	0.075
Feb	0	0	0	0	0	0.096	0	0	0	0	0.022
Mar	0.56	0	0	0	0.56	0.26	0	0	0	0	0.15
Apr	0.68	0	0	0	0.68	0.30	0	0	0	0	0.31
May	0.66	0	0	0	0.66	0.15	0	0	0	0	0.21
Jun	0.11	0	0	0	0.11	0.30	0	0	0	0	0.19
Sub-Total	2.84	0	0	0.22	2.62	1.106	0	0	0	0	0.957
Jul	0.26	0	0	0	0.26	0.14	0	0	0	0	0.178
Aug	0	0	0	0	0	0.39	0	0	0	0	0.15
Sep	0	0	0	0	0	0.074	11.9	0	0	0	0.132
Oct	0	0	0	0	0	0	0	0	0	0	0.297
Nov	0	0	0	0	0	0	0	0	0	0	1.05
Dec	0.195	0	0	0.015	0.18	0	0	0	0	0	0.098
Total	3.295	-	-	0.235	3.06	1.71	11.9	0	0	0	2.858

\*Remark: Imported Fill not taken into account of Total Quantity Generated

#Revised Figure

Contract No.: ND/2019/03

Name of Department: CEDD

### 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	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	1.82	0	0	0.38	1.44	0	0	0	0	0	0.09
Feb	0.36	0	0	0.10	0.25	0	0	0	0	0	0
Mar	1.28	0	0	0.25	1.03	0	0	0	0	0	0
Apr	0.36	0	0	0.07	0.29	0	0	0	0	0	0
May	1.46	0	0	0.31	1.15	0	0	0	0	0	0
Jun	0.92	0	0	0	0.92	0	0	0	0	0	0.18
Sub-Total	6.20	0	0	1.11	5.08	0	0	0	0	0	0.27
Jul	0.46	0	0	0	0.46	0	0	0	0	0	0.08
Aug	0	0	0	0	0	0	0	0	0	0	0
Sep	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0	0
Total	6.66	0	0	1.11	5.54	0	0	0	0	0	0.35

\*Remark: Imported Fill not taken into account of Total Quantity Generated

#Revised Figure

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
9	2	1	1	6	10	3	3	1	1	3

\*Remark: Figure to be revised if necessary

Notes:

- (1) The performance targets are given in ETWB Technical Circular 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<sup>3</sup>. (ETWB Technical Circular PS Clause 5(4)(b) refers).
- [Delete Note (4) and the table above on the forecast, where inapplicable].



## **Waste Flow Table of ND/2019/04**

Monthly Summary Waste Flow Table for 2022 (Year)

Month	Total Quantity Generated	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-Inert C&D Wastes Generated Monthly				
		Hard Rock and Large Broken Concrete (a)	Reused in the Contract (b)	Reused in other Projects (c)	Disposed as Public Fill (d)	Imported Fill (e)	Metals (f)	Paper/ cardboard packaging (g)	Plastics (h)	Chemical Waste (i)	Others, e.g. general refuse (j)
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
Jan	4,848.68	0.00	0.00	0.00	4,804.00	0.00	0.00	0.04	0.00	0.00	44.64
Feb	3,655.87	0.00	0.00	0.00	3,649.51	0.00	0.00	0.04	0.00	0.00	6.32
Mar	7,450.34	0.00	0.00	0.00	7,437.69	0.00	0.00	0.00	0.00	0.00	12.65
Apr	11,735.85	0.00	0.00	0.00	11,710.90	0.00	0.00	0.00	0.00	0.00	24.95
May	6,180.22	0.00	0.00	0.00	6,142.44	0.00	0.00	0.00	0.00	0.00	37.78
June	12,161.88	0.00	0.00	0.00	12,117.79	0.00	0.00	0.00	0.00	0.00	44.09
Sub-total	46,032.84	0.00	0.00	0.00	45,862.33	0.00	0.00	0.04	0.00	0.00	170.43
July	3,641.23	0.00	0.00	0.00	3,593.86	0.00	0.00	0.00	0.00	0.00	47.37
Aug	0.00										
Sept	0.00										
Oct	0.00										
Nov	0.00										
Dec	0.00										
Sub-total	3,641.23	0.00	0.00	0.00	3,593.86	0.00	0.00	0.00	0.00	0.00	47.37
Total	49,674.07	0.00	0.00	0.00	49,456.19	0.00	0.00	0.04	0.00	0.00	217.80

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.
- (3) Broken concrete for recycling into aggregates.
- (4) Total quantity generated = a+b+c+d+e+f+g+h+i+j

## **Waste Flow Table of ND/2019/05**

## Monthly Summary Waste Flow Table for 2022 (year)

Name of Person completing the record: Louise Poon (EO)

Project : Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)

Contract No.: ND/2019/05

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated (a) = (b)+(c)+(d)+(e)	Hard Rock and Large Broken Concrete (b)	*Reused in the Contract (c)	Reused in other Projects (d)	Disposed as Public Fill (e)	Imported Fill (f)	Metals (g)	Paper/ cardboard packaging/ (h)	Plastics (i) (see Note 3)	Yard Waste (j)	Chemical Waste (k)	Others, e.g. general refuse (l)
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)
Jan-22	4.715	0.000	0.432	0.000	4.283	0.100	95.790	0.818	0.183	36.710	0.000	121.720
Feb-22	5.110	0.000	0.072	0.000	5.038	0.000	0.005	0.033	0.006	39.770	0.000	53.150
Mar-22	3.639	0.000	0.144	0.000	3.495	0.343	0.020	0.385	0.334	91.890	0.000	34.140
Apr-22	2.481	0.000	0.510	0.000	1.971	0.000	2.230	0.000	0.000	0.260	0.000	54.880
May-22	2.588	0.000	0.324	0.000	2.264	0.582	0.048	0.685	0.399	3.090	0.000	70.230
Jun-22	2.694	0.000	0.612	0.353	1.729	0.000	6.277	0.635	0.041	11.540	0.000	55.700
Sub-total	21.227	0.000	2.094	0.353	18.780	1.025	104.370	2.556	0.963	183.260	0.000	389.820
Jul-22	7.166	0.000	0.648	1.248	5.270	0.000	0.016	0.727	0.870	23.410	0.000	73.430
Aug-22												
Sep-22												
Oct-22												
Nov-22												
Dec-22												
Total in 2022	28.392	0.000	2.742	1.600	24.050	1.025	104.386	3.283	1.833	206.670	0.000	463.250
Total of the Project since 2020	58.804	0.000	6.747	1.600	50.457	5.110	121.684	6.493	3.674	707.823	24.882	2542.080

\*Approx. estimation for each dump truck is 6m<sup>3</sup>/truck or 12 ton/truck

Total Quantity of Inert C&D Materials Generated: 58.804 (in '000m<sup>3</sup>) (a) = (b) + (c) + (d) + (e)

