



**CONTRACT NO. SPW 12/2021**  
**SHEK WU HUI EFFLUENT POLISHING PLANT – MAIN WORKS**  
**UNDER FURTHER ENVIRONMENTAL PERMIT NO. FEP-  
02/474/2013**  
**MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT**  
**JANUARY 2024**

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16 February 2024

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**Contract No. SPW 13/2021**

**Shek Wu Hui Effluent Polishing Plant – Main Work**

Monthly Environmental Monitoring & Audit Report

January 2024

(February 2024)

Verified by: Claudine Lee



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**EXECUTIVE SUMMARY**

- i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – [January 2024](#) of Shek Wu Hui Effluent Polishing Plant – Main Work under Further Environmental Permit no. FEP-02/474/2013 (Hereafter as “the Project”). This is the [29<sup>th</sup>](#) EM&A report prepared by Environmental Team under Contract No. SPW 12/2021, presenting the environmental monitoring findings and information recorded during the period of [1 January 2024 to 31 January 2024](#). The cut-off date of reporting is at the end of each reporting month.
  
- ii. In the reporting month, the principal work activities of individual contracts are conducted as follows:

Contract No. DC/2018/06 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sludge Treatment Facilities and 132 kV Primary Substation

- [RC works](#)
- [Pipe jacking](#)
- [Sewage, utility and pipe works](#)
- [Road works](#)
- [ABWF works](#)
- [ELS](#)

Contract No. DC/2018/07 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sewage Treatment Facilities

- [RC works](#)
- [ABWF works](#)
- [Pipe laying](#)

Contract No. DE/2018/03 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Sidestream Treatment Facilities and EM&M Works for Sludge Treatment Facilities

- [Construction of Superstructure](#)
- [Pump & Pipework installation](#)
- [Installation of E&M Plant Equipment](#)
- [Electrical Installation](#)
- [MVAC Installation](#)
- [LV switchboard installation](#)
- [Plumbing System Installation](#)
- [MVAC System Installation](#)
- [FS System Installation](#)
- [Delivery of FRP Tanks](#)
- [Bio-Gas Holding tank Installation](#)
- [Installation of CHP Acoustic Enclosure](#)

- Installation of Lifting Appliances
- Steam Boiler System Installation
- FS Systems Installation
- Penstock and Stoplog Installation
- Sludge Cooler Delivery & Installation
- Installation of FRP Walkway and Platform
- Installation of H2S Removal System
- THP System Installation

Contract No. DE/2018/04 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – E&M Works for Sewage Treatment Facilities

- E&M works for Leachate Pre-treatment Plant at existing compressor house, BR No 3&4 and MFB1
- E&M works at Portion B-5, MFB2.
- E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System

Air Quality Monitoring

- iii. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring was conducted at two monitoring station. 24-hour TSP shall be sampled at least once in every 6 days, while sampling for 1-hour TSP shall be at least 3 times in every 6 day in the reporting month.
- iv. **No action or limit level exceedance was recorded in this reporting period.**

Noise Monitoring

- v. Noise monitoring was conducted at three noise monitoring stations once per week in the reporting month.
- vi. **No action or limit level exceedance was recorded in this reporting period.**

Ecological Monitoring

- vii. Ecological monitoring conducted on a weekly basis at both high and low tides (it is considered high tide when tidal levels are above 1.5m and low tide when tidal level are below 1.5m at Tsim Bei Tsui Station). The magnitude of how much above or below 1.5m was subject to tidal conditions of that week as it varied throughout different times of the year. Nonetheless, the high and low tide relative to that week's tidal condition were taken into consideration.
- viii. **No Action or Limit level was triggered in the reporting month.**

Site Inspections and Audit

- ix. The Environmental Team (ET) conducted weekly site inspections on 3, 9(DE/2018/03 and DE/2018/04), 11(DC/2018/06 and DC/2018/07), 16 and 23 January 2024 and biweekly landscape inspection on 9 and 23 January 2024. IEC attended the joint site inspection on 23 January 2024. No non-compliance was found during the site inspection while reminders on environmental measures were recommended.

Complaints, Notifications of Summons and Successful Prosecutions

- x. No environmental complaint, notification of summons and successful prosecution regarding the construction works was recorded in the reporting period.

Reporting Changes

- xi. There are no particular reporting changes.

Future Key Issues

- xii. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

Contract No. DC/2018/06 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sludge Treatment Facilities and 132 kV Primary Substation

- RC works
- Pipe jacking
- Sewage, utility and pipe works
- Road works
- ABWF works
- ELS

Contract No. DC/2018/07 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sewage Treatment Facilities

- RC works
- ABWF works
- Pile laying

Contract No. DE/2018/03 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Sidestream Treatment Facilities and EM&M Works for Sludge Treatment Facilities

- Civil Works
- Pump & Pipework installation
- Installation of E&M Plant Equipment



- Electrical Installation
- MVAC Installation
- LV Switch Board Installation
- Installation of HV switchboard
- Installation of lift
- Plumbing System Installation
- FS System Installation
- Delivery of FRP Tanks
- Jointing of FRP Tanks
- Bio-Gas Holding tank Installation
- Steam Boiler System Installation
- Installation of CHP Genset
- Installation of Pipework and Pumps
- THP System Installation
- Draft Tube Mixer Installation
- Sludge Cooler Delivery & Installation
- Installation of FRP Walkway and Platform
- Installation of H2S Removal System

Contract No. DE/2018/04 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 –  
E&M Works for Sewage Treatment Facilities

- E&M works for Leachate Pre-treatment Plant at existing compressor house, BR No 3&4 and MFB1
- E&M works at Portion B-5, MFB2.
- E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System.
- E&M works at Portion B-4, BR 2A & 2B.
- E&M works at Portion B-2, Inlet Works.
- E&M works at Portion B-3, PST No. 1-4.

## 1 Introduction

### 1.1 Scope of the Report

- 1.1.1. Lam Environmental Services Limited (LES) has been appointed to work as the Environmental Team (ET) under Environmental Permit (EP) No. FEP-02/474/2013 to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for North East New Territories New Development Areas (Register No.: AEIAR-175/2013).
- 1.1.2. In accordance with Clause 3.4 stated in FEP-02/474/2013, 3 hard copies and 2 electronic copies of Monthly EM&A Report shall be submitted to the Director within 10 working days after the end of each reporting month throughout the entire construction period.
- 1.1.3. According to Section 9.4.1.1 of the Project EM&A Manual, the Monthly EM&A Report should be submitted within 10 working days at the end of each reporting month, with the first report due in the month after construction commences.

### 1.2 Structure of the Report

- Section 1**     **Introduction** – details the scope and structure of the report.
- Section 2**     **Project Background** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.
- Section 3**     **Status of Regulatory Compliance** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.
- Section 4**     **Monitoring Requirements** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.
- Section 5**     **Monitoring Results** – summarizes the monitoring results obtained in the reporting period.
- Section 6**     **Compliance Audit** – summarizes the auditing of monitoring results, all exceedances environmental parameters.



- Section 7**     **Environmental Site Audit** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.
- Section 8**     ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution
- Section 9**     ***Conclusion***

## 2 Project Background

### 2.1 Background

2.1.1. The existing Shek Wu Hui Sewage Treatment Works (SWHSTW) has been operating and maintaining for 30 years by the Drainage Services Department (DSD). It provides secondary level treatment to sewage collected from Sheung Shui, Fanling and adjacent areas. SWHSTW was completed in two stages and expanded progressively in the past years. In 1984, Stage I of SWHSTW was commissioned with design capacity of 60,000 cubic meters per day ( $\text{m}^3$  /day) at Average Dry Weather Flow (ADWF). In 2001, Stage II of SWHSTW was completed with design capacity enhanced to 80,000  $\text{m}^3$  /day at ADWF. In 2009, the expansion of SWHSTW was completed and its design capacity was increased to 93,000 $\text{m}^3$  /day at ADWF.

2.1.2. Further expansion of SWHSTW has been planned to be carried out in order to cope with the forecast increase in flow from Fanling North and Kwu Tong North New Development Area (NDA) and other NDAs and developments in three phases, namely Phase 1A, 1B and 2, which are later revised to Main Works Stage 1, Stage 2 and Stage 3 respectively. The EIA study report (Register No.: AEIAR-175/2013) for the NENT NDAs Study covered the assessment for the Further Expansion of SWHSTW, which is a designated project under item F.1 and F.2 of Part 1, Schedule 2 of the EIA Ordinance. The location of the project site is shown in [Figure 2.1](#).

A Further EP was applied on 18 January 2018 to assume the responsibility for constructing and operating the SWHEPP Project up to a capacity of 190,000  $\text{m}^3$ /day. The Further EP No. FEP-02/474/2013 was issued to DSD as permit holder on 15 February 2018. Due to overlapping of scope with the Further EP currently in force, the Further EP No. FEP-01/474/2013 was subsequently surrendered on 15 August 2018.

### 2.2 Project Organization and Contact Personnel

2.2.1 Drainage Service Department (DSD) is the overall project controllers for the Project. For the construction phase of the Project, Engineer's Representative, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.2.2 The project organization and lines of communication with respect to environmental protection works are shown in [Figure 2.2](#). Key personnel and contact particulars are summarized in [Table 2.1](#).

**Table 2.1 Contact Details of Key Personnel**

| Party   | Role                                    | Post                                    | Name               | Contact No. |
|---|---|---|--------------------|-------------|
| Drainage Services Department (DSD)            | Permit Holder                           | Engineer                                | Ms. Li Lin         | 2594 7463   |
| AECOM   | Supervisor Representative               | Resident Engineer                       | Ms. Ada Chan       | 3907 1134   |
| Kwan Lee - Chun Wo Joint Venture              | Contractor (DC/2018/06)                 | Environmental Manager                   | Mr. Clarence Yeung | 3758 8551   |
|   |   | Assistance Environmental Engineer       | Mr. Timothy To     | 6203 7133   |
|   | Contractor (DC/2018/07)                 | Environmental Engineer                  | Ms. Barbara Yiu    | 9758 2034   |
| JEC   | Contractor (DE/2018/03)                 | Environmental Officer                   | Ms. Juliet Ting    | 6826 7319   |
| Bestwise                                      | Contractor (DE/2018/04)                 | Environmental Officer                   | Mr. Albus Cheung   | 9731 0831   |
| Meinhardt Infrastructure and Environment Ltd. | Independent Environmental Checker (IEC) | Independent Environmental Checker (IEC) | Ms. Claudine Lee   | 9612 9229   |
| Lam Environmental Services Limited            | Environmental Team (ET)                 | Environmental Team Leader (ETL)         | Mr. Raymond Dai    | 2882 3939   |

## 2.3 Construction Activities

2.3.1 In the reporting month, the principal work activities conducted of individual contracts are as follow. The layout plans showing the locations of reported construction activities, key PME used for the works contracts and site record photos are shown in [Appendix 2.1](#).

### Contract No. DC/2018/06 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sludge Treatment Facilities and 132 kV Primary Substation

- RC works
- Pipe jacking
- Sewage, utility and pipe works
- Road works
- ABWF works
- ELS

### Contract No. DC/2018/07 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Civil Works for Sewage Treatment Facilities

- RC works
- ABWF works
- Pile laying

### Contract No. DE/2018/03 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – Sidestream Treatment Facilities and EM&M Works for Sludge Treatment Facilities

- Construction of Superstructure
- Pump & Pipework installation
- Installation of E&M Plant Equipment
- Electrical Installation
- MVAC Installation
- LV switchboard installation
- Plumbing System Installation
- MVAC System Installation
- FS System Installation
- Delivery of FRP Tanks
- Bio-Gas Holding tank Installation
- Installation of CHP Acoustic Enclosure
- Installation of Lifting Appliances
- Steam Boiler System Installation
- FS Systems Installation
- Penstock and Stoplog Installation
- Sludge Cooler Delivery & Installation

- Installation of FRP Walkway and Platform
- Installation of H2S Removal System
- THP System Installation

Contract No. DE/2018/04 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 – E&M Works for Sewage Treatment Facilities

- E&M works for Leachate Pre-treatment Plant at existing compressor house, BR No 3&4 and MFB1
- E&M works at Portion B-5, MFB2.  
 E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System

2.3.2 The number of key PME and their working locations are shown in **Table 2.2**.

**Table 2.2 Summary of key PME and working locations of works contracts**

| Works Contract | Key PME               | Number | Working locations                |
|----------------|-----------------------|--------|----------------------------------|
| DC/2018/06     | Excavator             | 1      | Section 4                        |
|                | Scissor lift platform | 4      | SDB and CHP                      |
|                | Roller                | 1      | Section 4                        |
| DC/2018/07     | Excavator             | 5      | Area D, Inlet, SAS, MFB          |
|                | Generator             | 4      | PST, MFB                         |
|                | Tower crane           | 2      | Inlet, MFB                       |
|                | Enertainer            | 1      | Inlet                            |
| DE/2018/03     | Generator             | 7      | Sidestream, THP and Bio-gas Tank |
| DE/2018/04     | Generator             | 1      | MFB                              |

2.3.3 In coming reporting month, the scheduled construction activities of individual contracts are listed as follows:

Contract No. DC/2018/06 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 –  
Civil Works for Sludge Treatment Facilities and 132 kV Primary Substation

- RC works
- Pipe jacking
- Sewage, utility and pipe works
- Road works
- ABWF works
- ELS

Contract No. DC/2018/07 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 –  
Civil Works for Sewage Treatment Facilities

- RC works
- ABWF works
- Pile Laying

Contract No. DE/2018/03 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 –  
Sidestream Treatment Facilities and EM&M Works for Sludge Treatment Facilities

- Civil Works
- Pump & Pipework installation
- Installation of E&M Plant Equipment
- Electrical Installation
- MVAC Installation
- LV Switch Board Installation
- Installation of HV switchboard
- Installation of lift
- Plumbing System Installation
- FS System Installation
- Delivery of FRP Tanks
- Jointing of FRP Tanks
- Bio-Gas Holding tank Installation
- Steam Boiler System Installation
- Installation of CHP Genset
- Installation of Pipework and Pumps
- THP System Installation
- Draft Tube Mixer Installation
- Sludge Cooler Delivery & Installation
- Installation of FRP Walkway and Platform
- Installation of H<sub>2</sub>S Removal System



Contract No. DE/2018/04 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 –  
E&M Works for Sewage Treatment Facilities

- E&M works for Leachate Pre-treatment Plant at existing compressor house, BR No 3&4 and MFB1
- E&M works at Portion B-5, MFB2.
- E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant & Booster Pump Room and Temporary Chemical System.
- E&M works at Portion B-4, BR 2A & 2B.
- E&M works at Portion B-2, Inlet Works.
- E&M works at Portion B-3, PST No. 1-4.

### 3 Status of Regulatory Compliance

#### 3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in **Table 3.1 to 3.4**.

**Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project under Contract No. DC/2018/06**

| Permits and/or Licences   | Permit. No. / Account No.   | Valid From  | Expiry Date | Status  |
|---|-----------------------------|-------------|-------------|---------|
| Environmental Permit  | FEP-02/474/2013             | 15 Feb 2018 | N/A         | Valid   |
| Notification pursuant to Air Pollution Control (Construction Dust) Regulation | 449210 (Portion A & C)      | 23 Sep 2019 | N/A         | Valid   |
|   | 449211 (WM1)                | 23 Sep 2019 | N/A         | Valid   |
| Water Pollution Ordinance Licence   | WT00035431-2019 (Portion C) | 27 Jul 2020 | 31 Jan 2025 | Valid   |
|   | WT00035718-2020 (Portion A) | 02 Apr 2020 | 30 Apr 2025 | Valid   |
| Billing Account for Disposal of Construction Waste                            | 7035390                     | 11 Oct 2019 | N/A         | Valid   |
| Registration as a Chemical Waste Producer                                     | 5213-624-K3371-01           | 14 Nov 2019 | N/A         | Valid   |
| Construction Noise Permit   | GW-RN1056-23                | 9 Oct 2023  | 8 Jan 2024  | Expired |
|   | GW-RN1419-23                | 9 Jan 2024  | 8 May 2024  | Valid   |

**Table 3.2 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project under Contract No. DC/2018/07**

| Permits and/or Licences   | Permit. No. / Account No. | Valid From  | Expiry Date | Status  |
|---|---------------------------|-------------|-------------|---------|
| Environmental Permit  | FEP-02/474/2013           | 15 Feb 2018 | N/A         | Valid   |
| Notification pursuant to Air Pollution Control (Construction Dust) Regulation | 449210                    | 23 Sep 2019 | N/A         | Valid   |
| Water Pollution Ordinance Licence   | WT00035727-2020           | 1 Apr 2020  | 30 Apr 2025 | Valid   |
| Billing Account for Disposal of Construction Waste                            | 7035985                   | 9 Dec 2019  | N/A         | Valid   |
| Registration as a Chemical Waste Producer                                     | 5213-624-K3371-02         | 6 Jan 2020  | N/A         | Valid   |
| Construction Noise Permit   | GW-RN1056-23              | 9 Oct 2023  | 8 Jan 2024  | Expired |

| Permits and/or Licences | Permit. No. / Account No. | Valid From | Expiry Date | Status |
|-------------------------|---------------------------|------------|-------------|--------|
|                         | GW-RN1419-23              | 9 Jan 2024 | 8 May 2024  | Valid  |

**Table 3.3 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project under Contract No. DE/2018/03**

| Permits and/or Licences   | Permit. No. / Account No. | Valid From  | Expiry Date | Status  |
|---|---------------------------|-------------|-------------|---------|
| Environmental Permit  | FEP-02/474/2013           | 15 Feb 2018 | N/A         | Valid   |
| Notification pursuant to Air Pollution Control (Construction Dust) Regulation | 455843 (WA3)              | 6 May 2020  | N/A         | Valid   |
|   | 457212 (WA1-B)            | 15 Jun 2020 | N/A         | Valid   |
|   | 460065 (Sidestream)       | 16 Sep 2020 | N/A         | Valid   |
| Water Pollution Ordinance Licence   | WT00037220-2020           | 16 Mar 2021 | 31 Jan 2026 | Valid   |
| Billing Account for Disposal of Construction Waste                            | 7035700                   | 6 Nov 2019  | N/A         | Valid   |
| Registration as a Chemical Waste Producer                                     | 5213-624-T3861-01         | 14 Apr 2020 | N/A         | Valid   |
| Construction Noise Permit   | GW-RN1123-23              | 20 Oct 2023 | 22 Jan 2024 | Expired |
|   | GW-RN0035-24              | 9 Jan 2024  | 22 Apr 2024 | Valid   |

**Table 3.4 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project under Contract No. DE/2018/04**

| Permits and/or Licences   | Permit. No. / Account No. | Valid From  | Expiry Date | Status |
|---|---------------------------|-------------|-------------|--------|
| Environmental Permit  | FEP-02/474/2013           | 15 Feb 2018 | N/A         | Valid  |
| Notification pursuant to Air Pollution Control (Construction Dust) Regulation | 460181                    | 17 Sep 2020 | N/A         | Valid  |
| Billing Account for Disposal of Construction Waste                            | 703621912                 | 2 Jan 2020  | N/A         | Valid  |
| Registration as a Chemical Waste Producer                                     | 5213-624-B2592-01         | 7 Jul 2020  | N/A         | Valid  |

3.1.2. Implementation status of the recommended mitigation measures during this report month is presented in [Appendix 3.1](#).