## **Waste Flow Table of ND/2019/07**



## Monthly Summary Waste Flow Table for 2022 (year)

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

Project : Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works

Contract No.: ND/2019/07

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 (a)	Reused in the Contract (b)	Reused in other Projects (c)	Disposed as Public Fill (d)	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in '000T)	(in '000T)	(in '000T)	(in '000T)	(in '000T)	(in '000T)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 T)
Jan	0.949	0	0	0	0.949	8.930	0.0002	0	0.008	0	0.446
Feb	0.383	0	0	0	0.383	0	0	0	0	0	0.116
Mar	0.575	0	0	0	0.575	0.824	0	0	0	0	0.212
Apr	0.000	0	0	0	0.000	9.905	0	0.251	0	0	0.045
May	0.000	0	0	0	0.000	0.758	0	0	0.001	0	0.016
Jun	0.031	0	0	0	0.031	1.054	0	0	0	0	0.016
Sub-total	1.938	0.000	0.000	0.000	1.938	21.471	0.000	0.251	0.009	0.000	0.851
Jul	0.015	0	0	0	0.015	0.830	0	0	0	0	0.018
Aug											
Sep											
Oct											
Nov											
Dec											
Total	5.011	0.000	1.514	0.000	3.497	143.320	0.017	1.697	0.023	212.240	5.530

- Notes:
- (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (2) Plastics refer to plastic bottles/containers, plastic sheets/ foam from packaging materials.
  - (3) Broken concrete for recycling into aggregates.
  - (4) Total Quantity Generated = a+b+c+d..

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**APPENDIX S**  
**COMPLAINT LOG**

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**Appendix S - Complaint Log**

<b>Log Ref.</b>	<b>Location</b>	<b>Received Date</b>	<b>Details of Complaint</b>	<b>Investigation/ Mitigation Action</b>	<b>Status</b>
COM-2020-07-01	Public Road at Portion 6a (ND/2019/01)	13 <sup>th</sup> July 2020	The EPD visit on 13 July 2020 was to respond the complaint received from the 2nd week in July regarding the dust problem in public road of Portion 6a. Mr. Tse (EPD) observed muddy wheel track on the public road, and he expressed that the public road should keep free of mud even it was inside the project area. He also advised BKRWJV (the Contractor) to clean up the muddy wheel track and provide rectified photos to him.	A designated person is provided at the ingress/egress for vehicle washing before the wheel washing facility is in use, this is to make sure all vehicle are free of mud before leaving the site. And, the designated person is also responsible for cleaning the public road if any mud is found on it.	Closed
COM-2020-11-01	Portion 4 and Portion 7 near Dills Corner Garden (ND/2019/01)	11 <sup>th</sup> November 2020	The EPD inspection at Portion 4 on 11 November 2020 was to respond the complaint regarding the dust problem near Dills Corner Garden referred by a District Council Member. No construction activities was carried out and no obvious dust emission was observed. EPD advised BKRWJV (the Contractor) to increase the height of temporary water barrier and install sprinklers on bare ground. Another EPD inspection was conducted on 26 November 2020 at	The height of temporary water barrier was increased at Portion 4. Sprinklers were installed on bare ground at Portion 4 and on top soil at Portion 7. Manual water spraying were provided regularly. Hydroseeding will be provided on soil surface at Portion 4 for long-term measures.  Proper implementation of dust mitigation measures will be continuously reviewed and monitored to avoid potential dust impact on site.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			Portion 7 for the dust complaint. During inspection, no obvious dust emission was observed and potential dust may generate from top soil which appear to be dry. EPD advised the Contractor to install sprinklers on top soil for dust suppression.		
COM-2020-11-02	Works Area A & B (ND/2019/05)	27 <sup>th</sup> November 2020	The complainant complained about the noise generated from the alarm of scissors platform during works for PM's site accommodation on Sunday and called the police force. Police officer has checked that Construction Noise Permit has been applied for the construction work. Also, the complainant complained about the reflective blue color of roof material of site office.	Permit-to-Work system was properly implemented for works at restricted hours. The PME used have been checked in compliance with the valid Construction Noise Permit (CNP No.: GW-RN0788-20). Acoustics mats were erected between works area and noise sensitive receivers. Scissor platform or noisy work activities will be arranged and minimized to be used on Sunday or evening time on weekdays. Specific training for the quieter works arrangement was provided to workers. Also, the blue roof will be covered by non-reflective green roof material.	Closed
COM-2021-01-01	Ma Tso Lung Road (ND/2019/01)	7 <sup>th</sup> January 2021	A complaint regarding soil deposited on Ma Tso Lung Road was referred by EPD verbally.	No soil / mud deposit or mud track were observed along the Ma Tso Lung Road during investigation and site inspection between Contractor, the <i>Supervisor</i> , ET and IEC. The road condition of Ma Tso Lung Road will be closely monitored and the public road will be regularly cleaned if mud deposit was observed. Wheel washing facilities at every site entrance will be regularly monitored to ensure proper implementation of dust control measures.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
COM-2021-01-02	Ma Tso Lung Road (Near L/P VD5622) (ND/2019/01)	13 <sup>th</sup> January 2021	A complaint was received from 1823 regarding the suspected odour emitted from muddy water discharged.	Water sample collected from the wastewater treatment facility was clear and no odour was detected. Sewage from chemical toilet was collected on a regular basis by licensed collector. Brownish wastewater was observed discharging upstream of the site from an unknown factory to the uncharted channel which may be potential source of the odour.	Closed
COM-2021-01-03	CTC Storage Yard (ND/2019/05)	22 <sup>nd</sup> January 2021	A complaint was referred from EPD regarding the noise generated before 7 a.m. on weekdays and machinery noise generated on Sunday from CTC Storage Yard.	No attendance record of workers working for CTC Storage Yard earlier than 8 a.m. and on Sunday (day of complaint) was recorded. To ensure strict compliance to Noise Control Ordinance and prevent noise nuisance to the nearby villages, the Contractor has implemented the following enhancement measures: 1. Issue a memo to the relevant sub-contractor on restricted working hour. 2. Conduct specific training to sub-contractor frontline supervisor and works. 3. Apply a construction noise permit for the suspected location.	Closed
COM-2021-01-04	Ho Sheung Heung (ND/2019/02)	28 <sup>th</sup> January 2021	A complaint was received from 1823 regarding an idling construction vehicle near Ho Sheung Heung to operate the engine for over 10	Ad-hoc training was provided to workers on switching off idling engines when awaiting on site. Poster for “Switching off idling engines” was posted at site entrance to alert workers on the	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			minutes. Also, the complainant complained on noise nuisance from the speaker during meeting.	issue. For noise nuisance from the meeting, the speaker volume in the future event will be lower as much as possible.	
COM-2021-02-01	CTC Storage Yard (ND/2019/05)	4 <sup>th</sup> February 2021	A complaint was received from EPD call on 2 <sup>nd</sup> February 2021 regarding a noise complaint from a Tong Hang villager about noise from CTC storage yard at around 19:00 – 20:00 on 1 <sup>st</sup> February 2021.	The suspected cause of the complaint was the delivery of a rotary drilling rig by a tractor lorry arrived at CTC Storage Yard at around 19:00 at 1 <sup>st</sup> February 2021. The delivery time was restricted due to the oversized tractor lorry (width >2.4m and length protruded >1.4m at tractor tail). No loading and unloading was conducted during the time of complaint.  For follow up action, the Contractor will apply Construction Noise Permit for any foreseeable delivery that may not be finished before restricted hours and will notify possible affected village representatives in advance.	Closed
COM-2021-02-02	CTC Storage Yard (ND/2019/05)	16 <sup>th</sup> February 2021	A complaint was received from EPD call on 10 <sup>th</sup> February 2021 regarding a noise complaint from a Tong Hang villager about some impact noise from CTC Storage yard at Sunday's daytime (7 <sup>th</sup> February 2021).	Under investigation, erection of chain link fence for separating works area and adjacent village house was conducted by a sub-contractor on 7 <sup>th</sup> February 2021 without notification to the Contractor. Sub-contractor has been reminded that any work within site area shall be conducted after instruction by the Contractor and permit-to-work system on restricted hours works shall be strictly followed.	Closed
COM-2021-02-03	CTC Storage Yard (ND/2019/05)	2 <sup>nd</sup> March 2021	A complaint was received from EPD call on 24 <sup>th</sup> February 2021 regarding a noise complaint from a Tong Hang villagers about some machinery noise	Further enhancement on erection of acoustics mats and mobile acoustics mat panels was conducted at strategic location at E1-01 for mitigation of the noise impact to the nearby	Closed



Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			and dust from CTC Storage yard. Joint site inspection of the Contractor, the <i>supervisor</i> and EPD was conducted on the same day for the bored piling at CTC Storage Yard and check on the noise and dust mitigation measures. EPD requested to enhance noise and dust mitigation measures for grabbing operation of the Rotary Drill Rig for construction of piles of E1-01.	sensitive receivers. Regular water spraying has been applied to suppress the dust from grabbing procedure and the skip.	
COM-2021-03-01	Ma Tso Lung Shun Yee San Tsuen (ND/2019/01)	1 <sup>st</sup> March 2021	A complaint was referred from EPD regarding fly-tipping of C&D waste near Ma Tso Lung Shun Yee San Tsuen and muddy public road.	Under investigation, the suspected site near Shun Yee San Tsuen was out of project site boundary. Internal trip ticket system was properly implemented for dump trucks transported from project site to other approved alternative disposal ground. Also, dump trucks were properly washed and mechanical cover of dump trucks were closed while leaving the site.  For follow up action, banners and flags were displayed on site to promote the environmental protection awareness. Regular training was provided to remind the dump truck drivers that illegal dumping is strictly prohibited.	Closed
COM-2021-03-02	CTC Storage Yard (ND/2019/05)	15 <sup>th</sup> March 2021	A complaint was received from EPD call and an inspection by EPD was conducted on 9 <sup>th</sup> March 2021 regarding a dust complaint from a Tong Hang villager. The complainant	For follow up action, the Contractor provided training to remind frontline supervisors and workers to wet the auger before movement when it was dried for preventing any occasional situation that the auger was dried.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			complained that rotary drill rig shall be equipped with enclosure for dust control and rotary drill rig had exhaust disturbance. Also, the complainant requested to improve wheel washing at site entrance.	The Contractor provided training to brief frontline supervisor and the operators to prevent exhaust disturbance. Also, the drill rigs exhaust pipe shall not face to the public area. If it is avoidable, screens shall be arranged to divert the exhaust gas. An additional cut-off drain was constructed and notice signs were erected for notifying drivers to give wheel washing in front of the cut-off drains.	
COM-2021-03-03	Ma Tso Lung Road (ND/2019/01)	9 <sup>th</sup> April 2021	A complaint was referred from EPD on 23 March 2021 regarding muddy public access road along Ma Tso Lung Road.	The muddy access road was found generated from a nearby private factory where the access road is not hard paved. The Contractor arranged water browser to help clean up the section of road on 24 <sup>th</sup> and 25 <sup>th</sup> March 2021 respectively. Also, dump truck were properly washed at project site exit near Ma Tso Lung Road.	Closed
COM-2021-04-01	Long Valley, Kwu Tung (ND/2019/03)	9 <sup>th</sup> April 2021	A complaint was referred from EPD regarding to associated impacts arising from construction works at Long Valley Nature Park, causing nuisance and affecting the habitat and ecological value in Long Valley.	Construction works for development of Long Valley Nature Park are conducted according to the recommended mitigation measures stated in Habitat Creation and Management Plan. Wetland creation and restoration works are in progress which include provision of paddy field, turning abandoned agricultural lands into wet agricultural land and provision of open water habitat with bird island. Irrigation channel is under construction for provision of reliable water supply to farmland.  For construction works, the following significant mitigation measures are implemented: 1. Provide noise barriers to minimize noise nuisance to adjacent field where Greater Painted-	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				<p>snipe was found;</p> <p>2. Arrange concrete pump for concreting works to minimise noise impact;</p> <p>3. Provide water spraying on the exposed earth to dampen the dusty surface;</p> <p>4. Provide shade cloth to separate works area and marsh where Greater Painted-snipe were found;</p> <p>5. Demarcation of temporary vehicle access to prohibit vehicle across the farmland;</p> <p>6. Provide 2m dull green site boundary fence along Long Valley work areas; and</p> <p>7. Block the main accesses by temporary barrier to avoid human disturbance.</p>	
COM-2021-04-02	Close to junction of Ma Wat River and Ng Tung River (ND/2019/04, ND/2019/05, ND/2019/06)	23 <sup>rd</sup> April 2021	A complaint was referred from EPD regarding to suspected polluting effluent discharged from Ma Wat River near junction of Ma Wat River and Ng Tung River.	<p>Under investigation, muddy water was observed from a small stream of Ma Wat River which is outside project site boundary. Contractor's wastewater treatment facilities and mitigation measures on water quality were checked. Latest discharge monitoring results shows the discharge quality in compliance with the limit stated in the discharge licence.</p> <p>The following mitigation measures will keep implemented and inspected:</p> <p>1. Installation of silt curtain, geotextiles and concrete blocks for excavation works at Ng Tung River with regular inspection;</p> <p>2. Exposed slope paved with concrete to prevent muddy runoff;</p> <p>3. Setting up wastewater treatment plants at</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				several locations of the site area; 4. Bund/seal off works area near river and set up with dewatering system; 5. Spare water pumps and sand bags for emergency use during heavy rain; 6. Regular training to the operators of wastewater treatment facilities; and 7. Regular checking and maintenance of the wastewater treatment facilities and desilting tank.	
COM-2021-04-03	Near Shek Wu San Tsuen, Sheung Shui (ND/2019/04)	28 <sup>th</sup> April 2021	A complaint was referred from EPD regarding to construction dust arising from dump trucks from construction sites near Shek Wu San Tsuen.	No obvious dust emission was observed during EPD inspection on 28 <sup>th</sup> and 29 <sup>th</sup> April 2021, However, potential dust impact may arise from sandy materials found on public road and exposed ground surface.  For follow up action, soil debris were removed at public road. Water spraying was provided on the exposed ground surface. Also, all dump trucks are covered properly and wheel wash is provided before leaving site. Implemented of the mitigation measures will keep reviewed and monitored.	Closed
COM-2021-05-01	Near Tong Hang section of Ma Wat River (ND/2019/05)	17 <sup>th</sup> May 2021	A complaint was referred from EPD regarding to suspected polluting effluent discharged from construction sites near Ma Wat River.	Under investigation, no pollution from works areas near Ma Wat River was observed. For wastewater pollution control, all wastewater treatment facilities have been setup at discharge points. According to the latest discharge monitoring results on April 2021, no non-compliance to limit set in discharge licence was recorded. Regular maintenance and services of the facilities have been conducted. Close monitoring	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				with checklist has been conducted by operators of the facilities. Mitigation measures such as sealing gaps between concrete blocks/water barriers/pipe pile walls have been implemented to prevent leakage. Implementation of the mitigation measures will keep reviewed and closely monitored.	
COM-2021-09-01	Chau Tau Road near the CLP Chau Tau Substation (ND/2019/01)	2 <sup>nd</sup> September 2021	A complaint was referred by EPD and an inspection by EPD was conducted on 3 September 2021 regarding a muddy public access road at Chau Tau Road near the CLP Chau Tau Substation.	<p>Ad-hoc site inspection was conducted on 2 Sep 2021 at Chau Tau Road near the CLP Chau Tau Substation, no muddy wheel track or soil deposit was observed. No concrete lorry was observed using the Chau Tau Road near the CLP Chau Tau Substation.</p> <p>Concreting at Portion 5 was observed during EPD inspection on 3 September 2021, wheel washing bay and manual wheel washing was provided at site exit, all vehicles were properly washed and no muddy track was observed at Chau Tau Road.</p> <p>The Contractor has been implement following mitigation measure upon received the complaint:</p> <ul style="list-style-type: none"> <li>• Rearranged the traffic route and informed the concrete lorry drivers not to use Chau Tau Road;</li> <li>• Keep monitoring the effectiveness of the wheel washing facilities at site exist; and</li> <li>• Clean up the public road immediately if soil deposit was observed.</li> </ul>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
COM-2021-09-02	Not specified (ND/2019/01)	3 <sup>rd</sup> September 2021	A complaint was referred by EPD regarding C&D waste stored on site.	<p>Refer to the photos provided by the complainant, the mentioned C&amp;D waste mainly felled trees mixed with general refuse and temporary stored within the site boundary, Ad-hoc site inspection was conducted by Contractor and RSS on 3<sup>rd</sup> September 2021, all C&amp;D waste were stored within the site boundary, no odour perceived during site inspection.</p> <p>The Contractor has been implement following mitigation measure upon received the complaint:</p> <ul style="list-style-type: none"> <li>• Sort out the non-inert waste from the felled trees;</li> <li>• Remove the general refuse if possible, otherwise, coved by tarpaulin sheet; and</li> <li>• Relocate or transport the yard waste to other places which are not easy visible by public.</li> </ul> <p>Implementation of the mitigation measures will keep reviewed and closely monitored to ensure no adverse impact will be generated from the construction works of the Project.</p>	Closed
COM-2021-11-01	Close to Shek Wu San Tsuen (ND/2019/04)	3 <sup>rd</sup> November 2021	A complaint was referred from EPD on 22 <sup>th</sup> November 2021, about various issues including suspected environmental nuisances from the captioned Project from a member of public on 3 <sup>rd</sup> Nov 2021. He followed-up again on 19 <sup>th</sup> Nov 2021.	<p>Site inspection was conducted by contractor and EPD inspectors on 25<sup>th</sup> November 2021, no obvious dust emission was observed within site boundary. The potential dust impact may arise from sandy materials found at public road which is under DSD maintenance.</p> <p>Air quality monitoring was carried out at location FLN-DMS1 - Scattered Village</p>	Closed



Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				<p>Houses North of Proposed Potential Ecopark and Location FLN-DMS5 - Noble Hill near Shek Wu San Tsuen in accordance with the EM&amp;A manual. With reference to the air quality monitoring data collected in Nov 2021, all monitoring data were complied with the action and limit level and no exceedance was recorded.</p> <p>The Contractor has been implement following mitigation measure upon received the complaint:</p> <ul style="list-style-type: none"> <li>• 工程團隊亦已於接近民居並正在進行大型工程(例如建造大口徑樁)位置安裝了各種隔音屏障，例如在大型機器的發電機上加上隔音布、在圍板加上隔音屏障</li> <li>• 增加自動灑水系統</li> </ul>	
COM-2021-12-01	On Kui Street along Ma Wat River (ND/2019/05)	13 <sup>rd</sup> December 2021	AECOM referred to public complaints received by 1823 on 13 December 2021 regarding "中鐵建保華聯營公司粉嶺地盤工人沖建築泥水落河 污染河道。"	<p>Refer to the photo attached in the above complaint, it is suspected that there were bentonite slurry leaking from the flexible pipe joint near works area of pier C2-01 and the cause of incident as blow:</p> <ul style="list-style-type: none"> <li>• Tightness of flexible pipe joint</li> <li>• Worker's awareness and knowledge on proper handling of pipe leakage</li> <li>• Readiness of contingency tools and equipment for the pipe leakage</li> </ul> <p>The Contractor has been implement following mitigation measure upon received the complaint:</p> <ul style="list-style-type: none"> <li>• Doubling pipe clamps at each joint to strengthen the connection tightness and</li> </ul>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				seal <ul style="list-style-type: none"> <li>• Briefing workers for proper spillage handling</li> <li>• Well readiness of contingency tools and equipment for handling of leakage</li> <li>• Designating responsible supervisor for regular pipeline condition check and monitoring</li> <li>• Daily inspection for pipeline condition by responsible supervisors before works</li> <li>• Erection of bunding/sandbags along the works area to effectively stop any potential leakage/surface runoff</li> <li>• Review and updated Environmental Management Plans (EMP) covering Site Specific Procedures for Muddy runoff/leakage Control (See CSF submission, ref. no. CSF/HSE/002115) on 21 Dec 2021</li> <li>• Specific trainings of proper handling of leakage adjacent to the river/drainage for JV managerial and supervisory staff</li> </ul>	
COM-2022-01-01	Close to Shek Wu San Tsuen (ND/2019/04)	13 <sup>rd</sup> January 2022	A complaint was referred from EPD on 14 Jan 2022 from a public member alleged the captioned Project of “我們每個工作天都會受到高噪音和震動的影響，在沒有足夠的保障下，使近距離的民居十分擔心，屋裂有惡化跡象，兒童/長者難有	Contractor have carried out daily noise monitoring and vibration monitoring. No exceedance was recorded. The monitoring results are displayed on the notice board for easy reference. For noise control measures, QPME label are affixed to generators and acoustic noise barriers are mounted on powered mechanical equipments such as	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			寧靜環境，成人在家中工作、兒童做功課在噪雜的環保下，難以適應，我們很希望受到合理的重視和改善，使實際環境不會太差。”	excavators, crawler cranes and vibration hammers and installed along hoarding to minimize noise nuisance to neighborhood.  Based on the findings of investigation, no exceedance of noise and vibration monitoring was found. Contractor will ensure that the construction works carried out must comply with the condition stated in the Noise Control Ordinance and to implement mitigation measures proposed in the Project Implementation Schedule.	
COM-2022-01-02	Near Sheung Yue River (ND/2019/02)	28 <sup>th</sup> January 2022	A complaint was received from 1823 on 28 Jan 2022 regarding “在雙魚河河邊單車徑附近的工程，一個多月來，當工人沒有工作期間，所有機械都沒有熄匙，當機械運作時，產生很大的噪音及很多廢氣。理解工人有工作時，機械運作是正常，但一個月來工人沒工作時，機械依然運作，產生問題嚴重，要求部門跟進及處理。”	Investigation was conducted by contractor on 4 Feb 2022. All plants are turned off when awaiting more than 3 min. Dark smoke monitoring for the powered mechanical equipment had been carried out. No dark smoke was recorded. Based on the findings of investigation, no exceedance of noise and air monitoring was found.  Follow-up Actions had been conducted on 4 Feb 2022. Mitigation measures are implemented. Dull green barriers are installed around active works areas to prevent dust emitted to the public. QPME is used to minimize noise nuisance to the neighbourhood.  Specific environmental training about Noise and Smoke Control for Plants was provided to frontline staff on 4 Feb 2022. The frontline staff was reminded to switch off idling equipment for	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				preventing recurrence of idling construction equipment awaiting on site, and carry out routine maintenance of plant and equipment for mitigating unwanted noise and air pollutant emissions.	
COM-2022-02-01	Ng Tung River (ND/2019/04)	17 <sup>th</sup> February 2022	<p>EPD received 2 complaints from members of public about suspected disposal of foam waste and illegal discharge from the captioned Project to Ng Tung River on 13 &amp; 16 Feb 2022 respectively.</p> <p>Details of complaint case received on 13 Feb 2022: 「本人途經唔上水悟洞河近馬屎埔新村附近地盤發現河道有大量懷疑發泡膠影響何到魚類生物, 要求環境保護署或相關部門進行跟進」</p> <p>Details of complaint case received on 16 Feb 2022: 「2022年2月10日下午三時, 發現梧桐河面出現乳白色, 懷疑與附近工程泥漿水有關, 懷疑經雨水渠排出。」</p>	<p>Investigation was conducted by contractor. It is found that no foam has been used on site. No construction works was carried out during 9 Feb to 14 Feb 2022 at A3 piling platform as two suspected close contact cases for A3-02 piling platform team was found. The bored piling works and A3 piling platform welding works was suspended from 9 Feb 2022 and resumed on 14 Feb 2022 after the whole team received negative results.</p> <p>Mitigation measures are implemented, there is a silt curtain enclosing the opened workfronts and the openings of the A3 piling platform. Hence, the platform and other workfronts along the river have no discharge to the river.</p> <p>In addition, it is reported that suspected contaminated water was discharging to Ma Wat River from surrounding industrial buildings near C5 contract site.</p> <p>Based on the findings of investigation, no foam</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				has been used by on site and no suspected contaminated water was discharged from the project. Thus, the complaint cases are not caused by our project.	
COM-2022-03-01	Near Ho Sheung Heung (ND/2019/02)	2 <sup>nd</sup> March 2022	A complaint was received from EPD on 8 Mar 2022 from a public member regarding "投訴河上鄉鄉公所附近地盤的機器及吊雞車的難嗅氣味滋擾"	<p>Joint inspection for the issue was conducted by AECOM, Environmental team, Contractor on 9 March 2022 and no source of odour was found during the inspection. There was no major works. The area is for temporary soil storage. Only one excavator is at Portion 11. The excavator is well maintained and no bad smell is emitted. Moreover, all plants are checked before used. As per the contract requirement, project must use Euro V diesel in our plants, which is a cleaner fuel than industrial diesel and shall generate less odour. Project regularly conducts diesel sampling and testing to ensure that the used fuel is Euro V diesel. A diesel sampling for the excavator at Portion 11 was also conducted on 9 March 2022.</p> <p>Based on the findings of investigation, all plants are well maintained and checked before use. Cleaner fuel is used for plants onsite. No odour was found. CW-KL JV mitigates air pollution from sources to reduce environmental nuisance to the neighbourhood.</p>	Closed
COM-2022-03-02	Near Ho Sheung Heung (ND/2019/02)	23 <sup>rd</sup> March 2022	A complaint was received from EPD on 22 Mar 2022 from a public member regarding "河鄉近洪聖爺廟"	Joint inspection for the issue was conducted by AECOM, Environmental team, Independent Environmental Checker and Contractor on 25 March 2022. There was no major works. The area	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			<p>有個很大的基建地盤，經常發出很大噪音，包括車輛駛入後停泊時的聲浪，地盤面積有半個摩士公園大，車輛可以泊到其他地方，減少對居民的滋擾，之前亦曾作出相同投訴，有環保署職員跟進，故現堅持要求再次跟進及回覆 "</p>	<p>is for temporary soil storage. A dump truck was at portion 11, but left the site in short time. All dump trucks used in the project would not stay on site overnight and left the site before 6p.m. One excavator and one loader were at Portion 11. No idling crane lorry was at Portion 11. The equipment would be switched off when not in use. Moreover, all our plants are well maintained and checked before used.</p> <p>Noise monitoring around Portion 11 had been conducted on 26, 28 and 29 March 2022 (AM and PM periods) by Contractor with AECOM. The noise levels are lower than the standard of noise requirement for domestic premises (75dB(A)). It was predicted that no noise exceedance would be found at NSRs.</p> <p>Environmental Training related to use of equipment onsite had been provided to site staff to increase their awareness of environmental protection. Posters of mitigating adverse environmental impacts had been fixed at Portion 11 to increase workers' environmental awareness. QR codes for air quality, noise, and water quality monitoring data conducted by Environmental team of the project had been also fixed at Portion 11 for the public's information.</p> <p>Based on the findings of investigation, all plants</p>	



Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				are well maintained and checked before use. CW-KL JV mitigates noise pollution from sources to reduce environmental nuisance to the neighborhoods. No noise exceedance is predicted to be found at NSRs. Environmental promotion is given to site staff to increase their awareness of environmental protection.	
COM-2022-06-15	Near Ng Tung River, adjacent to Shek Wu San Tsuen North (ND/2019/04)	5 <sup>th</sup> July 2022	A complaint was received from EPD on 15 June 2022 from a public member regarding “本人住在梧桐河多年，每天都會到河邊兩岸進行晨運或會經河邊出外購物。由年頭開始，兩岸邊有些小型機械在進行工程，開始時還好，但近期發現機械所發出的黑煙比以前多，有時發現有些污水，泥水和油污流道出行人道來。本人有一次發現有些泥水和油污落到溝渠和地面，便好心跟現場人員講叫他們小心。但是他們沒有理會，因為梧桐河是一個非常美麗的地方，假日也有很多人來遊玩。避免意外發生，希望貴處能代為處理。”	<p>Investigation was conducted by contractor and reply as follow: “工程團隊經常及日後亦會加緊巡視地盤範圍，同時敦促工程人員注重機械及挖掘機的廢氣排放，以及工程污水或泥水流出，減少對周邊環境的影響。”</p> <p>Air monitoring was conducted on 2, 8, 14, 20, 24 and 30 June 2022, including AM and PM period. No exceedance of air monitoring was found. One exceedance of Water Quality Monitoring was found on 13 June 2022, but based on the investigation report, there was no direct evidence showing that the exceedance recorded at the 3 nearby monitoring stations were due to Contract.</p> <p>For dark smoke emission, the contractor would collect and test the Ultra Low Sulphur Diesel(ULSD) content monthly. For monitoring of any muddy water discharging from construction activities, the contractor would collect and test the suspended solids from Ng Tung River monthly, also collect and test pH, suspended solids and</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				COD of wastewater sampling at wastewater treatment plant monthly.	
COM-2022-06-28	Near Ng Tung River, adjacent to Shek Wu San Tsuen North (ND/2019/04)	5 <sup>th</sup> July 2022	A complaint was received from EPD on 28 June 2022 from a public member regarding “連續兩日聞到燒塑膠燒鐵味，然後見到地盤這部機放黑煙，每幾秒噴一次村民不想再持續吸入這些毒氣。”	Investigation was conducted by contractor and reply as follow: “本工程沒有包含燃燒塑製品或鐵製品工序，而附近居民有焚燒垃圾習慣，有可能因而產生誤會；工程所使用的機械及挖掘機已符合環保署要求，有團隊接收投訴後即時於6月29日安排維修人員檢查相關挖掘機並無異常，同時就投訴人的關注已於7月4日將所述挖掘機調離該範圍。工程團隊會繼續盡力安排工程機械及挖掘機在合理工作距離內遠離居民住處，以減少對居民的影響。”	Closed
COM-2022-06-30	Near Ng Tung River, adjacent to Shek Wu San Tsuen North (ND/2019/04)	5 <sup>th</sup> July 2022	A complaint was received from EPD on 30 June 2022 from a public member regarding “講嚟講去都係得個講字，日日都大塵，又話整自動灑水系統等咗咁耐都有，機器又放黑煙又臭。”	Investigation was conducted by contractor and reply as follow: “自動灑水系統已安裝完成，另外工程人員亦會手動向工地範圍噴灑水份，以減低塵埃對附近居民的影響；而由於相關投訴時段（6月30日）至今均為雨天，工程人員亦有持續觀察塵土飛揚及泥水等開題，由於雨水可有效隔絕塵埃，待天氣好轉後相關恆常減少塵埃的措施亦會恢復，例如地面乾燥就會進行相對應減少塵埃的措施，包括人手及自動灑水等。”	Closed
COM-2022-07-21	Man Young Storage area (ND/2019/05)	21 <sup>st</sup> July 2022	EPD received a public complaint on 14 July 2022 from nearby villagers regarding noise and odour nuisance from generators. Complaint detail is as follow:	Investigation was conducted by contractor and clarify a few points as follow: 1. Instead of four generators being used simultaneously from the complaint, there shall be actually two generators being used	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			"現投訴地盤長期24 小時 長期用柴油發電機，做成民居滋擾，因為噪音及震動。附近居民無法睡眠，柴油氣味亦令人非常討厭，請問法例是否不能晚上七點後不能用柴油發電機。另外那地盤晚上七點後亦有人工作。故亦不一需要長時間開發發電機，而那地盤共有四個發電機同時開動。該地盤為保華公司與中國建築聯營。正確地址為粉嶺塘坑村370 號。萬勇地盤。燈柱號碼AJ2326 對面"	<p>alternatively (one is solely for standby purpose) for power supply of site works and containers.</p> <p>2. Instead of 24 hours operation of the concerned generator from the complaint, there shall be actually no restricted hour (19:00-07:00) works for generator operation according to our permit-to-work system (see appendix I).</p> <p>3. A valid construction noise permit (ref. no.: GW-RN0551-22) is obtained on 11/7/2022 covering concerned works area and PMEs before 23:00 (see appendix II). All conditions imposed on permit will be strictly followed once restricted hour works are conducted.</p> <p>The cause of the complaint is concluded to be noise and odour nuisance for the daily operation of one generator in non-restricted hours (07:00 to 19:00).</p> <p>For noise mitigation measures, contractor had arranged all generators of Quality Powered Mechanical Equipment (QPME) type and installed sound reduction fabric along the side of site boundary facing to the villagers. On top of these measures, JV had installed acoustic blanket (27 dB sound reduction) enclosing the two generators for non-restricted hour operation</p> <p>For odour mitigation measures, on top of currently</p>	