**3.2 Summary of submission status under FEP-02/474/2013**

3.2.1 A summary of the current status on submission under FEP-02/474/2013 is shown in **Table 3.5**.

**Table 3.5 Summary of submission status under FEP-02/474/2013**

| EP Condition        | Submission   | Status   |
|---------------------|--|--|
| Condition 1.12      | Commencement date of construction of the Project                                   | Notified EPD on 8 Oct 2019   |
| Condition 2.3 & 3.1 | Updated EM&A Manual  | The Manual was confirmed of no further comments by EPD on 17 Jan 2020  |
| Condition 2.4       | Management Organization of Main Construction Companies for Contract No.DC/2018/06  | Informed EPD on 19 Nov 2019  |
| Condition 2.4       | Management Organization of Main Construction Companies for Contract No. DC/2018/07 | Informed EPD on 20 Dec 2019  |
| Condition 2.4       | Management Organization of Main Construction Companies for Contract No. DE/2018/03 | Informed EPD on 19 Feb 2020  |
| Condition 2.4       | Management Organization of Main Construction Companies for Contract No. DE/2018/04 | Informed EPD on 15 Feb 2020  |
| Condition 2.4       | Replacement of Environmental Team Leader   | Informed EPD on 13 Sep 2021  |
| Condition 2.4       | Replacement of Independent Environmental Checker                                   | Informed EPD on 13 Sep 2021  |
| Condition 2.5       | Location Plans for Contract No. DC/2018/06   | Deposited to EPD on 19 Nov 2019  |
| Condition 2.5       | Location Plans for Contract No. DC/2018/07   | Deposited to EPD on 20 Dec 2019  |
| Condition 2.5       | Location Plans for Contract No. DE/2018/03   | Deposited to EPD on 15 Feb 2020  |
| Condition 2.5       | Location Plans for Contract No. DE/2018/04   | Deposited to EPD on 18 Sep 2020  |
| Condition 2.6       | Submission of Landscape Plan   | Received revised submission from AECOM on 5 Jan 2024   |
| Condition 3.3       | Baseline Monitoring Report (Ecology)   | The Report was first submitted to IEC for review on 22 Nov 2019, and verified on 29 Nov 2019   |
| Condition 3.3       | Baseline Monitoring Report   | The Report will be submitted to EPD at least 6 weeks before the commencement of corresponding parts of landscape and visual mitigation measures of the Project |

## 4 Monitoring Requirements

### 4.1 Noise Monitoring

#### NOISE MONITORING STATIONS

4.1.1. The noise monitoring stations for the Project are listed and shown in **Table 4.1** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

**Table 4.1 Noise Monitoring Station**

| Monitoring Station ID | Location        |
|-----------------------|-----------------|
| NM1                   | Wai Loi Tsuen   |
| NM2                   | Fu Tei Au       |
| NM3                   | Man Kok Village |

#### NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

4.1.2. The monitoring parameters, frequency and duration of noise monitoring are summarized in **Table 4.2**.

**Table 4.2 Noise Monitoring Parameters, Frequency and Duration**

| Monitoring Period | Duration                          | Sampling Parameter    | Sampling Period <sup>(1)</sup>              | Frequency   |
|-------------------|-----------------------------------|-----------------------|---|---|
| Impact Monitoring | Throughout the construction phase | 1 set of Leq (30 min) | between 0700-1900 hours on normal weekdays; | on a per week basis when noise generating activities are underway |

Remark (1): Additional weekly impact monitoring shall be carried out during evening and night-time works if construction works are extended to include works during the hours of 1900-0700

#### MONITORING EQUIPMENT

4.1.3. Noise monitoring was performed using sound level meter at the designated monitoring locations. The sound level meters shall comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator shall be deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in **Table 4.3**.

**Table 4.3 Noise Monitoring Equipment**

| Equipment                    | Brand and Model   | Series Number | Expiry Date |
|------------------------------|-------------------|---------------|-------------|
| Integrated Sound Level Meter | Nti XL2           | A2A-15269-EO  | 9-Mar-2024  |
|                              | Larson Davis LxT1 | 0003737       | 11-May-2024 |
| Acoustic Calibrator          | LD CAL200         | 13098         | 20-Mar-2024 |

4.1.4. The calibration certificates of the noise monitoring equipment are attached in [Appendix 4.2](#).

#### SAMPLING PROCEDURE AND MONITORING EQUIPMENT

##### 4.1.5. Monitoring Procedure

- (a) Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s
- (b) The monitoring station shall normally be at a point 1 m from the exterior of the sensitive receiver building facade and be at a position 1.2 m above the ground. If there is problem with access to the normal monitoring position, an alternative position may be chosen, and a correction to the measurements shall be made. For reference, a correction of +3 dB(A) shall be made to the free field measurements.
- (c) The battery condition was checked to ensure the correct functioning of the meter.
- (d) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - Frequency weighting: A
  - Time weighting: Fast
  - Time measurement: Leq (30min) for noise monitoring
- (e) 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 recalibration or repair of the equipment.
- (f) The wind speed was checked with the portable wind meter before noise monitoring.
- (g) At the end of the monitoring period, the Leq, L90 and L10 were recorded. In addition, site conditions and noise sources were recorded on a record sheet.

##### 4.1.6. Maintenance and Calibration

- (a) The microphone head of the sound level and calibrator would be cleaned with soft cloth regularly.
- (b) The noise monitoring equipment shall be calibrated annually.

CONSTRUCTION NOISE LEVEL

4.1.7. The construction noise level refers the corrected noise level based on the calculated difference between SPL of the Measured Noise Level and the SPL of the Baseline Noise Level. In the event of the Baseline Noise Level exceeds the Measured Noise Level, no correction would be applied and the Construction Noise Level would be indicated as below baseline noise level (<BL).

EVENT AND ACTION PLAN

4.1.8. Noise Standards for Daytime Construction Activities are specified under EIAO-TM. The Action and Limit levels for construction noise are defined in **Table 4.4** and [Appendix 4.1](#). Should non-compliance of the criteria occurs, action in accordance with the Event and Action Plan in [Appendix 6.1](#) shall be carried out.

**Table 4.4 Action and Limit Level for Noise Monitoring**

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

**4.2 Air Monitoring**

AIR QUALITY MONITORING STATIONS

4.2.1. The air monitoring stations for the Project are listed and shown in **Table 4.5** and **Figure 4.2**.

**Table 4.5 Air Monitoring Station**

| Monitoring Station ID | Location   | Measurement |
|-----------------------|--|-------------|
| AM1                   | House No. 15, Wai Loi Tsuen  | 1-hour TSP  |
| AM2                   | Fu Tei Au  | 1-hour TSP  |
| AM1a* <sup>(1)</sup>  | Site boundary of the Shek Wu Hui STW (East),<br>Roof floor of the control room of SWHSTW | 24-hour TSP |
| AM2a                  | Site boundary of the Shek Wu Hui STW<br>(North)  | 24-hour TSP |

(1) Due to close proximity to construction works and heavy machines, presence of physical barrier and safety concerns, find adjustment for the location of AM1a was proposed in accordance to Section 2.2.4.6 of the EM&A Manual. It was adjusted from the ground level near the control room of SWHSTW to the roof floor of that control room. The proposal has sought approval from ER and IEC, and agreement from EPD in May 2022.

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

4.2.2. 24-hour TSP shall be sampled at least once in every 6 days, while sampling for 1-hour TSP shall be at least 3 times in every 6 days when the highest dust impact takes place.

4.2.3. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

4.2.4. 24-hour TSP Measuring Installation (HVS)

- (a) 0.6 – 1.7 m<sup>3</sup> per minute adjustable flow range
- (b) Equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
- (c) Installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
- (d) Capable of providing a minimum exposed area of 406 cm<sup>2</sup>;
- (e) Flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
- (f) Equipped with a shelter to protect the filter and sampler;
- (g) Incorporated with an electronic mass flow rate controller or other equivalent devices;
- (h) Equipped with a flow recorder for continuous monitoring;
- (i) Provided with a peaked roof inlet;
- (j) Incorporated with a manometer;
- (k) Able to hold and seal the filter paper to the sampler housing at horizontal position;



- (l) Easily changeable filter; and
- (m) Capable of operating continuously for a 24-hour period

Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually. All the data should be converted into standard temperature and pressure condition.

#### 24-hour Measuring Procedures

- (a) Check the power supply to ensure the sampler works properly.
- (b) Remove the filter hold down by loosening the four nuts and carefully centre a new filter, with stamped number upward, on a supporting screen.
- (c) Properly align the filter on the screen so that the gasket will form an airtight seal on the outer edges of the filter.
- (d) Fasten the filter hold down frame to the filter holder with swing bolts. The pressure applied should be sufficient to avoid air leakage at the edges.
- (e) Close shelter lid and secure catch with the aluminum strip.
- (f) Record the flow indicator reading and determine the sampler flow rate. If it is outside the acceptable range, adjust the sampler flow rate.
- (g) Set the programmable timer and record the starting sampling time, weather condition and the filter identification number.
- (h) At the end of sampling, the filter was transferred from the filter holder of the HVS to a filter bag and sent to the accredited laboratory for weighing. The elapsed time was also recorded.

#### 4.2.5. 1-hour Measuring Procedures

Portable dust meter will be proposed and sufficient information will be submitted to IC (E) to prove that the instrument is capable of achieving a comparable result as that of the HVS and used for 1-hour sampling

- (a) Slide the power switch to turn the power on
- (b) Select the period of measurement to 60mins
- (c) Check and set the correct time
- (d) Select the appropriate unit display for the equipment
- (e) Collected the sampled data for analysis

The portable dust meter is calibrated at 2-years interval and checked with HVS yearly to determine the accuracy and validity of the results measured. The checking of portable dust meter will be carried out in order to determine the conversion factor between the portable dust meter and the standard equipment, HVS.

The calibration check is to be considered valid if the calculated correlation coefficient is >0.90.

4.2.6. Maintenance and Calibration

- (a) The direct reading dust meter was calibrated at 2-years interval and checked with High Volume Sampler (HVS) yearly to determine the accuracy and validity of the results measured.
- (b) Checking of direct reading dust meter will be carried out in order to determine the conversion factor between the direct reading dust meter and the standard equipment, HVS. The comparison check is to be considered valid based on correlation coefficient checked by HOKLAS laboratory

4.2.7. Laboratory measurement / analysis

- (a) A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited.
- (b) Filter paper of size 8” x 10” shall be labelled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24 hours and be pre-weighed before use for the sampling.
- (c) After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity-controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.

4.2.8. High Volume Sampler (HVS – Model TE-5025A) completed with the appropriate sampling inlets were installed for the 24-hour TSP sampling. 1-hour TSP air quality monitoring was performed by using portable direct reading dust meters at each designated monitoring station. The brand and model of the equipment are given in **Table 4.6**.

**Table 4.6 Air Quality Monitoring Equipment**

| Equipment                          | Brand and model                                   | Series Number    | Expiry Date |
|------------------------------------|---|------------------|-------------|
| Portable direct reading dust meter | Met One BT- 645 / Met One AEROCET831              | C15622<br>Y23153 | 3-Feb-2024  |
| Calibration Kit                    | Tisch Environmental (Calibration Model: TE-5025A) | 3166             | 31-Mar-2024 |

|                     |  |                  |             |
|---------------------|--|------------------|-------------|
| High Volume Sampler | Tisch Total Suspended Particulate Mass Flow          | 2036             | 3-Mar-2024  |
|                     | Controlled High Volume Air Sampler (Model no. G3101) | 774              | 7-Feb-2024  |
| Wind Anemometer     | YGY-FSXY1  | YG 21071630T0924 | 17-Mar-2024 |

4.2.9. The calibration certificates of the air quality monitoring equipment are attached in [Appendix 4.2](#).

WIND DATA

4.2.10. Wind data monitoring equipment was set up at roof floor (about 4/F) of the SWHSTW control room for logging wind speed and wind direction such that the wind sensors were clear of obstructions or turbulence caused by building. The wind data monitoring equipment was re-calibrated at least once every six months and the wind directions were divided into 16 sections of 22.5 degrees each. The wind data obtained from the on-site wind station during the reporting period is provided in [Appendix 4.3](#).

EVENT AND ACTION PLAN

4.2.11. The Action and Limit Levels for construction air quality are defined in **Table 4.7** and [Appendix 4.1](#). Should non-compliance of the air quality criteria occur, action in accordance with the Event and Action Plan in Appendix 6.1 shall be carried out.

**Table 4.7 Action and Limit Level for Air Quality Monitoring**

| Parameter         | Monitoring Station                                      | Action Level (µgm-3) | Limit Level (µgm-3) |
|-------------------|---|----------------------|---------------------|
| 24-hour TSP Level | Site boundary of the Shek Wu Hui STW (East), Root Floor | 189                  | 260.0               |
|                   | Site boundary of the Shek Wu Hui STW (North)            | 187                  |                     |
| 1-hour TSP Level  | House No. 15, Wai Loi Tsuen                             | 320                  | 500.0               |
|                   | Fu Tei Au   | 322                  |                     |

**4.3 Ecological Monitoring**

- 4.3.1. According to the Updated EM&A Manual, weekly transect at both high and low tides shall be undertaken to identify and enumerate all bird species utilising the river channels and identify any sources of actual or potential disturbance to birds due to construction activities throughout the construction period. [Appendix 4.1](#) shows the established Action/Limit Levels for ecological monitoring works.
- 4.3.2. The monitoring should be conducted by the ET and supervised by a qualified ecologist who will be a member of the ET.

MONITORING LOCATIONS

- 4.3.3. Transect and point count surveys were proposed within the 500m boundary of Ng Tung River, Sheung Yue River and Shek Sheung River of the assessment area. Three transects and seven-point count locations during high and low tides were applied. These locations are shown in [Figure 4.3](#) and summarized in [Table 4.8](#) The photo of each transect is provided in [Appendix 5.5](#).

**Table 4.8 Ecological Monitoring Stations**

| Monitoring Stations     | Descriptions                               | Influenced by Tidal Action |
|-------------------------|--|----------------------------|
| Transect T1             | Along Ng Tung River                        | No                         |
| Point Count Location P1 |  |                            |
| Point Count Location P2 |  |                            |
| Transect T2             |  | Yes                        |
| Point Count Location P3 |  |                            |
| Point Count Location P4 |  |                            |
| Point Count Location P5 | At Shek Sheung River (Low-flow Channel)    | No                         |
| Transect T3             | Along Shek Sheung River & Sheung Yue River | Yes                        |
| Point Count Location P6 | At Shek Sheung River                       | Yes                        |

|                         |  |     |
|-------------------------|--|-----|
| Point Count Location P7 | At Intersection between Sheung Yue River and Shek Sheung River | Yes |
|-------------------------|--|-----|

MONITORING PARAMETERS, FREQUENCY AND DURATION

4.3.4. Monitoring surveys were conducted on a weekly basis at both high and low tides (it is considered high tide when tidal levels are above 1.5m and low tide when tidal level are below 1.5m at Tsim Bei Tsui Station). The magnitude of how much above or below 1.5m was subject to tidal conditions of that week as it varied throughout different times of the year. Nonetheless, the high and low tide relative to that week’s tidal condition were taken into consideration. The ecological monitoring schedule is shown in [Appendix 5.1](#).

MONITORING METHODOLOGY

4.3.5. Transect survey was undertaken along the concerned rivers (Ng Tung River, Sheung Yue River and Shek Sheung River) adjacent to proposed construction activities. As the sensitive receivers (large waterbirds) are easily visible and the surveyor has used auxiliary equipment such as camera(s) and binoculars (magnification 7-10x). The transect route only follows one bank of these rivers.

4.3.6. At point count locations, surveyors identified and recorded bird species which were seen or heard along the river channel. For each point count, surveyors quantitatively recorded all species seen and heard for the duration of five minutes up to the distance where birds were still detectable. All avifauna along the walk transect were recorded. Noticeable behaviours (e.g. breeding behaviours such as nesting and presence of recently fledged juveniles, roosting and feeding activities, etc.) were recorded as well.

4.3.7. Ornithological nomenclature used in report should follow *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).

4.3.8. Weather conditions, tidal information at the time of the survey and other noticeable activities occurring within or in the vicinity of the survey areas (e.g. ongoing routine drainage channel maintenance works and other human activities that could create disturbances to birds) were recorded.

ANALYTICAL METHODOLOGY

4.3.9. The number and species of waterbirds utilizing the rivers fluctuate every day naturally. Therefore, the survey data were collectively analyzed on a monthly basis to increase the sample size and to reduce random error on one survey day. Since occurrence of waterbirds has distinctive seasonal pattern, the construction phase data for all waterbirds and

representative waterbirds were compared with the baseline data for the respective month and season. The representatives of waterbirds are listed in **Table 4.9**.

**Table 4.9 Representative Waterbirds**

| Species Name               | Common Name          | Chinese Name |
|----------------------------|----------------------|--------------|
| <i>Egretta garzetta</i>    | Little Egret         | 小白鷺          |
| <i>Ardea cinerea</i>       | Grey Heron           | 蒼鷺           |
| <i>Ardeola bacchus</i>     | Chinese Pond Heron   | 池鷺           |
| <i>Phalacrocorax carbo</i> | Great Cormorant      | 普通鸕鶿         |
| <i>Ardea alba</i>          | Great Egret          | 大白鷺          |
| <i>Bubulcus coromandus</i> | Eastern Cattle Egret | 牛背鷺          |

4.3.10. When a decline in abundance of all or representative waterbird is identified, one-tailed Student t-test was adopted to statistically analyse whether the drop is significant. If the collected data for the reporting month fails to show no significant difference from that in the baseline phase at 95% confidence level, the action level will be triggered. Likewise, the limit level is set at 99% confidence level.

4.3.11. In addition, if important behaviours such as breeding, brooding, nesting and presence of recently fledged juveniles of species of conservation importance are observed, the Resident Engineer, Contractor and IEC should be notified immediately after the survey. The Contractor should review current construction programme and minimize disturbance due to construction activities

## 5 Monitoring Results

- 5.0.1 The environmental monitoring will be implemented based on the division of works areas of each designed projects. Overall layout showing work areas and monitoring stations is shown in [Figure 2.1](#) and [Figure 4.1 – 4.4](#) respectively.
- 5.0.2 The environmental monitoring schedules for reporting month and coming month are presented in [Appendix 5.1](#).

### 5.1 Noise Monitoring Results

- 5.1.1 Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation are shown in **Table 5.1** and [Appendix 5.2](#).

**Table 5.1 Summary Table of Noise Monitoring Results**

| Monitoring Location | Range, Leq (30min) dB(A) | Limit Level |
|---------------------|--------------------------|-------------|
| NM1                 | 55.6 – 57.2              | 75 dB       |
| NM2                 | 55.1 – 58.2              |             |
| NM3                 | 59.5 – 60.8              |             |

Remark: +3dB(A) façade correction included

- 5.1.2 No action or limit level exceedance was recorded in this reporting month.
- 5.1.3 According to our field observations, the major noise source identified were nearby road traffic and human activities.
- 5.1.4 The noise monitoring result measured in reporting month was similar to previous months. The noise monitoring result was slightly varied in the reporting month, and no increasing trend was identified due to the construction works conducted in the reporting month. No correlation between the project’s construction work and the monitoring data was identified.

**5.2 Air Quality Monitoring Results**

5.2.1 Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Table 5.2**, **Table 5.3** and [Appendix 5.3](#).

**Table 5.2 Summary Table of 1-hour TSP Monitoring Results**

| Monitoring Station | Concentration (µg/m <sup>3</sup> ) |         | Action Level, (µg/m <sup>3</sup> ) | Limit Level, (µg/m <sup>3</sup> ) |
|--------------------|------------------------------------|---------|------------------------------------|-----------------------------------|
|                    | Average                            | Range   |                                    |                                   |
| AM1                | 24                                 | 15 – 44 | 320                                | 500                               |
| AM2                | 22                                 | 13 – 41 | 322                                | 500                               |

**Table 5.3 Summary Table of 24-hour TSP Monitoring Results**

| Monitoring Station | Concentration (µg/m <sup>3</sup> ) |         | Action Level, (µg/m <sup>3</sup> ) | Limit Level, (µg/m <sup>3</sup> ) |
|--------------------|------------------------------------|---------|------------------------------------|-----------------------------------|
|                    | Average                            | Range   |                                    |                                   |
| AM1a*              | 73                                 | 58 – 81 | 189                                | 500                               |
| AM2a               | 78                                 | 70 - 89 | 187                                | 500                               |

- 5.2.2 No action or limit level exceedance was recorded in this reporting period.
- 5.2.3 According to our field observations, the major dust source identified were nearby road traffic.
- 5.2.4 The air quality monitoring result measured in reporting month was similar to previous months. The air quality monitoring result was slightly varied in the reporting month, and no increasing trend was identified due to the construction works conducted in the reporting month. No correlation between the project’s construction work and the monitoring data was identified.



5.3 Ecology Monitoring Results

5.3.1 For this reporting month, the numbers of species and individuals recorded were provided in **Table 5.4** and the abundance of representative species were shown in **Table 5.5**.

**Table 5.4 Total Bird Species and Abundance in the Reporting Month**

|              | Number of Species | Abundance |
|--------------|-------------------|-----------|
| All Avifauna | 40                | 1289      |
| Waterbirds   | 14                | 331       |

**Table 5.5 Abundance of Representative Waterbirds in the Reporting Month**

| Species Name               | Common Name          | Chinese Name | Abundance  |
|----------------------------|----------------------|--------------|------------|
| <i>Egretta garzetta</i>    | Little Egret         | 小白鷺          | 74         |
| <i>Ardea cinerea</i>       | Grey Heron           | 蒼鷺           | 83         |
| <i>Ardeola bacchus</i>     | Chinese Pond Heron   | 池鷺           | 32         |
| <i>Phalacrocorax carbo</i> | Great Cormorant      | 普通鸕鶿         | 39         |
| <i>Ardea alba</i>          | Great Egret          | 大白鷺          | 24         |
| <i>Bubulcus coromandus</i> | Eastern Cattle Egret | 牛背鷺          | 29         |
| <b>Total</b>               |                      |              | <b>281</b> |

Ecological Analysis

5.3.2 The result of student t-tests for all waterbirds and representative waterbirds are compiled in **Table 5.6** and **Table 5.7** respectively. Further details are provided in **Appendix 5.4**.

**Table 5.6 T-test Result for All Waterbirds in the Reporting Month**

| T-values of Data in Reporting Month |          |       | Confidence Level (Critical Value) |     |
|-------------------------------------|----------|-------|-----------------------------------|-----|
|                                     |          |       | 95%                               | 99% |
| Abundance                           | Monthly  | 0.377 | ✓                                 | ✓   |
|                                     | Seasonal | 1.281 | ✓                                 | ✓   |

Remarks:

- ✓ = T-value falls within the confidence level; the impact monitoring data shows no significant difference to the baseline data.
- ✗ = T-value falls outside the confidence level; the impact monitoring data shows significant difference to the baseline data.

**Table 5.7 T-test Result for Representative Waterbirds in the Reporting Month**

| Common Name of Representative Waterbird | T-value | Confidence Level (Critical Value) |              | T-value  | Confidence Level (Critical Value) |              | Overall** |
|---|---------|-----------------------------------|--------------|----------|-----------------------------------|--------------|-----------|
|   | Monthly | 95% (-2.132)                      | 99% (-3.747) | Seasonal | 95% (-2.132)                      | 99% (-3.747) |           |
| Little Egret                            | 1.686   | ✓                                 | ✓            | -0.187   | ✓                                 | ✓            | ✓         |
| Grey Heron                              | -0.911  | ✓                                 | ✓            | 2.343    | ✓                                 | ✓            | ✓         |
| Chinese Pond Heron                      | -1.969  | ✓                                 | ✓            | -3.200   | X                                 | ✓            | ✓         |
| Great Cormorant                         | 1.000   | ✓                                 | ✓            | 1.000    | ✓                                 | ✓            | ✓         |
| Great Egret                             | -0.187  | ✓                                 | ✓            | -0.187   | ✓                                 | ✓            | ✓         |
| Eastern Cattle Egret                    | 2.419   | ✓                                 | ✓            | 1.555    | ✓                                 | ✓            | ✓         |

Remarks:

✓ = T-value falls within the confidence level; the impact monitoring data shows no significant difference to the baseline data.

X = T-value falls outside the confidence level; the impact monitoring data shows significant difference to the baseline data.

\* Great Cormorant (*Phalacrocorax carbo*) and Grey Heron (*Ardea cinerea*) were not recognised as representative waterbird species during wet season.

\*\*According to section 7.2 of the approved ecological baseline report, action/Limit level shall be triggered if reduction in bird abundance is found in both the respective month and season.

- 5.3.3 No Action Level and Limit Level was triggered for ecological monitoring in the reporting month.
- 5.3.4 Site observation in the reporting month shows that construction activities are similar to previous months. The photos are provided in [Appendix 5.5](#).
- 5.3.5 In recent months, it is found that there are different construction sites for example excavation and sheet-piling, and human activities including cycling, fishing, grazing and landscape planting around the project site. The photos are provided in Appendix 5.5. These construction and human activities may affect activities of the waterbird. Although, there is no significant impact reduction in number of waterbirds, but it is recommended that construction site should continue keeping the good site practice to minimize disturbance caused to waterbirds.

Observations

5.3.6 Waterbird behaviour observed during ecological monitoring are listed below:

- Flying
- Foraging
- Soaring
- Resting
- Fighting

5.3.7 The anthropogenic activities observed during ecological monitoring are listed in **Table 5.8**.

**Table 5.8 Observations during Ecological Monitoring in the Reporting Month**

| Location(s)          | Observations   |   |
|----------------------|--|---|
|                      | Project Related  | Non-project Related   |
| <b>T1 (PC1, PC2)</b> | N/A  | Human Activities such as Cycling, Grazing and Fishing<br><br>Construction activities such as excavation, and breaking works   |
| <b>T2 (PC3, PC4)</b> | Construction activities such as generator & welding works, Scaffolding, sedimentation tank, Excavation and crane | Human Activities such as Fishing, Cycling, Grazing and Landscape Planting<br><br>Construction activities such as Sheet-piling, generator & welding works, Scaffolding, sedimentation tank, Excavation, crane and breaking works |
| <b>PC5</b>           | Construction activities such as Excavation and crane   | N/A   |
| <b>T3 (PC6, PC7)</b> | Construction activities such as Sheet-piling   | Human Activities such as Cycling, Grazing and Fishing<br><br>Construction activities such as Excavation, Sheet-piling, generator & welding works, Scaffolding, lifting works  |

**5.4 Waste Management**

5.4.1 The quantities of waste for disposal in the Reporting Period are summarized in **Table 5.9** to **5.12**. The Monthly Summary Waste Flow Table is shown in [Appendix 5.9](#). Whenever possible, materials were reused on-site as far as practicable.

**Table 5.9 Summary of Quantities of Inert C&D Materials and C&D Wastes for Contract No. DC/2018/06**

| Waste Type   | Quantity (Previous month) | Quantity (Reporting month) | Annual Cumulative Quantity (2024) |
|--|---------------------------|----------------------------|-----------------------------------|
| Hard Rock and Large Broken Concrete (Inert) (in '000m <sup>3</sup> ) | 0.000                     | 0.000                      | 0.000                             |
| Reused in this Contract (Inert) (in '000m <sup>3</sup> )             | 0.000                     | 0.000                      | 0.000                             |
| Reused in other Projects (Inert) (in '000m <sup>3</sup> )            | 0.000                     | 0.000                      | 0.000                             |
| Disposal as Public Fill (Inert) (in '000m <sup>3</sup> )             | 0.626                     | 0.089                      | 0.089                             |
| Metals (in '000kg)   | 0.000                     | 0.000                      | 0.000                             |
| Paper / Cardboard Packing (in '000kg)                                | 0.000                     | 0.000                      | 0.000                             |
| Plastics (in '000kg)   | 0.000                     | 0.000                      | 0.000                             |
| Chemical Wastes (in '000kg)  | 0.000                     | 0.000                      | 0.000                             |
| General Refuses (in '000m <sup>3</sup> )                             | 0.022                     | 0.005                      | 0.005                             |

**Table 5.10 Summary of Quantities of Inert C&D Materials and C&D Wastes for Contract No. DC/2018/07**

| Waste Type   | Quantity (Previous month) | Quantity (Reporting month) | Annual Cumulative Quantity (2024) |
|--|---------------------------|----------------------------|-----------------------------------|
| Hard Rock and Large Broken Concrete (Inert) (in '000m <sup>3</sup> ) | 0.000                     | 0.000                      | 0.000                             |

| Waste Type  | Quantity (Previous month) | Quantity (Reporting month) | Annual Cumulative Quantity (2024) |
|---|---------------------------|----------------------------|-----------------------------------|
| Reused in this Contract (Inert) (in '000m <sup>3</sup> )  | 0.000                     | 0.000                      | 0.000                             |
| Reused in other Projects (Inert) (in '000m <sup>3</sup> ) | 0.000                     | 0.000                      | 0.000                             |
| Disposal as Public Fill (Inert) (in '000m <sup>3</sup> )  | 0.380                     | 0.489                      | 0.489                             |
| Metals (in '000kg)  | 8.04                      | 0                          | 0                                 |
| Paper / Cardboard Packing (in '000kg)                     | 0.000                     | 0.000                      | 0.000                             |
| Plastics (in '000kg)                                      | 0.000                     | 0.000                      | 0.000                             |
| Chemical Wastes (in '000kg)                               | 0.000                     | 0.000                      | 0.000                             |
| General Refuses (in '000m <sup>3</sup> )                  | 0.116                     | 0.122                      | 0.122                             |

**Table 5.11 Summary of Quantities of Inert C&D Materials and C&D Wastes for Contract No. DE/2018/03**

| Waste Type   | Quantity (Previous month) | Quantity (Reporting month) | Annual Cumulative Quantity (2024) |
|--|---------------------------|----------------------------|-----------------------------------|
| Hard Rock and Large Broken Concrete (Inert) (in '000kg)  | 0.000                     | 0.000                      | 0.000                             |
| Reused in this Contract (Inert) (in '000kg)              | 0.000                     | 0.000                      | 0.000                             |
| Reused in other Projects (Inert) (in '000kg)             | 0.000                     | 0.000                      | 0.000                             |
| Disposal as Public Fill (Inert) (in '000m <sup>3</sup> ) | 0.000                     | 0.000                      | 0.000                             |
| Metals (in '000kg)                                       | 0.000                     | 0.000                      | 0.000                             |

| Waste Type                            | Quantity (Previous month) | Quantity (Reporting month) | Annual Cumulative Quantity (2024) |
|---------------------------------------|---------------------------|----------------------------|-----------------------------------|
| Paper / Cardboard Packing (in '000kg) | 0                         | 0                          | 0                                 |
| Plastics (in '000kg)                  | 0.000                     | 0.000                      | 0.000                             |
| Chemical Wastes (in '000kg)           | 0.000                     | 0.000                      | 0.000                             |
| General Refuses (in '000kg )          | 38.08                     | 31.75                      | 31.75                             |

**Table 5.12 Summary of Quantities of Inert C&D Materials and C&D Wastes for Contract No. DE/2018/04**

| Waste Type  | Quantity (Previous month) | Quantity (Reporting month) | Annual Cumulative Quantity (2024) |
|---|---------------------------|----------------------------|-----------------------------------|
| Hard Rock and Large Broken Concrete (Inert) (in '000kg)   | 0.000                     | 0.000                      | 0.000                             |
| Reused in this Contract (Inert) (in '000kg)               | 0.000                     | 0.000                      | 0.000                             |
| Reused in other Projects (Inert) (in '000m <sup>3</sup> ) | 0.000                     | 0.000                      | 0.000                             |
| Disposal as Public Fill (Inert) (in '000m <sup>3</sup> )  | 0.000                     | 0.000                      | 0.000                             |
| Metals (in '000kg)  | 0.000                     | 0.000                      | 0.000                             |
| Paper / Cardboard Packing (in '000kg)                     | 0.000                     | 0.000                      | 0.000                             |
| Plastics (in '000kg)                                      | 0.000                     | 0.000                      | 0.000                             |
| Chemical Wastes (in '000kg)                               | 0.000                     | 0.000                      | 0.000                             |
| General Refuses (in '000kg)                               | 6.07                      | 1.69                       | 1.69                              |

## 6 Compliance Audit

6.0.1 The Event Action Plan for construction noise, air quality and ecological monitoring are presented in [Appendix 6.1](#).

6.0.2 The summary of exceedance is presented in [Appendix 6.2](#).

### 6.1 Noise Monitoring

6.1.1 No action or limit level exceedance was recorded in this reporting period.

### 6.2 Air Quality Monitoring

6.2.1 No action or limit level exceedance was recorded in this reporting period.

### 6.3 Ecological Monitoring

6.3.1 No action Level or Limit level was triggered for ecological monitoring in the reporting month.

### 6.4 Review of the Reasons for and the Implications of Non-compliance

6.4.1 No environmental non-compliance was recorded in the reporting month

### 6.5 Summary of action taken in the event of and follow-up on non-compliance

6.5.1 There was no particular action taken since no non-compliance was recorded in the reporting period.

**7 Environmental Site Audit**

7.1.1. Within this reporting month, weekly environmental site audits were conducted on 3, 9(DE/2018/03 and DE/2018/04), 11(DC/2018/06 and DC/2018/07), 16 and 23 January 2024 and biweekly landscape inspection on 9 and 23 January 2024. IEC attended the joint site inspection on 23 January 2024.

7.1.2. No non-compliance was found during the environmental site inspection while reminders on environmental measures were recommended. Results and findings of these inspections in this reporting month are listed below in **Table 7.1 to 7.4**.

**Table 7.1 Summary of Environmental Inspections of Contract No. DC/2018/06**

| Item       | Date        | Reminder(s)/ Observation(s)   | Action taken by Contractor   | Outcome                   |
|------------|-------------|---|--|---------------------------|
| 20240103_1 | 3-Jan-2024  | Contractor was reminded to provide protection to the U-channel to prevent wheel washing water from entering the public drainage system. | Sandbags have been placed in the U-channel to prevent the wheel washing water from entering the public drainage system | Rectified on 11 Jan 2024  |
| 20240111_1 | 11-Jan-2024 | Stockpile should be covered by impermeable sheeting.  | Water spraying was provided to the stockpile.  | Rectified on 16-Jan-2024. |
| 20240111_2 | 11-Jan-2024 | Chemical container should be properly stored.   | Chemical container has been removed.   | Rectified on 16-Jan-2024. |
| 20240116_1 | 16-Jan-2024 | The Contactor was reminded to regularly clear the U-channel in order to maintain its functionality.                                     | Construction materials has been removed from the U channel.  | Rectified on 23-Jan-2024. |
| 20240123_1 | 23-Jan-2024 | Chemical containers should be properly stored with drip tray.   | Chemical containers have been removed.   | Rectified on 6-Feb-2024.  |
| 20240123_2 | 23-Jan-2024 | Green fence should be properly maintained.  | The dull green barrier along the site boundary has been maintained   | Rectified on 6-Feb-2024.  |

**Table 7.2 Summary of Environmental Inspections of Contract No. DC/2018/07**

| Item       | Date       | Reminder(s)/ Observation(s)  | Action taken by Contractor                        | Outcome                  |
|------------|------------|--|---|--------------------------|
| 20240103_2 | 3-Jan-2024 | Contractor was reminded to provide sufficient waste collection bins at MFB2. | Waste collection bins have been provided at MFB2. | Rectified on 11 Jan 2024 |



|            |             |   |   |                                    |
|------------|-------------|---|---|------------------------------------|
| 20240103_3 | 3-Jan-2024  | Contractor was reminded to provide impervious sheeting to cover the dry PFA to suppress dust emission.  | Impervious sheeting has been provided to cover the dry PFA to suppress dust emission.   | Rectified on 11 Jan 2024           |
| 20240111_3 | 11-Jan-2024 | Chemical containers should be properly stored.  | Chemical containers have been removed.  | Rectified on 16-Jan-2024.          |
| 20240111_4 | 11-Jan-2024 | The pH value displayed on WetSep was observed exceeded the discharge license requirement. The Contractor should ensure that all discharge of site effluent shall meet the requirement specified in the discharge license. | /   | To be rectified by the Contractor. |
| 20240116_2 | 16-Jan-2024 | Water should be properly treated by WetSep before discharge (Near to site entrance & Inlet).  | Contractor has removed the water pipe and stop the direct discharge of site runoff. (Near to site entrance & Inlet).  | Rectified on 23-Jan-2024.          |
| 20240116_3 | 16-Jan-2024 | Dust suppression measures should be provided to the exposed site area and dusty construction work.  | Water spraying was provided for the exposed site area and dusty construction work.  | Rectified on 23-Jan-2024.          |
| 20240116_4 | 16-Jan-2024 | Soil material placed near to the U-channel should be removed. Protective measures should be provided for the U-channel.(Near to site entrance)  | The soil material have been covered by impermeable sheeting and sandbags have been provided to prevent soil falling into the U-channel. (Near to site entrance) | Rectified on 23-Jan-2024.          |

**Table 7.3 Summary of Environmental Inspections of Contract No. DE/2018/03**

| Item       | Date        | Reminder(s)/ Observation(s)   | Action taken by Contractor                                 | Outcome                  |
|------------|-------------|---|--|--------------------------|
| 20240103_4 | 3-Jan-2024  | Two different QPME labels were displayed on the same generator, Contractor was reminded to display the correct label (Biogas holding tank). | The correct QPME label was displayed.(Biogas holding tank) | Rectified on 11 Jan 2024 |
| 20240123_3 | 23-Jan-2024 | Chemical containers should be properly stored with drip tray.   | Chemical containers have been removed.                     | Rectified on 6-Feb-2024  |
| 20240123_4 | 23-Jan-2024 | Waste should be disposed regularly.   | Contractor has arranged regular collection of refuse.      | Rectified on 6-Feb-2024  |

**Table 7.4 Summary of Environmental Inspections of Contract No. DE/2018/04**

| Item       | Date        | Reminder(s)/<br>Observation(s)   | Action taken by<br>Contractor                                   | Outcome                   |
|------------|-------------|--|---|---------------------------|
| 20240116_5 | 16-Jan-2024 | Chemical container should be properly stored with drip tray beneath. (DOU3A) | Drip tray has been placed under the chemical container. (DOU3A) | Rectified on 23-Jan-2024. |

**8 Complaints, Notification of Summons and Prosecution**

- 8.1.1. No environmental complaint, notification of summons and successful prosecution regarding construction works was recorded in the reporting period.
- 8.1.2. The details environmental complaints for the Project are summarized by complaint log in [Appendix 8.1](#).
- 8.1.3. Cumulative statistics on complaints and successful prosecutions are summarized in **Table 8.1** and **Table 8.2** respectively.