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				using all generators with approved NRMM type, JV also installed odour adsorption bags which is made of activated carbon during oil fueling practice to further reduce nuisance.	
COM-2022-07-27	Near Portion 1b/1c (Ma Tso Lung) (ND/2019/01)	27 <sup>th</sup> July 2022	A complaint referred from 1823 regarding dust emission and noise impact “古洞馬草壟地盤沒有任何圍板引致沙塵及噪音影響附近村民事宜”	<p>The contractor claimed that due to the confirmation of site formation level of the hoarding, water main diversion and necessary access, the erection of site hoarding is on hold. Weekly environmental walk was conducted at the mentioned area on 19 and 26 July 2022, no obvious dust emissions and noise impacts were identified.</p> <p>EPD carried out complaint investigation at Portion 1b / 1c on 26 July 2022 at 11:00, no adverse comment was given.</p> <p>Air quality monitoring and noise monitoring were carried out at nearby location once to twice a week and no exceedance was recorded. An ad-hoc noise monitoring was carried out on 28 July 2022 at Portion 1b, no exceedance was recorded also.</p> <p>The contractor would start the hoarding erection in early of August 2022, erect tarpaulin sheet on temporary fencing in front of villager's house etc as mitigation. The environmental conditions of the site will be continuously reviewed and monitored to ensure no adverse impacts generated from the construction works of the Project.</p>	Closed