**Table 8.1 Cumulative Statistics on Complaints in the Reporting Month**

| Reporting Period                                      | No. of Complaints |
|---|-------------------|
| Commencement works (Feb 2018) to last reporting month | 5                 |
| January 2024  | 0                 |
| <b>Total</b>  | <b>5</b>          |

**Table 8.2 Cumulative Statistics on Successful Prosecutions**

| Environmental Parameters | Cumulative no. Brought Forward | No. of Successful Prosecutions this month (Offence Date) | Cumulative No. Project-to-Date |
|--------------------------|--------------------------------|--|--------------------------------|
| Air                      | -                              | 0  | 0                              |
| Noise                    | -                              | 0  | 0                              |
| Water                    | -                              | 0  | 0                              |
| Waste                    | -                              | 0  | 0                              |
| <b>Total</b>             | <b>-</b>                       | <b>0</b>   | <b>0</b>                       |

**9 Conclusion**

- 9.1.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.
- 9.1.2. Mitigation measures according to the environmental mitigation implementation schedule and the EIA were generally implemented by the Contractor. Hence, the EM&A programme was considered effective and shall be maintained.
- 9.1.3. The scheduled construction activities and the recommended mitigation measures for the coming 3 months are listed in **Table 9.1**. The construction programmes of individual activities are provided in [Appendix 9.1](#).

**Table 9.1 Construction Activities and Recommended Mitigation Measures in Coming Reporting Month**

| Contract No. | Key Construction Works  | Recommended Mitigation Measures  |
|--------------|---|--|
| DC/2018/06   | <ul style="list-style-type: none"> <li>• RC works</li> <li>• Pipe jacking</li> <li>• Sewage, utility and pipe works</li> <li>• Road works</li> <li>• ABWF works</li> <li>• ELS</li> </ul> | <ul style="list-style-type: none"> <li>• Implement proper dust mitigation measures on dusty surface, stockpiles and related dusty works</li> <li>• Implement proper measures to prevent excavated material, silt or debris being deposited or washed into existing drainage systems and waterbodies</li> <li>• Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers</li> <li>• Proper maintenance of the on-site drainage system</li> <li>• Provision of protection to ensure no runoff out of site area or direct discharge into public drainage system</li> <li>• Good site practices should be adopted to check for any accumulation of waste materials on site and dispose waste materials at designated areas.</li> <li>• Segregate and store different types of waste to enhance reuse or recycling of materials and their proper disposal</li> <li>• Ensure all on-site regulated machines have displayed valid NRMM labels and the application of ULSD as fuel for diesel-powered machinery.</li> </ul> |
| DC/2018/07   | <ul style="list-style-type: none"> <li>• RC works</li> <li>• ABWF works</li> </ul>  | <ul style="list-style-type: none"> <li>• Implement proper dust mitigation measures on dusty surface and stockpiles</li> </ul>  |

| Contract No. | Key Construction Works   | Recommended Mitigation Measures  |
|--------------|--|--|
|              | <ul style="list-style-type: none"> <li>• Pile laying</li> </ul>  | <ul style="list-style-type: none"> <li>• Implement proper measures to prevent excavated material, silt or debris being deposited or washed into existing drainage systems and waterbodies</li> <li>• Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers, especially screening noise during piling related activities</li> <li>• Proper maintenance of the on-site drainage system</li> <li>• Provision of protection to ensure no runoff out of site area or direct discharge into public drainage system</li> <li>• Good site practices should be adopted to check for any accumulation of waste materials on site and dispose waste materials at designated areas.</li> <li>• Segregate and store different types of waste to enhance reuse or recycling of materials and their proper disposal.</li> <li>• Ensure all on-site regulated machines have displayed valid NRMM labels and the application of ULSD as fuel for diesel-powered machinery.</li> </ul> |
| DE/2018/03   | <ul style="list-style-type: none"> <li>• Civil Works</li> <li>• Pump &amp; Pipework installation</li> <li>• Installation of E&amp;M Plant Equipment</li> <li>• Electrical Installation</li> <li>• MVAC Installation</li> <li>• LV Switch Board Installation</li> <li>• Installation of HV switchboard</li> <li>• Installation of lift</li> <li>• Plumbing System Installation</li> <li>• FS System Installation</li> <li>• Delivery of FRP Tanks</li> <li>• Jointing of FRP Tanks</li> </ul> | <ul style="list-style-type: none"> <li>• Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers</li> <li>• Implement proper waste mitigation measures to prevent accidental leakage of chemical</li> <li>• Good site practices should be adopted to check for any accumulation of waste materials on site and dispose waste materials at designated areas.</li> <li>• Proper maintenance of the on-site drainage system</li> <li>• Segregate and store different types of waste to enhance reuse or recycling of materials and their proper disposal.</li> <li>• Ensure all on-site regulated machines have displayed valid NRMM labels and the application of ULSD as fuel for diesel-powered machinery.</li> </ul>  |

| Contract No. | Key Construction Works   | Recommended Mitigation Measures  |
|--------------|--|--|
|              | <ul style="list-style-type: none"> <li>• Bio-Gas Holding tank Installation</li> <li>• Steam Boiler System Installation</li> <li>• Installation of CHP Genset</li> <li>• Installation of Pipework and Pumps</li> <li>• THP System Installation</li> <li>• Draft Tube Mixer Installation</li> <li>• Sludge Cooler Delivery &amp; Installation</li> <li>• Installation of FRP Walkway and Platform</li> <li>• Installation of H2S Removal System</li> </ul> |  |
| DE/2018/04   | <ul style="list-style-type: none"> <li>• E&amp;M works for Leachate Pre-treatment Plant at existing compressor house, BR No 3&amp;4 and MFB1</li> <li>• E&amp;M works at Portion B-5, MFB2.</li> <li>• E&amp;M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS &amp; Sprinkler Pumping Room, Chemical System No.1, Street Fire Hydrant &amp; Booster Pump Room and Temporary Chemical System.</li> </ul>                     | <ul style="list-style-type: none"> <li>• Good site practices should be adopted to check for any accumulation of waste materials on site and dispose waste materials at designated areas.</li> <li>• Segregate and store different types of waste to enhance reuse or recycling of materials and their proper disposal.</li> <li>• Implement proper dust mitigation measures during the demolition of existing compressor house.</li> <li>• Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers.</li> <li>• Ensure all on-site regulated machines have displayed valid NRMM labels and the application of ULSD as fuel for diesel-powered machinery.</li> </ul> |



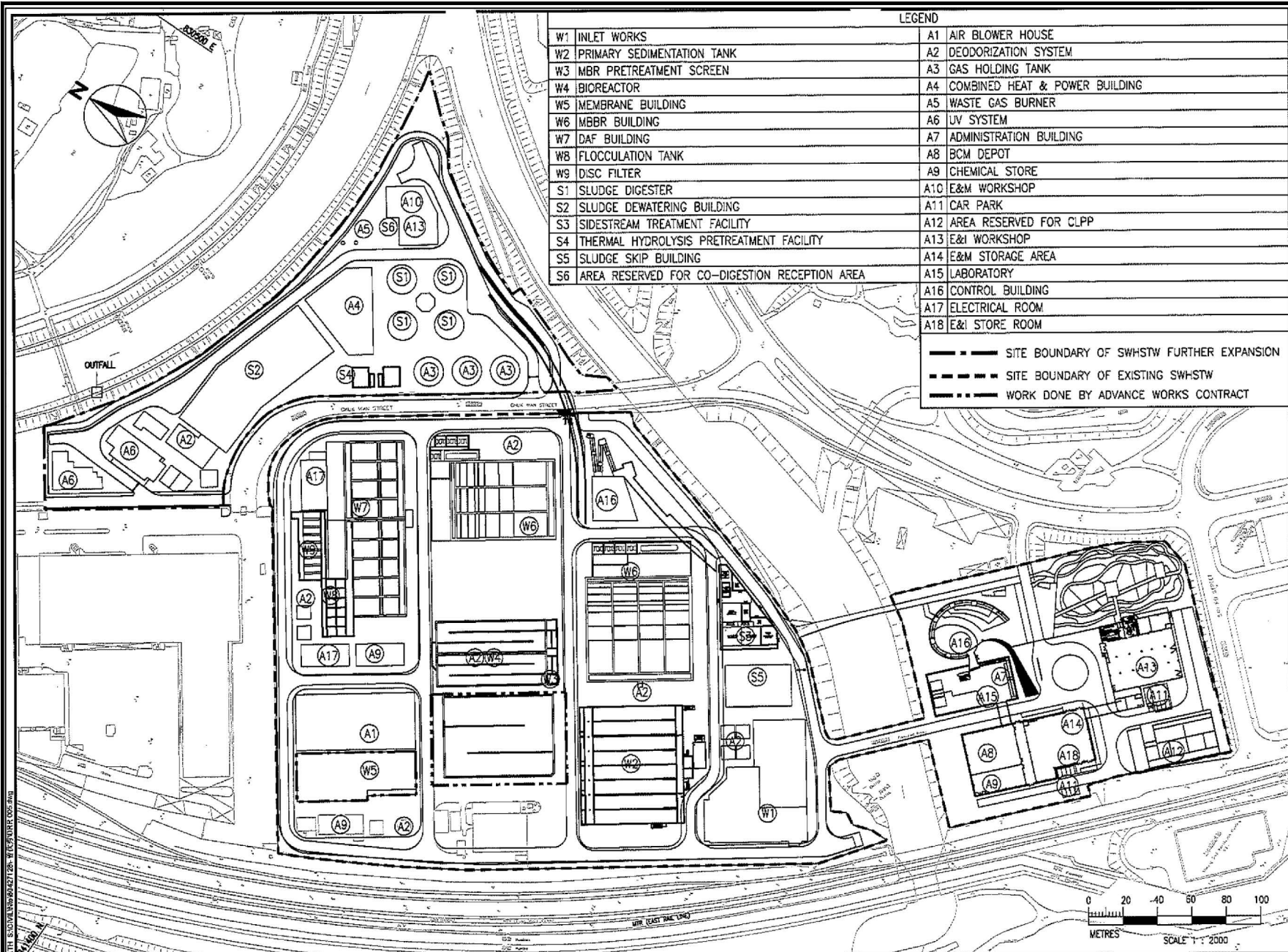
| Contract No. | Key Construction Works  | Recommended Mitigation Measures |
|--------------|---|---------------------------------|
|              | <ul style="list-style-type: none"><li data-bbox="453 293 762 367">• E&amp;M works at Portion B-4, BR 2A &amp; 2B.</li><li data-bbox="453 387 762 461">• E&amp;M works at Portion B-2, Inlet Works.</li><li data-bbox="453 481 762 555">• E&amp;M works at Portion B-3, PST No. 1-4.</li></ul> |                                 |



## ***Figure 2.1***

# ***Project Layout***





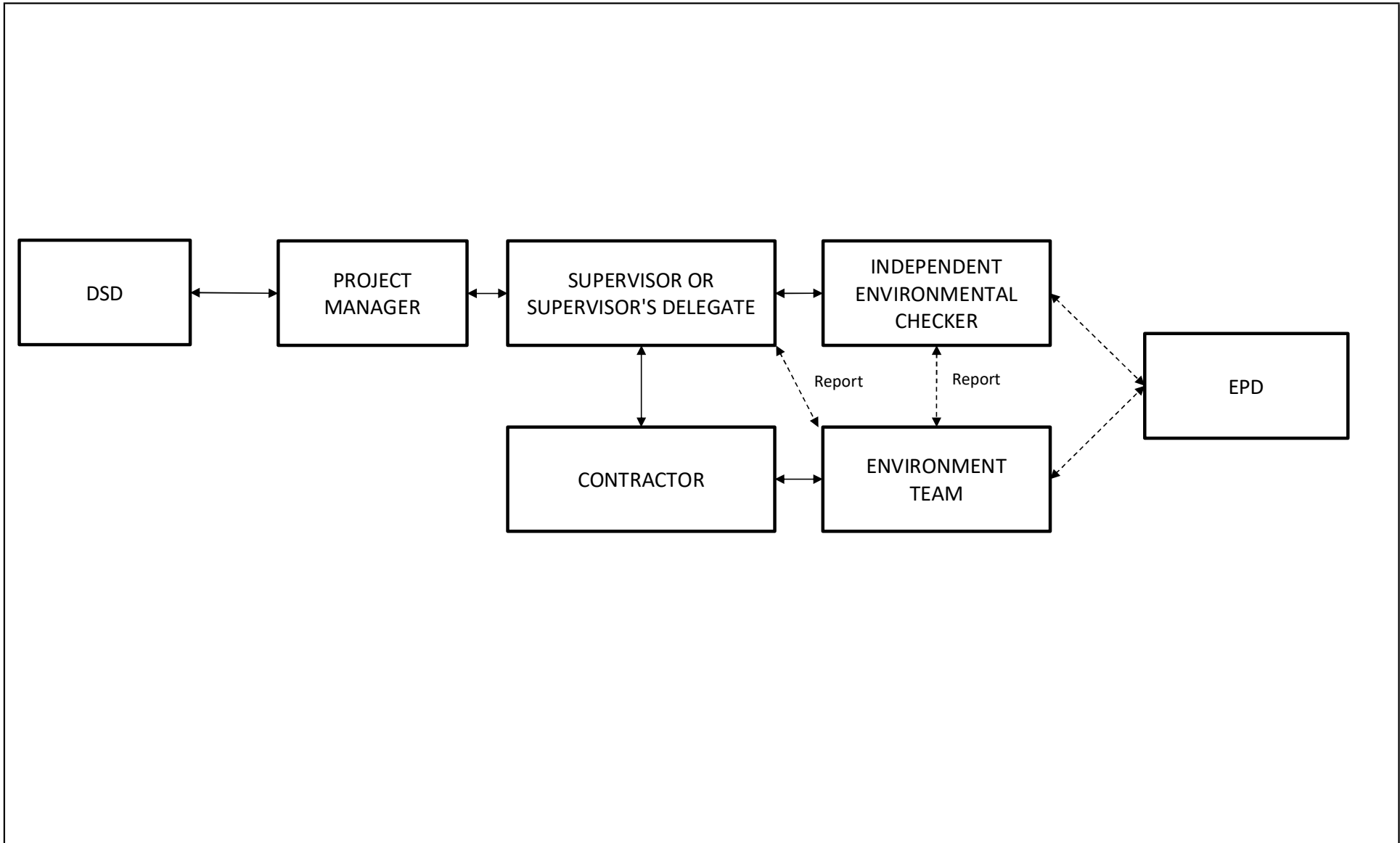
| LEGEND |   |  |                                |
|--------|---|--|--------------------------------|
| W1     | INLET WORKS                                   | A1   | AIR BLOWER HOUSE               |
| W2     | PRIMARY SEDIMENTATION TANK                    | A2   | DEODORIZATION SYSTEM           |
| W3     | MBR PRETREATMENT SCREEN                       | A3   | GAS HOLDING TANK               |
| W4     | BIOREACTOR                                    | A4   | COMBINED HEAT & POWER BUILDING |
| W5     | MEMBRANE BUILDING                             | A5   | WASTE GAS BURNER               |
| W6     | MBBR BUILDING                                 | A6   | UV SYSTEM                      |
| W7     | DAF BUILDING                                  | A7   | ADMINISTRATION BUILDING        |
| W8     | FLOCCULATION TANK                             | A8   | BCM DEPOT                      |
| W9     | DISC FILTER                                   | A9   | CHEMICAL STORE                 |
| S1     | SLUDGE DIGESTER                               | A10  | E&M WORKSHOP                   |
| S2     | SLUDGE DEWATERING BUILDING                    | A11  | CAR PARK                       |
| S3     | SIDESTREAM TREATMENT FACILITY                 | A12  | AREA RESERVED FOR CLPP         |
| S4     | THERMAL HYDROLYSIS PRETREATMENT FACILITY      | A13  | E&I WORKSHOP                   |
| S5     | SLUDGE SKIP BUILDING                          | A14  | E&M STORAGE AREA               |
| S6     | AREA RESERVED FOR CO-DIGESTION RECEPTION AREA | A15  | LABORATORY                     |
|        |   | A16  | CONTROL BUILDING               |
|        |   | A17  | ELECTRICAL ROOM                |
|        |   | A18  | E&I STORE ROOM                 |
|        |   | --- SITE BOUNDARY OF SWHSTW FURTHER EXPANSION<br>- - - SITE BOUNDARY OF EXISTING SWHSTW<br>- · - · - WORK DONE BY ADVANCE WORKS CONTRACT |                                |

Shek Wu Hui Effluent Polishing Plant  
 General Site Layout of SWHEPP

|         |          |            |          |
|---------|----------|------------|----------|
| SCALE   | As Shown | DATE       | SEP 2019 |
| CHECK   | JM       | DRAWN      | SY       |
| JOB No. |          | FIGURE NO. | 1.1      |
|         |          | REV        | -        |

## ***Figure 2.2***

# ***Project Organization Chart***

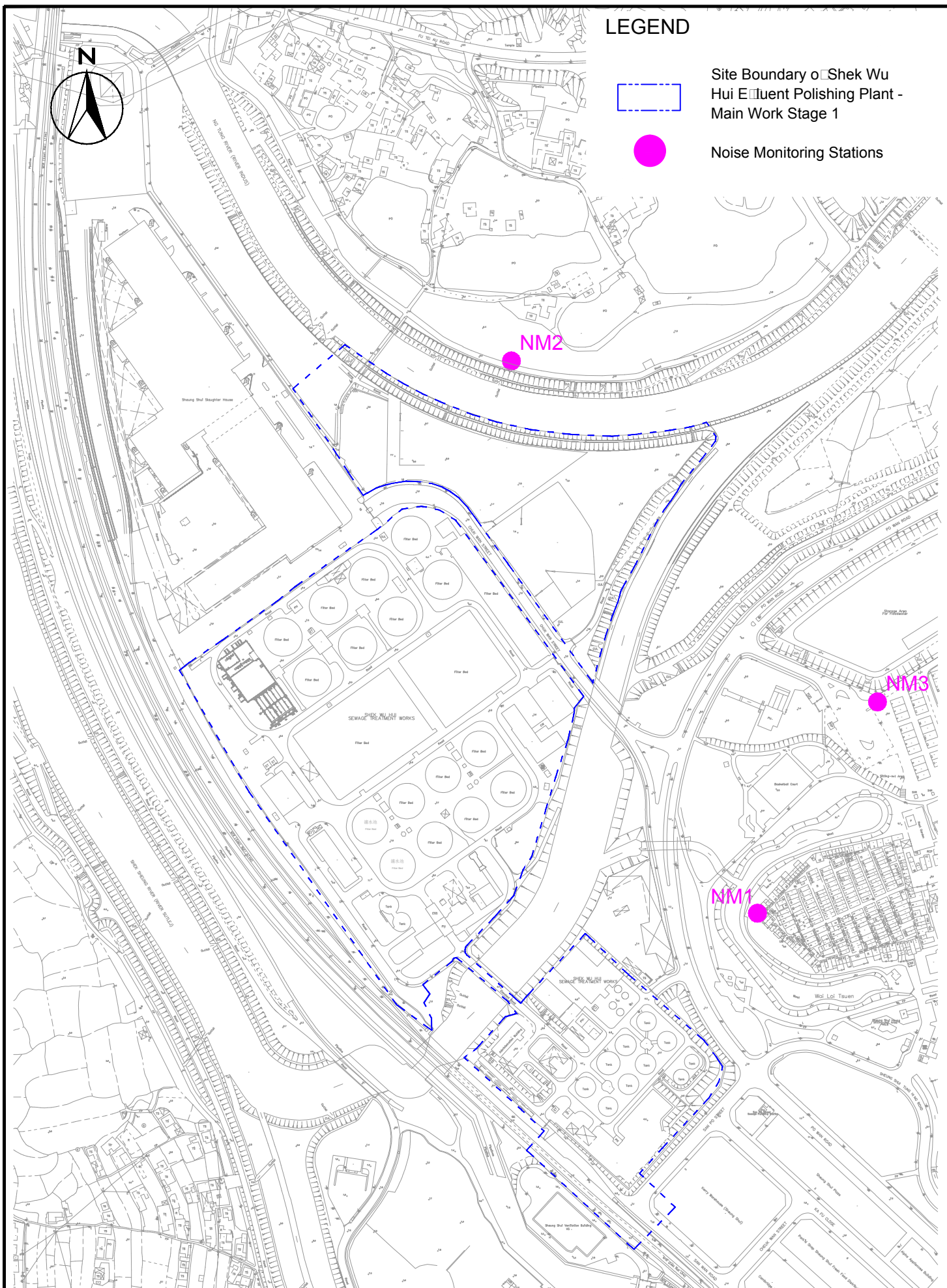


|  |         |        |            |          |
|--|---------|--------|------------|----------|
| Shek Wu Hui Effluent Polishing Plant -<br><b>Project Organisation For Environmental Monitoring and Audit</b> | SCALE   | N.T.S. | DATE       | Sep 2019 |
|  | CHECK   | JW     | DRAWN      | SY       |
|  | JOB NO. |        | FIGURE NO. | 1.2      |

## ***Figure 4.1***

# ***Locations of Noise Monitoring Stations***

---



**LEGEND**



Site Boundary of Shek Wu Hui Effluent Polishing Plant - Main Work Stage 1



Noise Monitoring Stations

NM2

NM3

NM1

Shek Wu Hui Effluent Polishing Plant

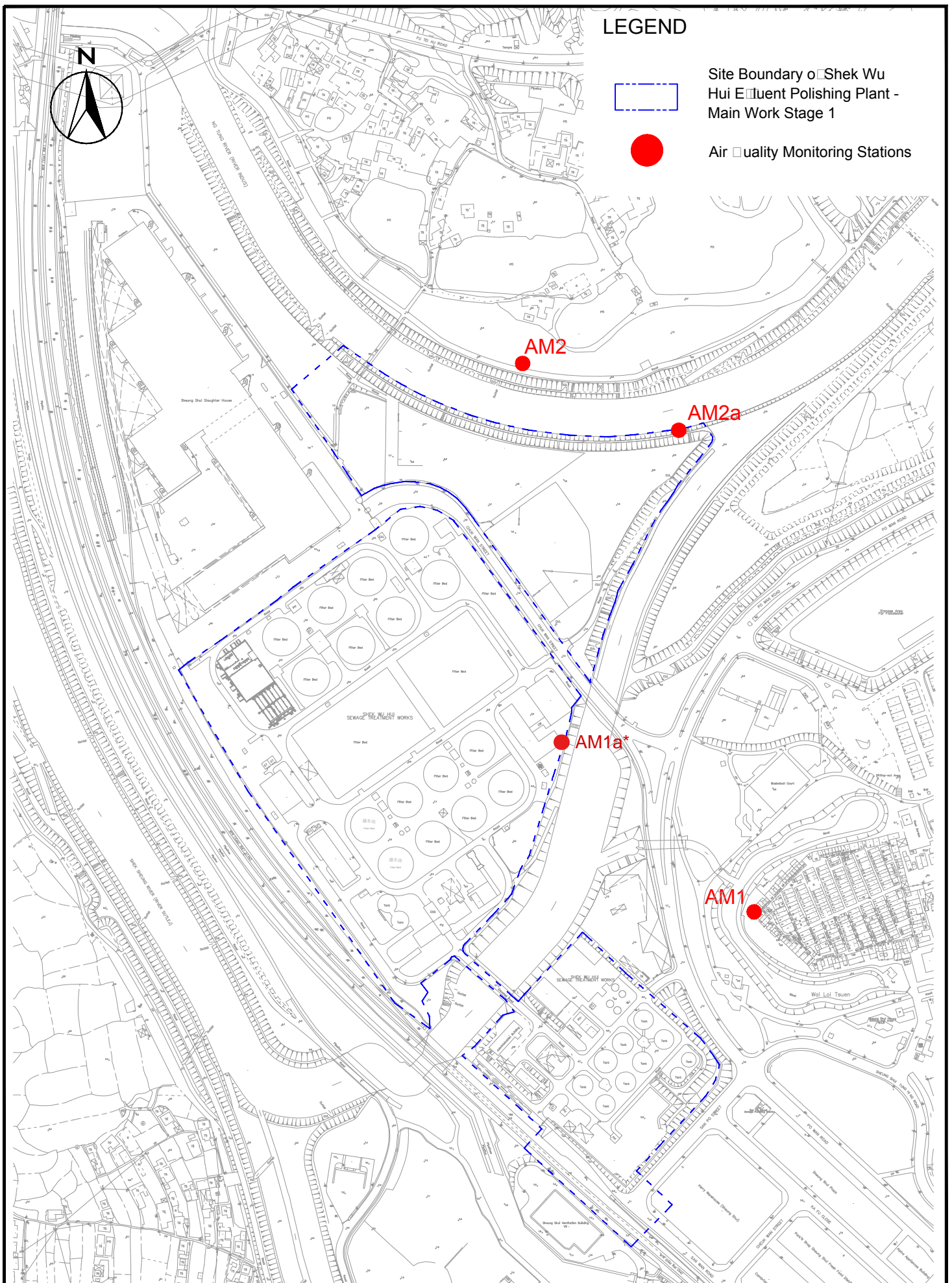
Location of Noise Monitoring Stations

|         |           |            |          |          |
|---------|-----------|------------|----------|----------|
| SCALE   | 1:4000 A4 | DATE       | SEP 2019 |          |
| CHECK   | JM        | DRAWN      | SY       |          |
| JOB No. | MA19019   | FIGURE NO. | 3        | REVISION |
|         |           |            |          | -        |

## ***Figure 4.2***

# ***Locations of Air Quality Monitoring Stations***

---



**LEGEND**



Site Boundary of Shek Wu Hui Effluent Polishing Plant - Main Work Stage 1



Air Quality Monitoring Stations

Shek Wu Hui Effluent Polishing Plant -  
Location of Air Quality Monitoring Stations

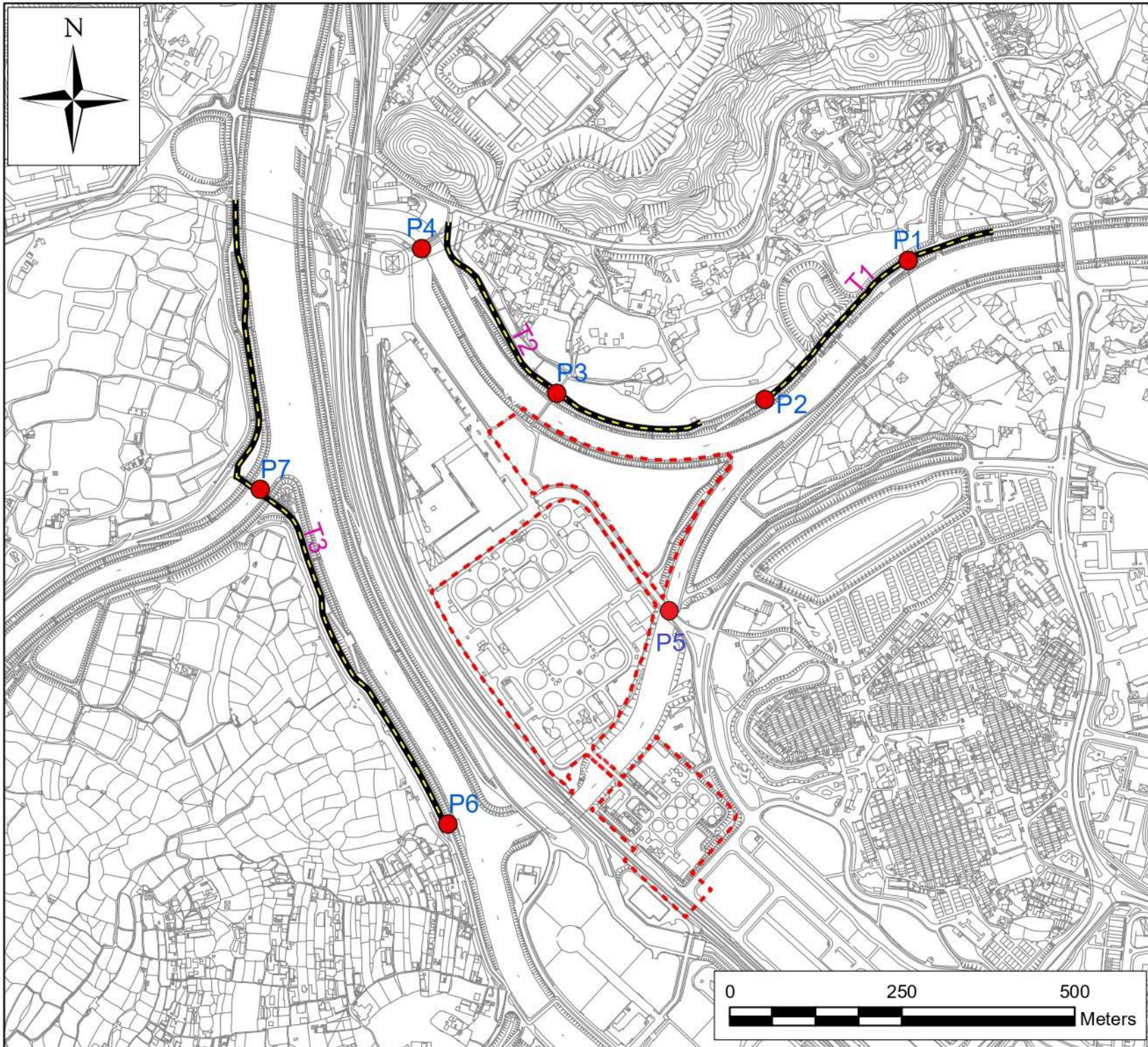
|         |          |            |          |          |
|---------|----------|------------|----------|----------|
| SCALE   | 1:400 A4 | DATE       | SEP 2019 |          |
| CHECK   | JM       | DRAWN      | SY       |          |
| JOB No. |          | FIGURE NO. | 2        | REVISION |
|         |          |            |          | -        |

## ***Figure 4.3***

# ***Locations of Ecological Monitoring Stations***

---





- Legend**
- - - Project Site Boundary
  - — — Walk Transects
  - Point Count Locations

**PREPARED BY**  
*Lam Environmental Services Limited*  
 19/F Remex Centre  
 42 Wong Chuk Hang Road,  
 Hong Kong  
 Telephone: (852) 2882-3939  
 Facsimile: (852) 2882-3331  
 E-mail: [info@lamenviro.com](mailto:info@lamenviro.com)  
 Website: <http://www.lamenviro.com>

**CONTRACT NO.**  
**SPW 12/2021**

**PROJECT TITLE**  
**Shek Wu Hui Effluent Polishing  
 Plant - Main Works  
 Survey Location for Ecological  
 Monitoring**

|                           |                          |
|---------------------------|--------------------------|
| SCALE<br><b>1:7500@A4</b> | DATE<br><b>Sept 2021</b> |
| DRAWN BY<br><b>AL</b>     | CHECK BY<br><b>MC</b>    |
| FIGURE NO.<br><b>1</b>    | REVISION NO.<br><b>-</b> |



## ***Appendix 2.1***

# ***Layout Plan of Construction Activities and Site Record Photos***

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## Site Record Photos





---




**DC/2018/06**

|   |  |   |   |
|---|--|---|---|
|  |  |  |  |
| SD&THP  | CHP  | SDB   | Utility Corridor  |