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**APPENDIX T**  
**SUMMARY OF SUCCESSFUL**  
**PROSECUTION**

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**Appendix T - Summary of Successful Prosecution**

<b>Date of Successful Prosecution</b>	<b>Details of the Successful Prosecution</b>	<b>Status</b>	<b>Follow Up</b>
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**APPENDIX U**  
**SUMMARY TABLE FOR REQUIRED**  
**SUBMISSION UNDER**  
**ENVIRONMENTAL PERMIT**

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DP2	EP-466/2013	Castle Peak Road Diversion				
Construction commencement date			12 August 2020			
Operation commencement date			tbc			
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction.	Notified 2 March 2020	
2.1	Establish of ET	Before construction	Establish - An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction .	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	Deposit	at least 4 weeks before the commencement of construction.	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	Inform in writing	no later than 2 weeks before the commencement of construction.	Deposited 27 July 2020	
2.5	Layout Plan	Before construction	Deposit	no later than 2 weeks before the commencement of construction.	Deposited 27 July 2020	EPD Approved 25 August 2020
2.6	Cultural Heritage Impact -- Baseline condition survey and baseline vibration impact assessment	Before construction	<b>To Conduct -</b> A baseline condition survey and baseline vibration impact assessment by a qualified building surveyor or a qualified structural engineer.  <u>Note:</u> The baseline condition survey and baseline vibration impact assessment shall be included in and form part of the Baseline Monitoring Report to be submitted under Condition 3.3.	prior to the commencement of construction.	*	Comments from ET in June 2022
2.7	Cultural Heritage Impact -- Photographic and Cartographic Records/ Proposals on relocation of any building	Others	<b>Deposit -</b> A copy of Photographic and cartographic records of directly impacted historical buildings at HKT08 and the entrance gate of HKT03.	prior to the commencement of the respective removal or relocation works.	NA	No relocation is required.
		Others	<b>For Approval -</b> Proposals on relocation of any built heritages.	prior to commencement of the respective relocation work.	NA	No relocation is required.
2.8	Landscape Plan	Others	Deposit	at least 6 weeks before the commencement of the corresponding parts of landscape and visual mitigation measures of the Project.	To be deposited in July 2022	
2.10	Traffic Noise Mitigation Measure (implement)	Before operation	<b>Implement--</b> all noise mitigation measures as shown in Figure 4 of this Permit.	before commencement of operation.	*	To be submitted before implementation of operation of the Project.
3.3	Baseline Monitoring Report	Before construction	Submit	at least 2 weeks before the commencement of construction.	Submitted by Pre-Construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	Submit	within 2 weeks after the end of each reporting month throughout the entire construction period.	Submitted by ET Monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address.	in place within one month after the commencement of construction of the Project.	Notified 22 April 2020	Cover all EPs
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit.	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available.	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation.	N/A	

Remarks: tbc: To be confirmed  
DP: Designated Project  
\*tentative submission date will be supplemented once available

DP3	EP-467/2013/A	Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement				
Construction commencement date			12 August 2020			
Operation commencement date			tbc			
EP Condition		Requirements and Sumbissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notified 2 March 2020	
2.1	Establish of ET	Before construction	Establish - An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	Deposit	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	Inform in writing	no later than 2 weeks before the commencement of construction	Deposited 27 July 2020	
2.5	Layout Plan	Before construction	Deposit	no later than 2 weeks before the commencement of construction	Deposited 27 July 2020	EPD Approved 25 August 2020
2.6	Traffic Noise Mitigation Plan	Before construction	For Approval	no later than 1 month before the commencement of consturction	Deposited 31 July 2019	EPD Approved 9 August 2019
2.7	Cultural Heritage Impact -- Photographic and Cartographic Records	Others	Deposit - A copy of Photographic and cartographic records of directly impacted historical buildings and cultural/historical lanscape features at Locatoins KT38, KT44 and KT52.	prior to the commencement of the respective removal or relocation works	Deposited 10 Feb 2021	
2.8	Landscape Plan	Others	Deposit	at least 6 weeks before the commencement of the corresponding parts of landscape and visual mitigation measures of the Project	To be deposited in July 2022	
3.3	Baseline Monitoring Report	Before construction	Submit	at least 2 weeks before the commencement of construction	Submitted by Pre-Construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	Submit	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET Monthly	
4.2	Dedicated website	During construction	Set up and Notify in writing -- the internet address	in place within one month after the commencement of construction of the Project.	Notified 22 April 2020	cover all EPs
		During construction and operation	Upload -- All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			Maintain	entire construction period and during the first 3-year of operation	N/A	

Remarks: tbc: To be confirmed  
DP: Designated Project  
\*tentative submission date will be supplemented once available

DP4	EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5				
Construction commencement date			1 June 2020			
Operation commencement date			tbc			
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notified 2 March 2020	
2.1	Establish of ET	Before construction	Establish - An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	Deposit	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	Inform in writing	no later than 2 weeks before the commencement of construction	Deposited 14 May 2020	
2.5	Layout Plan	Before construction	Deposit	no later than 2 weeks before the commencement of construction	Deposited 14 May 2020	Pending approval
2.6	Cultural Heritage Impact -- Baseline condition survey and baseline vibration impact assessment	Before construction	<b>To Conduct -</b> A baseline condition survey and baseline vibration impact assessment by a qualified building surveyor or a qualified structural engineer  <u>Note:</u> The baseline condition survey and baseline vibration impact assessment shall be included in and form part of the Baseline Monitoring Report to be submitted under Condition 3.3	prior to the commencement of construction	*	Comments from ET in June 2022
2.7	Cultural Heritage Impact -- Photographic and Cartographic Records/ Proposals on relocation of any building	Others	<b>Deposit -</b> A copy of Photographic and cartographic records of directly impacted historical buildings and cultural/historical landscape features at locations HKT03, KT16, KT17 and KT18	prior to the commencement of the respective removal or relocation works	NA	No relocation is required.
		Others	<b>For Approval -</b> Proposals on relocation of any built heritages	prior to commencement of the respective relocation work	NA	No relocation is required.
2.8	Compensatory Tree Planting Plan	Before construction	For Approval	prior to the commencement of construction	Submitted 6 July 2022	
2.9	Habitat Creation and Management Plan	Others	For Approval	prior to the commencement of construction of relevant part of the Project	Submitted 20 October 2020	EPD approved 4 November 2020
2.10	Traffic Noise Mitigation Plan	Before construction	For Approval	no later than 1 month before commencement of construction	Submitted 31 July 2019	EPD approved 9 August 2019
3.3	Baseline Monitoring Report	Before construction	Submit	at least 2 weeks before the commencement of construction	Submitted by Pre-Construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	Submit	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET Monthly	
4.2	Dedicated website	During construction	Set up and Notify in writing -- the internet address	in place within one month after the commencement of construction of the Project.	Notified 22 April 2020	cover all EPs
		During construction and operation	Upload -- All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			Maintain	entire construction period and during the first 3-year of operation	N/A	