**DC/2018/07**

|  |   |  |  |
|--|---|--|--|
|  |  |  |  |
| BR2  | MFB   | PST  | Inlet  |

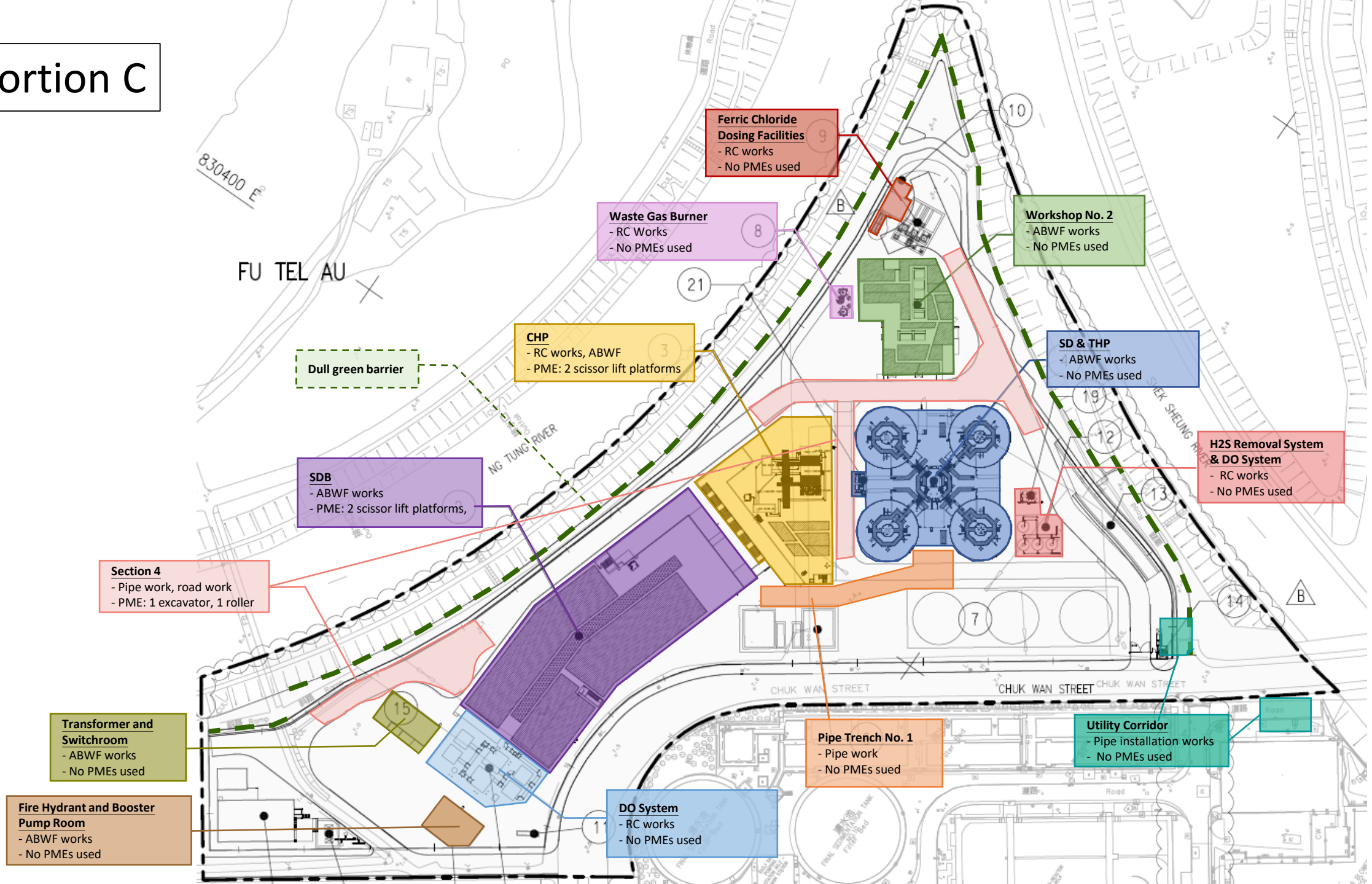
**DE/2018/03**

|   |  |   |
|---|--|---|
|  |  |  |
| Sidestream  | Bio Gas Tank   | THP   |

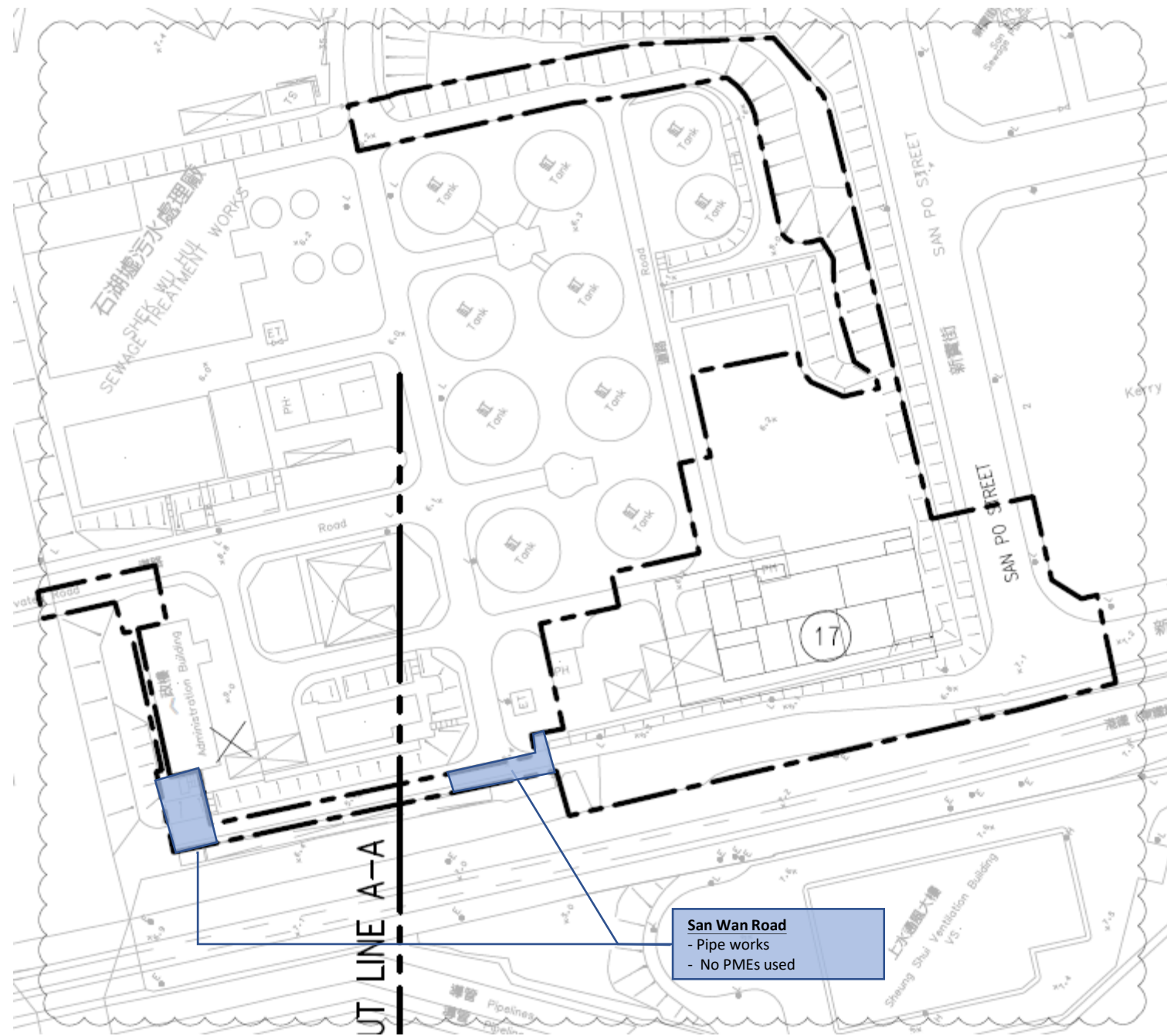
**DE/2018/04**

|  |   |  |
|--|---|--|
|  |  |  |
| Compressor House   | MFB   | DOU  |

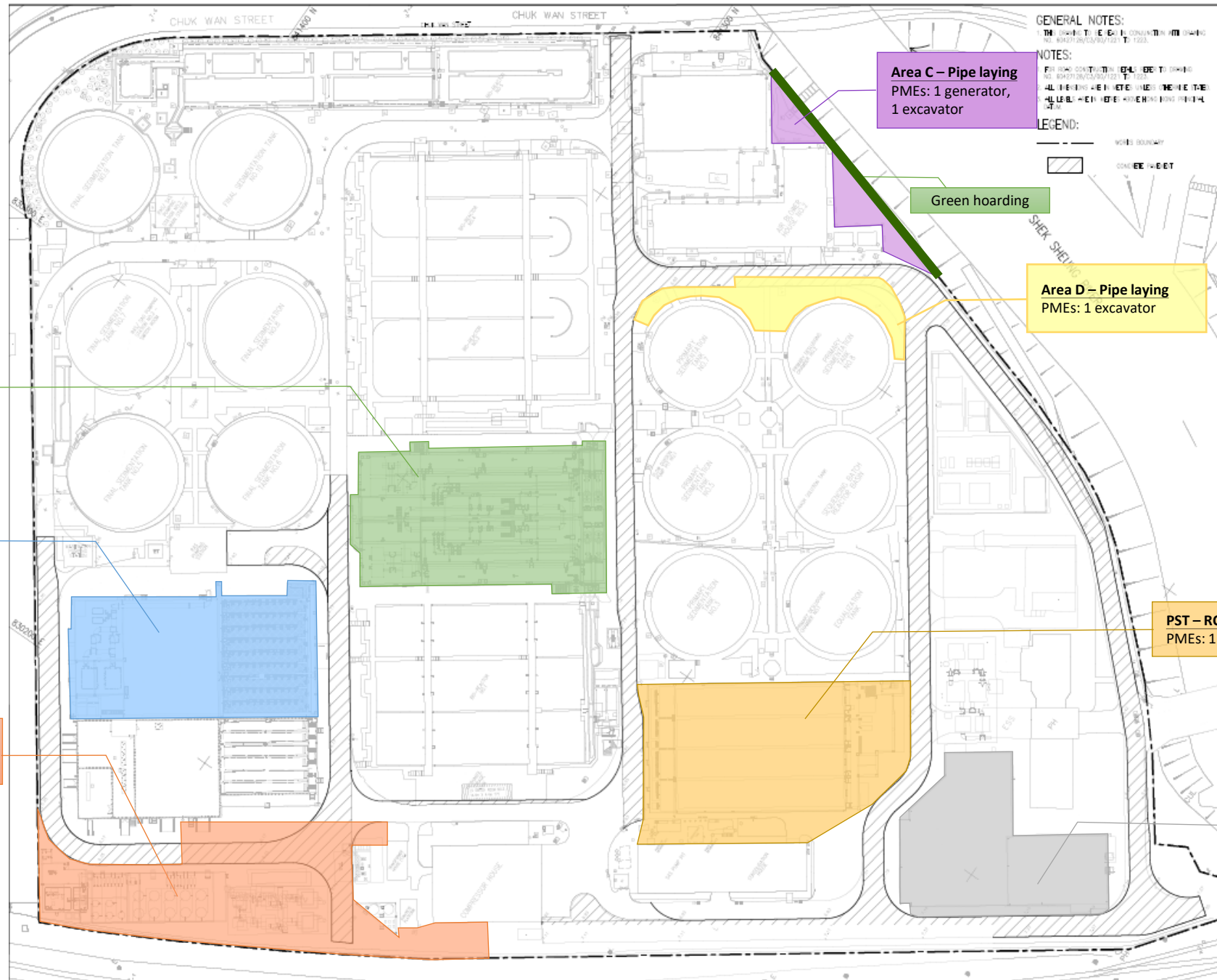
# Portion C



# Portion A



# Portion B



**BR2 – RC works**  
No PME used

**MFB – RC works**  
PMEs: 2 generators,  
1 excavators, 1 tower crane

**SAS - ABWF works / Pipe laying**  
PMEs: 2 excavators

**Area C – Pipe laying**  
PMEs: 1 generator,  
1 excavator

Green hoarding

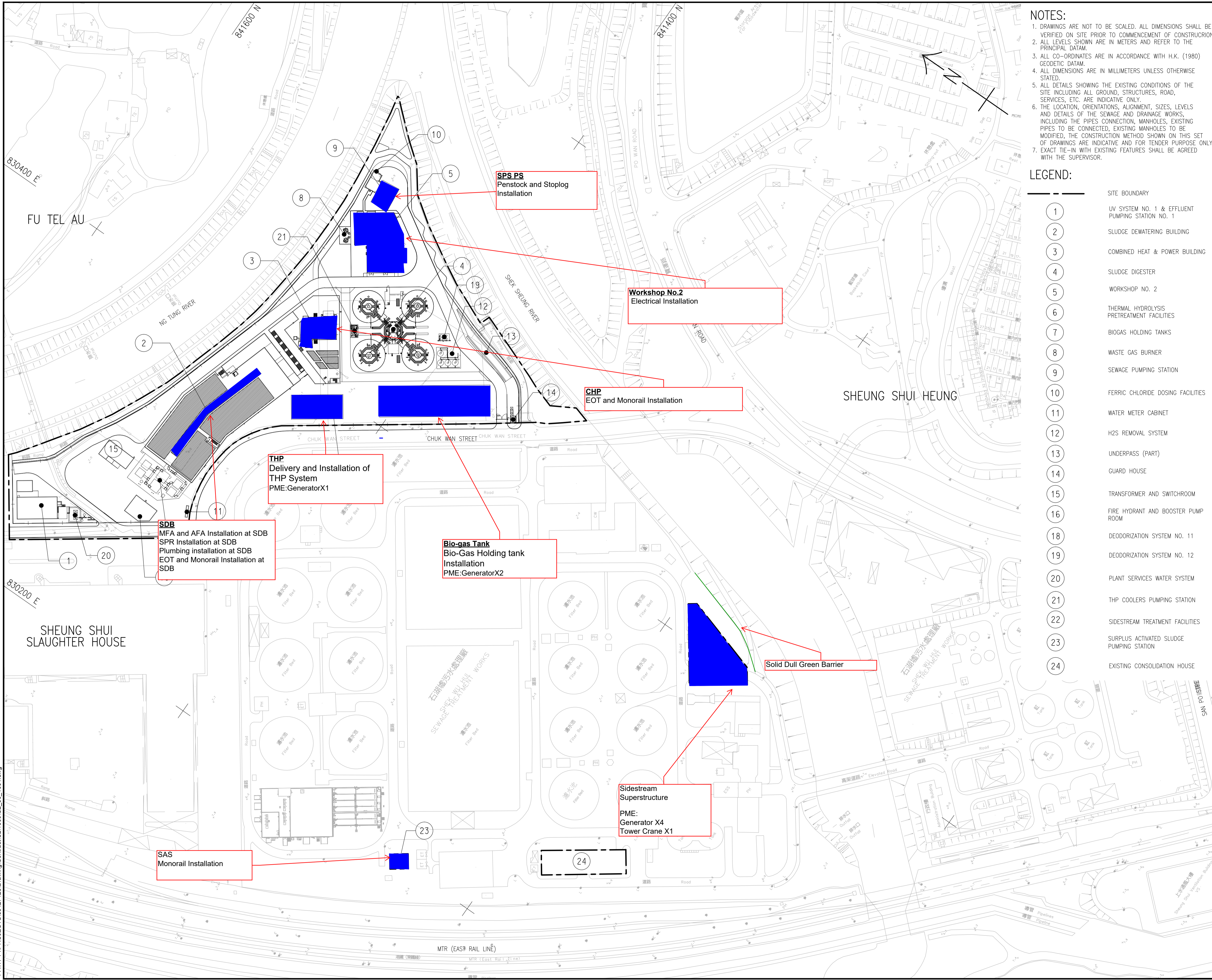
**Area D – Pipe laying**  
PMEs: 1 excavator

**PST – RC works**  
PMEs: 1 generator

**Inlet – RC works**  
PMEs: 1 excavator, 1  
tower crane, 1  
enertainer



Plot File by: GuoX 26/03/2019  
 PATH: P:\PROJECTS\60427128\Drawing\Contract\C21000\C2\_00\_1001.dwg  
 Project Management Initials: Designer: KYTM Checked: TLST Approved: ELIM  
 ISO A1 594mm x 841mm



**NOTES:**

1. DRAWINGS ARE NOT TO BE SCALED. ALL DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
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3. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATUM.
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6. THE LOCATION, ORIENTATIONS, ALIGNMENT, SIZES, LEVELS AND DETAILS OF THE SEWAGE AND DRAINAGE WORKS, INCLUDING THE PIPES CONNECTION, MANHOLES, EXISTING PIPES TO BE CONNECTED, EXISTING MANHOLES TO BE MODIFIED, THE CONSTRUCTION METHOD SHOWN ON THIS SET OF DRAWINGS ARE INDICATIVE AND FOR TENDER PURPOSE ONLY.
7. EXACT TIE-IN WITH EXISTING FEATURES SHALL BE AGREED WITH THE SUPERVISOR.

**LEGEND:**

|   |  |
|---|--|
| ① | SITE BOUNDARY                                    |
| ② | UV SYSTEM NO. 1 & EFFLUENT PUMPING STATION NO. 1 |
| ③ | SLUDGE DEWATERING BUILDING                       |
| ④ | COMBINED HEAT & POWER BUILDING                   |
| ⑤ | SLUDGE DIGESTER                                  |
| ⑥ | WORKSHOP NO. 2                                   |
| ⑦ | THERMAL HYDROLYSIS PRETREATMENT FACILITIES       |
| ⑧ | BIOGAS HOLDING TANKS                             |
| ⑨ | WASTE GAS BURNER                                 |
| ⑩ | SEWAGE PUMPING STATION                           |
| ⑪ | FERRIC CHLORIDE DOSING FACILITIES                |
| ⑫ | WATER METER CABINET                              |
| ⑬ | H2S REMOVAL SYSTEM                               |
| ⑭ | UNDERPASS (PART)                                 |
| ⑮ | GUARD HOUSE                                      |
| ⑯ | TRANSFORMER AND SWITCHROOM                       |
| ⑰ | FIRE HYDRANT AND BOOSTER PUMP ROOM               |
| ⑱ | DEODORIZATION SYSTEM NO. 11                      |
| ⑲ | DEODORIZATION SYSTEM NO. 12                      |
| ⑳ | PLANT SERVICES WATER SYSTEM                      |
| ㉑ | THP COOLERS PUMPING STATION                      |
| ㉒ | SIDESTREAM TREATMENT FACILITIES                  |
| ㉓ | SURPLUS ACTIVATED SLUDGE PUMPING STATION         |
| ㉔ | EXISTING CONSOLIDATION HOUSE                     |



**PROJECT**  
 SHEK WU HUI EFFLUENT POLISHING PLANT

**CONTRACT TITLE**  
 SHEK WU HUI EFFLUENT POLISHING PLANT - MAIN WORKS STAGE 1 - SIDESTREAM TREATMENT FACILITIES AND E&M WORKS FOR SLUDGE TREATMENT FACILITIES

**CLIENT**  
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 Drainage Services Department

**CONSULTANT**  
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 www.aecom.com

**SUB-CONSULTANTS**  
 分判工程師/顧問公司

**ISSUE/REVISION**

| NO. | DATE    | DESCRIPTION    | CHK. |
|-----|---------|----------------|------|
| -   | MAR. 19 | TENDER DRAWING | TLST |

**SCALE**  
 A1 1:1000

**DIMENSION UNIT**  
 METRES

**KEY PLAN**

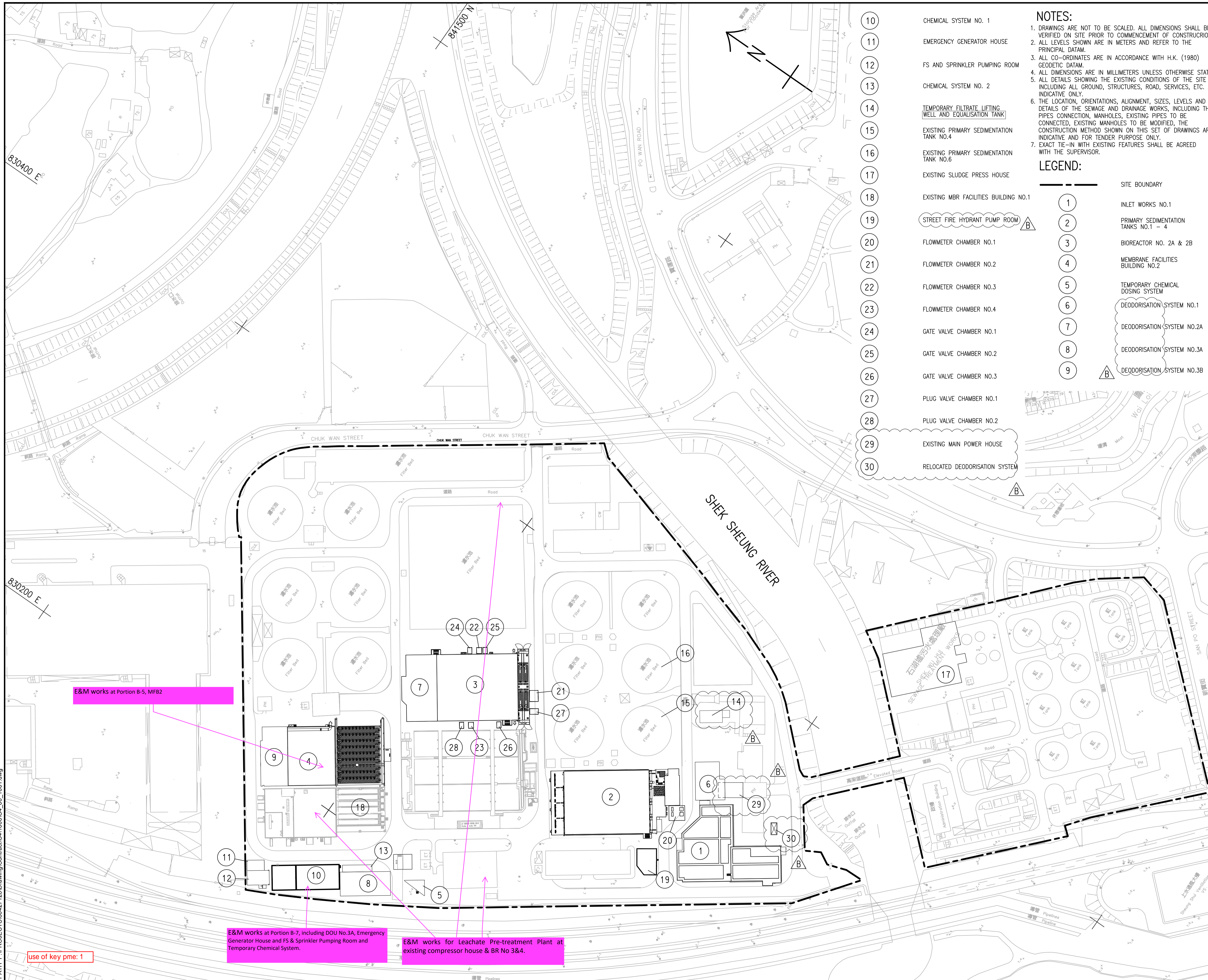
**PROJECT NO.**  
 60427128

**CONTRACT NO.**  
 DE/2018/03

**SHEET TITLE**  
 SHEK WU HUI EFFLUENT POLISHING PLANT GENERAL LAYOUT PLAN

**SHEET NUMBER**  
 60427128/C2/00/1001

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- 10 CHEMICAL SYSTEM NO. 1
- 11 EMERGENCY GENERATOR HOUSE
- 12 FS AND SPRINKLER PUMPING ROOM
- 13 CHEMICAL SYSTEM NO. 2
- 14 TEMPORARY FILTRATE LIFTING WELL AND EQUALISATION TANK
- 15 EXISTING PRIMARY SEDIMENTATION TANK NO.4
- 16 EXISTING PRIMARY SEDIMENTATION TANK NO.6
- 17 EXISTING SLUDGE PRESS HOUSE
- 18 EXISTING MBR FACILITIES BUILDING NO.1
- 19 STREET FIRE HYDRANT PUMP ROOM
- 20 FLOWMETER CHAMBER NO.1
- 21 FLOWMETER CHAMBER NO.2
- 22 FLOWMETER CHAMBER NO.3
- 23 FLOWMETER CHAMBER NO.4
- 24 GATE VALVE CHAMBER NO.1
- 25 GATE VALVE CHAMBER NO.2
- 26 GATE VALVE CHAMBER NO.3
- 27 PLUG VALVE CHAMBER NO.1
- 28 PLUG VALVE CHAMBER NO.2
- 29 EXISTING MAIN POWER HOUSE
- 30 RELOCATED DEODORISATION SYSTEM

**NOTES:**

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7. EXACT TIE-IN WITH EXISTING FEATURES SHALL BE AGREED WITH THE SUPERVISOR.