Remarks: tbc: To be confirmed  
DP: Designated Project  
\*tentative submission date will be supplemented once available

DP5	EP-469/2013	Sewage Pumping Stations in Kwu Tung North New Development Area				
Construction commencement date			28 October 2020			
Operation commencement date			tbc			
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notify 14 October 2020	
2.1	Establish of ET	Before construction	<b>Establish -</b> An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
		Established 20 February 2020			Construction Phase IEC	
2.3	Update EM&A Manual	Before construction	<b>Deposit</b>	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	<b>Inform in writing</b>	no later than 2 weeks before the commencement of construction	Deposited 17 September 2020	
2.5	Location Plans	Before construction	<b>Deposit</b>	no later than 2 weeks before the commencement of construction	Deposited 15 October 2020	
2.6	Landscape Plan	Before construction	<b>Deposit</b>	at least 6 weeks before the commencement of th corresponding parts of landscape and visual mitigation measures	To be deposited in July 2022.	The relevant works will not be commenced until early Year 2024.
3.3	Baseline Monitoring Report	Before construction	<b>Submit</b>	at least 2 weeks before the commencement of construction	Submitted by Pre-construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	<b>Submit</b>	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET Monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address	in place within one month after the commencement of construction of the Project.	Notified 22 April 2020	cover all EPs
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation	N/A	

Remarks: tbc: To be confirmed  
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DP7	EP-470/2013	Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works				
Construction commencement date			23 March 2020			
Operation commencement date			tbc			
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notify 22 January 2020	
2.1	Establish of ET	Before construction	<b>Establish -</b> An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
		Established 20 February 2020			Construction Phase IEC	
2.3	Update EM&A Manual	Before construction	<b>Deposit</b>	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	<b>Inform in writing</b>	no later than 2 weeks before the commencement of construction	Deposited 14 May 2020	
2.5	Layout Plan	Before construction	<b>Deposit</b>	no later than 2 weeks before the commencement of construction	Deposited 14 May 2020	Pending approval
3.3	Baseline Monitoring Report	Before construction	<b>Submit</b>	at least 2 weeks before the commencement of construction	Submitted by Pre-Construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	<b>Submit</b>	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET Monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address	in place within one month after the commencement of construction of the Project.	Notified 22 April 2020	cover all EPs
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation	N/A	

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DP10	EP-473/2013/A	Fanling Bypass Eastern Section				
Construction commencement date			23 February 2021			
Operation commencement date			tbc			
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notified 8 September 2020	
2.1	Establish of ET	Before construction	Establish - An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	Deposit	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	Inform in writing	no later than 2 weeks before the commencement of construction	Deposited 17 March 2021	
2.5	Location Plans	Before construction	Deposit	no later than 2 weeks before the commencement of construction	Deposited 10 December 2020	
2.6	Relocation Plan for Rose Bitterling	Before construction	Approval	before the commencement of construction	N/A	
2.7	Egretry Habitat Creation and Management Plan	Before construction	Approval	before the commencement of construction	N/A	
2.8	Detailed Design of Siu Hang San Tsuen Stream	Before construction	Deposit	before the commencement of construction	N/A	
2.9	Traffic Noise Mitigation Plan	Before construction	Approval	no later than 1 month before the commencement of construction	Submitted 11 September 2020	EPD Approved 8 October 2020
2.10	Cultural Heritage Impact -- Baseline condition survey and baseline vibration impact assessment	Before construction	To Conduct - A baseline condition survey and baseline vibration impact assessment by a qualified building surveyor or a qualified structural engineer  Note: The baseline condition survey and baseline vibration impact assessment shall be included in and form part of the Baseline Monitoring Report to be submitted under Condition 3.3	prior to the commencement of construction	Submitted 1 September 2020 and 5 May 2022	
2.11	Cultural Heritage Impact -- Photographic and Cartographic Records/ Proposals on relocation of any building	Others	Deposit - A copy of Photographic and cartographic records of directly impacted historical buildings and cultural/historical landscape features at FL19	prior to the commencement of the respective removal or relocation works	Submitted 25 May 2022	
		Others	For Approval - Proposals on relocation of any built heritages	prior to commencement of the respective relocation work	NA	No relocation is required
3.3	Baseline Monitoring Report	Before construction	Submit	at least 2 weeks before the commencement of construction	Submitted by Pre-Construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	Submit	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET Monthly	
4.2	Dedicated website	During construction	Set up and Notify in writing -- the internet address	in place within one month after the commencement of construction of the Project.	Notified 22 April 2020	cover all EPs
		During construction and operation	Upload -- All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			Maintain	entire construction period and during the first 3-year of operation	N/A	

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DP12	EP-475/2013/A	Reprovision of Temporary Wholesale Market in Fanling North New Development Area				
Construction commencement date			29 October 2019			
Operation commencement date			tbc			
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notified 15 October 2019	
2.1	Establish of ET	Before construction	<b>Establish -</b> An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	<b>Deposit</b>	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	<b>Inform in writing</b>	no later than 2 weeks before the commencement of construction	Deposited 14 October 2019	
2.5	Layout Plan	Before construction	<b>Deposit</b>	no later than 2 weeks before the commencement of construction	Deposited 14 October 2019	
2.6	Landscape Plan	Others	<b>Deposit</b>	at least 6 weeks before the commencement of the corresponding parts of landscape and visual mitigation measures of the Project	Deposited 31 March 2022	
3.3	Baseline Monitoring Report	Before construction	<b>Submit</b>	at least 2 weeks before the commencement of construction	Submitted by Pre-construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	<b>Submit</b>	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address	in place within one month after the commencement of construction of the Project.	Notified 22 April 2020	cover all EPs
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation	N/A	

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DP14	EP-546/2017	Fanling North Temporary Sewage Pumping Station				
Construction commencement date			16 February 2021			
Operation commencement date			tbc			
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 1 month prior to the commencement of construction	Notified 8 September 2020	
1.14	Commencement date of operation	Before operation	Notify in writing	no later than 1 month prior to the commencement of operation	N/A	
2.4	IEC Audit Report	After construction	Deposit	within one month upon completion of the construction works	N/A	