- LEGEND:**
- 1 SITE BOUNDARY
  - 2 INLET WORKS NO.1
  - 3 PRIMARY SEDIMENTATION TANKS NO.1 - 4
  - 4 BIOREACTOR NO. 2A & 2B
  - 5 MEMBRANE FACILITIES BUILDING NO.2
  - 6 TEMPORARY CHEMICAL DOSING SYSTEM
  - 7 DEODORISATION SYSTEM NO.1
  - 8 DEODORISATION SYSTEM NO.2A
  - 9 DEODORISATION SYSTEM NO.3A
  - 10 DEODORISATION SYSTEM NO.3B



**PROJECT**  
 SHEK WU HUI EFFLUENT POLISHING PLANT

CONTRACT TITLE  
 SHEK WU HUI EFFLUENT POLISHING PLANT - MAIN WORKS STAGE 1 - E&M WORKS FOR SEWAGE TREATMENT FACILITIES

**CLIENT**  
 渠務署  
 Drainage Services Department

**CONSULTANT**  
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 www.aecom.com

**SUB-CONSULTANTS**  
 分判工程師有限公司

**ISSUE/REVISION**

| REV | DATE    | DESCRIPTION           | CHK. |
|-----|---------|-----------------------|------|
| B   | AUG. 19 | TENDER ADDENDUM NO. 3 | TLST |
| A   | JUL. 19 | TENDER ADDENDUM NO. 2 | TLST |
| -   | APR. 19 | TENDER DRAWING        | TLST |

**STATUS**  
 階段

**SCALE**  
 比例  
 A1 1 : 1000

**DIMENSION UNIT**  
 尺寸單位  
 METRES

**KEY PLAN**  
 索引圖

**PROJECT NO.**  
 項目編號  
 60427128

**CONTRACT NO.**  
 合約編號  
 DE/2018/04

**SHEET TITLE**  
 圖紙名稱  
 GENERAL LAYOUT PLAN

**SHEET NUMBER**  
 圖紙編號  
 60427128/C4/00/1001B

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use of key pme: 1

E&M works at Portion B-7, including DOU No.3A, Emergency Generator House and FS & Sprinkler Pumping Room and Temporary Chemical System.

E&M works for Leachate Pre-treatment Plant at existing compressor house & BR No 3&4.

E&M works at Portion B-5, MFB2



## ***Appendix 3.1***

# ***Environmental Mitigation Implementation Schedule***

---

### Appendix 3.1 Environmental Mitigation Implementation Schedule

| EM&A Ref.                     | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures?                               | What requirements or standards for the measure to achieve                            | Remark |
|-------------------------------|--|--|--------------------------------|-------------------------|---|--|--------|
| <b>Air Quality Monitoring</b> |  |  |                                |                         |   |  |        |
| S2.4.1.3                      | Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices:  |  |                                |                         |   |  |        |
|                               | <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> </ul>   | To minimize the dust impact                                      | Contractor                     | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3 | Air Pollution Control Ordinance (APCO) and Air Pollution Control (Construction Dust) | ^      |
|                               | <ul style="list-style-type: none"> <li>Any dusty material remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> </ul>   |  |                                |                         |   |  | ^      |
|                               | <ul style="list-style-type: none"> <li>A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones;</li> </ul>   |  |                                |                         |   |  | ^      |
|                               | <ul style="list-style-type: none"> <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> </ul>  |  |                                |                         |   |  | ^      |
|                               | <ul style="list-style-type: none"> <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> |  |                                |                         |   |  | ^      |

| EM&A Ref. | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | What requirements or standards for the measure to achieve | Remark |
|-----------|---|--|--------------------------------|-------------------------|---------------------------------|---|--------|
|           | <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> </ul> |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <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> </ul>   |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <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> </ul>  |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <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> </ul>  |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <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> </ul>                                |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> </ul>  |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <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> </ul>  |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <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> </ul>  |  |                                |                         |                                 |   | ^      |

|  |   |  |  |  |  |  |   |
|--|---|--|--|--|--|--|---|
|  | <ul style="list-style-type: none"> <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> </ul>  |  |  |  |  |  | ^ |
|  | <ul style="list-style-type: none"> <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 within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies</li> </ul> |  |  |  |  |  | ^ |



| EM&A Ref.                | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures?      | Location of the measure | When to implement the measures?   | What requirements or standards for the measure to achieve | Remark |
|--------------------------|--|--|-------------------------------------|-------------------------|---|---|--------|
| <b>Ecological Impact</b> |  |  |                                     |                         |   |   |        |
| S4.2.1.1                 | Solid dull green noise/visual barriers of at least 2m high shall be erected and maintained between active works area and all areas of ecological importance.   | Minimize noise and human disturbances during construction phase. | Contractor                          | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3               | EIAO-TM   | ^      |
| S4.2.1.2                 | Avoid unnecessary lighting.  | Minimize mortality impacts on birds.                             | Design / Contractor/ Plant Operator | Work Sites              | Construction and operation phase of Main Works Stage 1, Stage 2 and Stage 3 | EIAO-TM   | ^      |
| S4.2.1.3                 | Good construction site practice to minimise dust generation should be followed on all construction sites. Measures to avoid, minimise and mitigate impacts on air quality are detailed in this schedule.   | Minimize dust generation from construction sites.                | Contractor                          | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3               | EIAO-TM   | ^      |
| S4.2.1.4                 | The following measures to avoid, minimise and mitigate impact on water quality during construction phase shall be implemented  |  |                                     |                         |   |   |        |
|                          | <ul style="list-style-type: none"> <li>Temporary sewerage and drainage to be designed and installed to collect wastewater and prevent it from entering water bodies;</li> </ul>  | Avoid, minimise and mitigate impact on water quality             | Contractor                          | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3               | EIAO-TM   | ^      |
|                          | <ul style="list-style-type: none"> <li>Proper locations well away from nearby water bodies should be used for temporary storage of materials (i.e. equipment, filling materials, chemicals and fuel) and temporary stockpiles of construction debris and spoil, and these should be identified before commencement of works;</li> </ul>  |  |                                     |                         |   |   | ^      |
|                          | <ul style="list-style-type: none"> <li>To prevent muddy water entering nearby water bodies, work sites close to nearby water bodies should be isolated, using such items as sandbags or silt curtains with lead edge at bottom and properly supported props. Other protective measures should also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the work sites;</li> </ul> |  |                                     |                         |   |   | ^      |



| EM&A Ref. | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | What requirements or standards for the measure to achieve | Remark |
|-----------|---|--|--------------------------------|-------------------------|---------------------------------|---|--------|
|           | <ul style="list-style-type: none"> <li>Construction debris and spoil should be covered and/or properly disposed of as soon as possible to avoid these being washed into nearby water bodies;</li> </ul>   |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>Proper locations for discharge outlets of temporary wastewater treatment facilities well away from sensitive receivers should be identified;</li> </ul>  |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>Adequate lateral support should be erected where necessary in order to prevent soil/mud from slipping into water bodies;</li> </ul>  |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>Site boundaries should be clearly marked and any works beyond the boundary strictly prohibited;</li> </ul>   |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>Regular water monitoring and site audit should be carried out at adequate points along any watercourses where construction works are underway upstream within their catchments and also on the Ng Tung, Sheung Yue and Shek Sheung Rivers. If the monitoring and audit results show that pollution occurs, adequate measures including temporarily cessation of works should be considered;</li> </ul>   |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>Excavation profiles should be properly designed and executed with attention to the relevant requirements for environment, health and safety;</li> </ul>  |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>Where soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; Stockpiling sites 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</li> </ul> |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>contaminated soil to minimize contaminated runoff and construction materials should be properly covered and located away from nearby water bodies; and</li> </ul>  |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>Supply of suitable clean backfill material after excavation, if required.</li> </ul>   |  |                                |                         |                                 |   | ^      |

| EM&A Ref. | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures? | What requirements or standards for the measure to achieve | Remark |
|-----------|---|--|--------------------------------|-------------------------|---------------------------------|---|--------|
|           | <ul style="list-style-type: none"> <li>• Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated run-off, and truck bodies and tailgates should be sealed to prevent discharge during transport or during wet season;</li> </ul> |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>• Speed control for the trucks carrying contaminated materials should be enforced;</li> </ul>  |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>• Vehicle wheel washing facilities at construction sites' exit points should be established and used, where necessary; and</li> </ul>  |  |                                |                         |                                 |   | ^      |
|           | <ul style="list-style-type: none"> <li>• Other measures as detailed in this schedule.</li> </ul>  |  |                                |                         |                                 |   | ^      |

| EM&A Ref.                   | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures?                               | What requirements or standards for the measure to achieve | Remark     |
|-----------------------------|---|--|--------------------------------|-------------------------|---|---|------------|
| <b>Water Quality Impact</b> |   |  |                                |                         |   |   |            |
| S5.2.2.1                    | <b>Construction Site Runoff</b><br>Practices and measures provided in the Practice Note for Professional Persons on Construction Site Drainage, (PROPECC PN1/94) should be followed where applicable.   | Control construction runoff                                      | Contractors                    | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3 | EIAO-TM, WPCO, EIAO                                       | *          |
| S5.2.2.2 – S5.2.2.3         | <b>Sewage from Workforce</b><br><ul style="list-style-type: none"> <li>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;</li> <li>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 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</li> </ul> | Handling of site sewage  | Contractors                    | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3 | EIAO-TM, WPCO, EIAO                                       | ^<br><br>^ |



| EM&A Ref.   | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures?                               | What requirements or standards for the measure to achieve            | Remark |
|---|---|--|--------------------------------|-------------------------|---|--|--------|
| S6.2.4.1  | Storage, Collection and Transportation of Waste Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include:  | Minimize waste impacts arising from waste storage                | Contractor                     | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3 | WDO  | ^      |
|   | <ul style="list-style-type: none"> <li>Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution;</li> </ul>  |  |                                |                         |   |  | ^      |
|   | <ul style="list-style-type: none"> <li>Stockpiling area should be provided with covers and water spraying system to prevent materials from windblown or being washed away; and</li> </ul>   |  |                                |                         |   |  | ^      |
|   | <ul style="list-style-type: none"> <li>Different locations should be designated to stockpile each material to enhance reuse.</li> </ul>   |  |                                |                         |   |  | ^      |
| S6.2.4.2  | Storage, Collection and Transportation of Waste (con't)   | Minimize waste impacts arising from waste storage                | Contractor                     | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3 | WDO  | *      |
|   | <ul style="list-style-type: none"> <li>Remove waste in timely manner;</li> </ul>  |  |                                |                         |   |  | ^      |
|   | <ul style="list-style-type: none"> <li>Employ the trucks with cover or enclosed containers for waste transportation;</li> </ul>   |  |                                |                         |   |  | ^      |
|   | <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>                              |  |                                |                         |   |  | ^      |
| S6.2.5.2  | C&D Materials from Site Formation   | Minimize waste impacts arising from waste storage                | Contractor                     | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3 | Land (Miscellaneous Provisions) Ordinance, WDO, ETWB TCW No. 19/2005 | ^      |
|   | <ul style="list-style-type: none"> <li>Maintain temporary stockpiles and reuse excavated fill material for backfilling;</li> </ul>  |  |                                |                         |   |  | ^      |
|   | <ul style="list-style-type: none"> <li>Carry out on-site sorting;</li> </ul>  |  |                                |                         |   |  | ^      |
|   | <ul style="list-style-type: none"> <li>Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> </ul>  |  |                                |                         |   |  | ^      |
|   | <ul style="list-style-type: none"> <li>Adopt "selective demolition" technique to demolish the existing structure and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; and</li> </ul> |  |                                |                         |   |  | ^      |
| <ul style="list-style-type: none"> <li>Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified.</li> </ul> | ^   |  |                                |                         |   |  |        |
| S6.2.5.3  | C&D Material from Buildings Demolition and New Building Construction  |  |                                |                         |   |  |        |

| EM&A Ref. | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concern to Address            | Who to implement the measures? | Location of the measure | When to implement the measures?                               | What requirements or standards for the measure to achieve  | Remark                              |
|-----------|---|---|--------------------------------|-------------------------|---|--|-------------------------------------|
|           | <ul style="list-style-type: none"> <li>• The Contractor should recycle as much as possible of the C&amp;DM on-site. Public fill and C&amp;DM waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. For example, concrete and masonry can be crushed and used as fill, and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage.</li> <li>• The use of wooden hoardings shall not be allowed. An alternative material, such as metal, aluminium or alloy etc, could be used.</li> <li>• Government has developed a charging policy for the disposal of waste to landfill at present. It will provide additional incentive to reduce the volume of generated waste and ensure proper segregation to allow reuse of the inert material on site when implemented.</li> <li>• In order to minimize the impacts of the demolition works, the generated wastes must be cleared as quickly as possible after demolition. Therefore, the demolition and clearance works should be undertaken simultaneously. To facilitate proper segregation of inert and non-inert C&amp;D material arising from demolition works, selective demolition method should be adopted.</li> </ul> | Minimize waste impacts arising from waste storage                           | Contractor                     | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3 | Land (Miscellaneous Provisions) Ordinance, WDO, ETWB TCW No. 19/2005   | <p>^</p> <p>^</p> <p>^</p> <p>^</p> |
| S6.2.5.4  | <p>Chemical Waste</p> <ul style="list-style-type: none"> <li>• If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers.</li> <li>• 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.</li> </ul>  | Control the chemical waste and ensure proper storage, handling and disposal | Contractor                     | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3 | Waste Disposal (Chemical Waste General) Regulation, Code of Practice on the Packaging, Labelling and Storage of Chemical Waste | <p>^</p> <p>*</p>                   |
| S6.2.5.5  | General Refuse  |   |                                |                         |   |  |                                     |

| EM&A Ref. | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concern to Address                   | Who to implement the measures? | Location of the measure | When to implement the measures?                               | What requirements or standards for the measure to achieve | Remark           |
|-----------|--|--|--------------------------------|-------------------------|---|---|------------------|
|           | <ul style="list-style-type: none"> <li>• General refuse should be stored in enclosed bins separately from construction and chemical wastes.</li> <li>• 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 general refuse on a daily basis.</li> </ul> | Minimize production of the general refuse and avoid odour, pest and litter impacts | Contractor                     | Work Sites              | Construction phase of Main Works Stage 1, Stage 2 and Stage 3 | Waste Disposal (Chemical Waste General) Regulation        | ^<br>^<br>^<br>^ |

| EM&A Ref.                   | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measure | When to implement the measures?              | What requirements or standards for the measure to achieve | Remark |
|-----------------------------|---|--|--------------------------------|-------------------------|--|---|--------|
| <b>Landscape and Visual</b> |   |  |                                |                         |  |   |        |
| S7.3.1.1                    | <p>Good Site Practices Measures</p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>   | Minimize the impact to the landscape and visual                  | Contractor                     | Work Sites              | Prior to construction and construction phase |   | N/A    |
|                             |   |  |                                |                         |  |   | N/A    |
| S7.3.2.1                    | <p>MM4 - Tree Protection &amp; Preservation</p> <ul style="list-style-type: none"> <li>Existing trees to be retained within the Project Site should be carefully protected during construction. In particular Old and Valuable Trees (OVTs) will be preserved according to ETWB TC (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.</li> </ul> | Protect and Preserve Trees                                       | Designer / Contractor          | Work Sites              | Prior to construction and construction phase | ETWB TCW No. 29/2004 and DEVB TC(W) No.7/2015             | ^      |



| EM&A Ref. | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concern to Address  | Who to implement the measures? | Location of the measure   | When to implement the measures?                               | What requirements or standards for the measure to achieve  | Remark |
|-----------|--|---|--------------------------------|---|---|--|--------|
| S7.3.2.1  | <p>MM5 - Tree Transplantation</p> <ul style="list-style-type: none"> <li>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 No. 2/2004 and DEVB TC(W) No. 7/2015 and final locations of transplanted trees should be agreed prior to commencement of the work. 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.</li> </ul> | Transplant Trees where suitable for transplantation   | Designer / Contractor          | Work Sites where possible. Otherwise consider offsite locations | Prior to construction, construction phase and operation phase | DEVB TC(W) No. 7/2015 and ETWB TCW No.2/2004 HyD HQ/GN/13 Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit | N/A    |
| S7.3.2.1  | <p>MM6 - Slope Landscaping</p> <ul style="list-style-type: none"> <li>Site formation should be reduced as far as possible. Hydroseeding 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.</li> <li>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping</li> </ul>  | To avoid substantial slope cutting and fill slopes. To prevent erosion and subsequent loss of landscape resources and character. To ensure manmade slopes are as visually amenable as possible. | Designer / Contractor          | Work Sites  | Prior to construction, construction phase and operation phase | GEO Publication (1999) - Use of Vegetation as Surface Protection on Slope; GEO Publication No. 1/2011- Technical Guidelines on Landscape Treatment for Slopes      | N/A    |
| S7.3.2.1  | MM7 - Compensatory Planting  |   |                                |   |   |  |        |

| EM&A Ref. | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concern to Address   | Who to implement the measures? | Location of the measure   | When to implement the measures?                               | What requirements or standards for the measure to achieve   | Remark |
|-----------|--|--|--------------------------------|---|---|---|--------|
|           | <ul style="list-style-type: none"> <li>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 DEVB TC(W) No. 7/2015.</li> <li>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.</li> <li>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.</li> </ul> | Compensate for trees and shrubs lost due to the Project  | Designer / Contractor          | Work Sites where possible. Otherwise consider offsite locations | Prior to construction, construction phase and operation phase | DEVB TC(W) No. 7/2015 and ETWB TCW No. 2/2004   | N/A    |
|           |  |  |                                |   |   |   | N/A    |
|           |  |  |                                |   |   |   | N/A    |
| S7.3.2.1  | <b>MM9 - Vertical Greening</b> <ul style="list-style-type: none"> <li>Planting of climbers to grow up vertical surfaces were appropriate.</li> </ul>   | Soften hard surfaces and facilities  | Designer / Contractor          | On appropriate structures                                       | Prior to construction, construction phase and operation phase | ETWB TCW No.11/2004 – Cyber Manual for Greening   | N/A    |
| S7.3.2.1  | <b>MM10 - Green Roof</b> <ul style="list-style-type: none"> <li>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.</li> </ul>   | Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to visually sensitive receivers (VSRs) at high levels. Provide greening | Designer / Contractor          | On appropriate buildings  | Prior to construction, construction phase and operation phase | CIBSE HK Branch, Technical Guidelines for Green Roof Systems in Hong Kong (2011); ArchSD/Urbis Study on Green Roof Application in HK (2007) | N/A    |

| EM&A Ref. | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concern to Address   | Who to implement the measures? | Location of the measure  | When to implement the measures?                               | What requirements or standards for the measure to achieve | Remark |
|-----------|--|--|--------------------------------|--|---|---|--------|
| S7.3.2.1  | MM11 - Screen Planting <ul style="list-style-type: none"> <li>Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.</li> </ul>  | To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment | Designer / Contractor          | Along roads, around suitable built structures, or around VSRs to contain their view out to the structures. | Prior to construction, construction phase and operation phase | ETWB TCW No. 10/2013 and 3/2006                           | N/A    |
| S7.3.2.1  | MM16 - Screen Hoarding <ul style="list-style-type: none"> <li>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 of NENT NDAs (Register No. AEIAR-175- 2013)]</li> </ul> | To screen undesirable views of the works site.   | Designer                       | Work Sites   | Construction phase  |   | *      |
| S7.3.2.1  | MM17 - Light Control <ul style="list-style-type: none"> <li>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.</li> </ul>  | To minimize glare impact to adjacent VSRs.   | Designer / Contractor          | Work Sites and/or the Plant  | Construction phase and operation phase                        |   | N/A    |

Remarks:

- ^ Implemented
- \* To be followed-up by Contractor
- # Not Implemented
- N/A Not Applicable



## ***Appendix 4.1***

### ***Action and Limit Level***



## Action and Limit Levels

### Air Quality Monitoring

| Monitoring Station | 1-hour TSP Level in $\mu\text{g}/\text{m}^3$ |             | 24-hour TSP Level in $\mu\text{g}/\text{m}^3$ |             |
|--------------------|--|-------------|---|-------------|
|                    | Action Level                                 | Limit Level | Action Level                                  | Limit Level |
| AM1                | 320  | 500         | 189   | 260         |
| AM2                | 322  | 500         | 187   | 260         |

### Noise Monitoring

| Monitoring Stations | Leq(30min),dB(A)                          |                     |
|---------------------|---|---------------------|
|                     | Action Level (dB(A))                      | Limit Level (dB(A)) |
| NM1                 | When one documented complaint is received | 75*                 |
| NM2                 |   |                     |
| NM3                 |   |                     |

\*Notes: (1) If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) used by the Noise Control Authority should be followed.

(2) The limit level shall be 70 dB(A) and 65 dB(A) for educational institute during normal teaching periods and school examination periods, respectively.

### Ecological Monitoring of Waterbirds using Ng Tung, Sheung Yue and Shek Sheung Rivers during Construction Phase

| Action Level   | Limit Level   |
|--|---|
| Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that Action Level response is triggered.                       | Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.                   |
| Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level Response is triggered. | Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered. |

\*Note: Whether numbers are significant depend on species and season after collection and evaluation of baseline data.



## ***Appendix 4.2***

### ***Copies of Calibration Certificates***

# Certificate of Calibration

| Calibration Certification Information |                             |           |       |
|---------------------------------------|-----------------------------|-----------|-------|
| Cal. Date: March 31, 2023             | Rootsmeter S/N: 438320      | Ta: 294   | °K    |
| Operator: Jim Tisch                   |                             | Pa: 749.0 | mm Hg |
| Calibration Model #: TE-5025A         | Calibrator S/N: <b>3166</b> |           |       |

| Run | Vol. Init (m3) | Vol. Final (m3) | ΔVol. (m3) | ΔTime (min) | ΔP (mm Hg) | ΔH (in H2O) |
|-----|----------------|-----------------|------------|-------------|------------|-------------|
| 1   | 1              | 2               | 1          | 1.4500      | 3.2        | 2.00        |
| 2   | 3              | 4               | 1          | 1.0210      | 6.4        | 4.00        |
| 3   | 5              | 6               | 1          | 0.9120      | 8.0        | 5.00        |
| 4   | 7              | 8               | 1          | 0.8710      | 8.8        | 5.50        |
| 5   | 9              | 10              | 1          | 0.7170      | 12.8       | 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) | $\sqrt{\Delta H (Ta/Pa)}$ (y-axis) |
| 0.9947          | 0.6860        | 1.4135   | 0.9957    | 0.6867      | 0.8860                             |
| 0.9905          | 0.9701        | 1.9990   | 0.9915    | 0.9711      | 1.2530                             |
| 0.9883          | 1.0837        | 2.2349   | 0.9893    | 1.0848      | 1.4009                             |
| 0.9873          | 1.1335        | 2.3440   | 0.9883    | 1.1346      | 1.4693                             |
| 0.9819          | 1.3695        | 2.8270   | 0.9829    | 1.3709      | 1.7720                             |
| <b>QSTD</b>     | m=            | <b>2.07036</b>   | <b>QA</b> | m=          | <b>1.29643</b>                     |
|                 | b=            | <b>-0.00719</b>  |           | b=          | <b>-0.00451</b>                    |
|                 | r=            | <b>0.99999</b>   |           | r=          | <b>0.99999</b>                     |

| Calculations  |   |
|---|---|
| Vstd= $\Delta Vol \left( \frac{Pa - \Delta P}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)$                                 | Va= $\Delta Vol \left( \frac{Pa - \Delta P}{Pa} \right)$            |
| Qstd= Vstd/ΔTime  | Qa= Va/ΔTime  |
| <b>For subsequent flow rate calculations:</b>   |   |
| Qstd= $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$ | Qa= $1/m \left( \left( \sqrt{\Delta H (Ta/Pa)} \right) - b \right)$ |

| 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 |



Lam Environmental Services Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : AM1a\*  
 Equipment no. : 2036

Calibration Date : 8-Nov-23  
 Calibration Due Date : 8-Jan-24

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

| Ambient Condition           |     |        |                          |
|-----------------------------|-----|--------|--------------------------|
| Temperature, T <sub>a</sub> | 298 | Kelvin | Pressure, P <sub>a</sub> |
|                             |     |        | 1016 mmHg                |

| Orifice Transfer Standard Information |           |   |         |                           |          |
|---------------------------------------|-----------|---|---------|---------------------------|----------|
| Equipment No.                         | 3166      | Slope, m <sub>c</sub>   | 2.07036 | Intercept, b <sub>c</sub> | -0.00719 |
| Last Calibration Date                 | 31-Mar-23 | $(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$ |         |                           |          |
| Next Calibration Date                 | 30-Mar-24 |   |         |                           |          |

| Calibration of TSP |  |        |              |   |   |   |
|--------------------|--|--------|--------------|---|---|---|
| Calibration Point  | Manometer Reading<br>H (inches of water) |        |              | Q <sub>std</sub><br>(m <sup>3</sup> / min.)<br>X-axis | Continuous Flow<br>Recorder, W<br>(CFM) | IC<br>(W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31)<br>Y-axis |
|                    | (up)                                     | (down) | (difference) |   |   |   |
| 1                  | 1.5                                      | 1.5    | 3.0          | 0.8412  | 30                                      | 30.0399   |
| 2                  | 2.6                                      | 2.6    | 5.2          | 1.1064  | 39                                      | 39.0519   |
| 3                  | 3.6                                      | 3.6    | 7.2          | 1.3012  | 47                                      | 47.0626   |
| 4                  | 4.7                                      | 4.7    | 9.4          | 1.4863  | 55                                      | 55.0732   |
| 5                  | 5.7                                      | 5.7    | 11.4         | 1.6365  | 59                                      | 59.0786   |

By Linear Regression of Y on X

Slope, m = 37.6133      Intercept, b = -1.8700

Correlation Coefficient\* = 0.9982

Calibration Accepted = Yes/Ne\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : Serial No.:2036

Calibrated by : William Cheung  
 Date : 8-Nov-23

Checked by : Derek Lo  
 Date : 8-Nov-23





Lam Environmental Services Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : AM1a\*  
 Equipment no. : 2036

Calibration Date : 4-Jan-24  
 Calibration Due Date : 3-Mar-24

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

| Ambient Condition           |     |        |                          |
|-----------------------------|-----|--------|--------------------------|
| Temperature, T <sub>a</sub> | 290 | Kelvin | Pressure, P <sub>a</sub> |
|                             |     |        | 1021 mmHg                |

| Orifice Transfer Standard Information |           |   |         |                           |          |
|---------------------------------------|-----------|---|---------|---------------------------|----------|
| Equipment No.                         | 3166      | Slope, m <sub>c</sub>   | 2.07036 | Intercept, b <sub>c</sub> | -0.00719 |
| Last Calibration Date                 | 31-Mar-23 | $(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$ |         |                           |          |
| Next Calibration Date                 | 30-Mar-24 |   |         |                           |          |

| Calibration of TSP |  |        |              |   |   |   |
|--------------------|--|--------|--------------|---|---|---|
| Calibration Point  | Manometer Reading<br>H (inches of water) |        |              | Q <sub>std</sub><br>(m <sup>3</sup> / min.)<br>X-axis | Continuous Flow<br>Recorder, W<br>(CFM) | IC<br>(W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31)<br>Y-axis |
|                    | (up)                                     | (down) | (difference) |   |   |   |
| 1                  | 1.2                                      | 1.2    | 2.4          | 0.7649  | 28                                      | 28.4912   |
| 2                  | 2.3                                      | 2.3    | 4.6          | 1.0576  | 35                                      | 35.6140   |
| 3                  | 3.2                                      | 3.2    | 6.4          | 1.2468  | 42                                      | 42.7368   |
| 4                  | 4.5                                      | 4.5    | 9.0          | 1.4779  | 50                                      | 50.8772   |
| 5                  | 5.3                                      | 5.3    | 10.6         | 1.6036  | 56                                      | 56.9824   |

By Linear Regression of Y on X

Slope, m = 33.9611      Intercept, b = 1.1625

Correlation Coefficient\* = 0.9936

Calibration Accepted = Yes/Ne\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : Serial No.:2036

Calibrated by : William Cheung  
 Date : 4-Jan-24

Checked by : Derek Lo  
 Date : 4-Jan-24



Lam Environmental Services Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : AM2a  
 Equipment no. : 774

Calibration Date : 8-Dec-23  
 Calibration Due Date : 7-Feb-24

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

| Ambient Condition           |     |        |                          |
|-----------------------------|-----|--------|--------------------------|
| Temperature, T <sub>a</sub> | 294 | Kelvin | Pressure, P <sub>a</sub> |
|                             |     |        | 1017 mmHg                |

| Orifice Transfer Standard Information |           |   |         |                           |          |
|---------------------------------------|-----------|---|---------|---------------------------|----------|
| Equipment No.                         | 3166      | Slope, m <sub>c</sub>   | 2.07036 | Intercept, b <sub>c</sub> | -0.00719 |
| Last Calibration Date                 | 31-Mar-23 | $(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$ |         |                           |          |
| Next Calibration Date                 | 30-Mar-24 |   |         |                           |          |

| Calibration of TSP |                   |        |              |   |                                      |   |
|--------------------|-------------------|--------|--------------|---|--------------------------------------|---|
| Calibration Point  | Manometer Reading |        |              | Q <sub>std</sub><br>(m <sup>3</sup> / min.)<br>X-axis | Continuous Flow Recorder, W<br>(CFM) | IC<br>(W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31)<br>Y-axis |
|                    | (up)              | (down) | (difference) |   |                                      |   |
| 1                  | 1.4               | 1.4    | 2.8          | 0.8187  | 22                                   | 22.1896   |
| 2                  | 2.0               | 2.0    | 4.0          | 0.9778  | 29                                   | 29.2499   |
| 3                  | 2.9               | 2.9    | 5.8          | 1.1767  | 37                                   | 37.3188   |
| 4                  | 3.8               | 3.8    | 7.6          | 1.3465  | 43                                   | 43.3705   |
| 5                  | 4.9               | 4.9    | 9.8          | 1.5286  | 50                                   | 50.4308   |

By Linear Regression of Y on X

Slope, m = 39.4658      Intercept, b = -9.6494

Correlation Coefficient\* = 0.9993

Calibration Accepted = Yes/Ne\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : Serial No.:774

Calibrated by : William Cheung  
 Date : 8-Dec-23

Checked by : Derek Lo  
 Date : 8-Dec-23

# Certificate of Calibration

BT-645  
Particulate Monitor

*Recommended calibration interval is 24 months from first day of use.*

## Unit Info

Model: BT-645 81865 Firmware Rev: 1.3.0

Serial Number: C15622 81113 0.2.4

Calibrated By: J. Walker AT28 Cal. Date: 07/07/2022

Quality Inspector: Coni Chuske Date: 07/07/2022

Calibration Hz/ $\mu\text{g}/\text{m}^3$ : 7.10

## Final Test

Flow (2.0 L/M): Pass

Ambient T (C) 23.8

RH, % 38.7

Serial Communication: Pass

BT-645 Conc.: 425.64

Standard Conc.: 420.49

## Calibration Standards

| Standards              | Manufacturer        | Model          | SN          | Cal Due    |
|------------------------|---------------------|----------------|-------------|------------|
| RMS Multimeter         | Fluke               | 189 Multimeter | 94060816    | 11/08/2022 |
| RH & TEMPERATURE       | Met One Instruments | 083E-1-35      | GP-679      | 05/17/2023 |
| Primary Flow Meter     | TSI                 | 4040           | 40401945009 | 01/31/2023 |
| Digital Dust Indicator | SIBATA              | LD-3           | 476795      | 08/23/2022 |
|                        |                     |                |             |            |
|                        |                     |                |             |            |

The standards used for this calibration have accuracy equal to or greater than the instrument tested. These standards are on record and traceable to NIST to the extent allowed by the institute's calibration facility. Unless otherwise stated, all instruments are calibrated to meet the manufacturer's published specifications.



# Calibration Certificate

Certificate No. **211036**

Page 1 of 2 Pages

**Customer :** Lam Environmental Services Limited

**Address :** 19/F, Remex Centre, 42 Wong Chuk Hang Road, Hong Kong

**Order No. :** Q24331

**Date of receipt :** 24-Nov-22

## Item Tested

**Description :** Aerosol Mass Monitor

**Manufacturer :** Met One

**I.D. :** --

**Model :** Aerocet 831

**Serial No. :** Y23153

## Test Conditions

**Date of Test :** 13-Dec-22

**Supply Voltage :** --

**Ambient Temperature :** (23 ± 3)°C

**Relative Humidity :** (50 ± 25) %

## Test Specifications

Calibration check.

Calibration procedure : Manufacturer recommended method (gravimetric), Z28.

## Test Results

All results were within the tolerance(s).

The results are shown in the attached page(s).

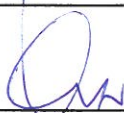
Main Test equipment used:

| <u>Equipment No.</u> | <u>Description</u> | <u>Cert. No.</u> | <u>Traceable to</u> |
|----------------------|--------------------|------------------|---------------------|
| S136B                | Stop Watch         | 201879           | SCL-HKSAR           |
| S238                 | Micro Balance      | 108228           | NIM-PRC             |
| S201                 | Std. Test Dust     | 61291            | NIST                |
| S207B                | Std. Flowmeter     | LL-2104002489    | NIM-PRC             |

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

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.

The test results apply to the above Unit-Under-Test only

**Calibrated by :**   
Kin Wong

**Approved by :**   
Steve Kwan

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

**Date:** 13-Dec-22



# Calibration Certificate

Certificate No. 211036

Page 2 of 2 Pages

Results :

## 1. General

Internal Filters : checked and found clean.

## 2. Flow Meter

| UUT Nominal Value (LPM) | Measured Value (LPM) | Tolerance (LPM) | Uncertainty |
|-------------------------|----------------------|-----------------|-------------|
| 2.83                    | 2.80                 | ± 0.15          | ± 0.05      |

## 3. Timer

| Reference Value | UUT Reading | Tolerance  | Uncertainty  |
|-----------------|-------------|------------|--------------|
| 10' 00" 40      | 10 min      | ± 2 sec/hr | ± 0.5 sec/hr |

## 4. Dust Particle (PM<sub>10</sub>)

| Applied Value (µg/m <sup>3</sup> ) | UUT Reading (µg/m <sup>3</sup> )<br>K Factor : 1.26 | Tolerance | Uncertainty |
|------------------------------------|---|-----------|-------------|
| 350                                | 364   | ± 20 %    | ± 10 %      |

- Remark :
1. UUT: Unit-Under-Test
  2. The uncertainty claimed is for a confidence probability of not less than 95%.
  3. ISO 12103-1 A1 respirable standard test dust was used for the calibration.
  4. The K Factor had been adjusted from 3.00 to 1.26.

----- END -----



**Calibration Data for High Volume Sampler (TSP Sampler)**

|                      |   |
|----------------------|---|
| Equipment no.        | 2493  |
| Calibration Date     | 3/2/2023                                      |
| Calibration Due Date | 3/4/2023                                      |
| Location             | G/FL;No.20,Pak Kung Street,Hung Hom ,Kowloon. |

| Ambient Condition           |     |        |                          |
|-----------------------------|-----|--------|--------------------------|
| Temperature, T <sub>a</sub> | 292 | Kelvin | Pressure, P <sub>a</sub> |
|                             |     |        | 1018 mmHg                |

| Orifice Transfer Standard Information |           |   |         |                           |          |
|---------------------------------------|-----------|---|---------|---------------------------|----------|
| Equipment No.                         | 3880      | Slope, m <sub>c</sub>   | 2.07013 | Intercept, b <sub>c</sub> | -0.00727 |
| Last Calibration Date                 | 28/6/2022 | $(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$ |         |                           |          |
| Next Calibration Date                 | 28/6/2023 |   |         |                           |          |

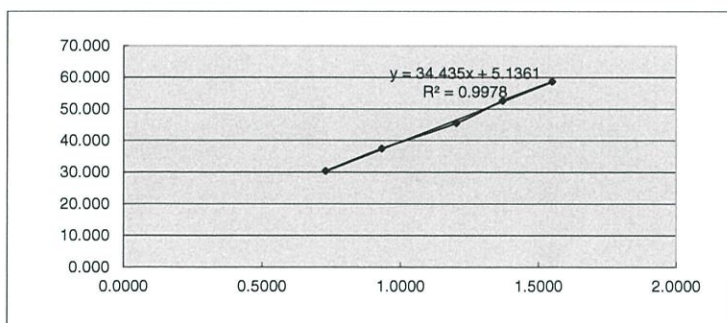
| Calibration of TSP |                     |      |        |   |                                      |  |
|--------------------|---------------------|------|--------|---|--------------------------------------|--|
| Calibration Point  | Manometer Reading   |      |        | Q <sub>std</sub><br>(m <sup>3</sup> / min.) | Continuous Flow Recorder, W<br>(CFM) | IC<br>$(W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31)$ |
|                    | H (inches of water) | (up) | (down) |   |                                      |  |
| 1                  | 1.1                 | 1.1  | 2.2    | 0.7290                                      | 30                                   | 30.3769  |
| 2                  | 1.8                 | 1.8  | 3.6    | 0.9316                                      | 37                                   | 37.4648  |
| 3                  | 3.0                 | 3.0  | 6.0    | 1.2016                                      | 45                                   | 45.5653  |
| 4                  | 3.9                 | 3.9  | 7.8    | 1.3696                                      | 52                                   | 52.6532  |
| 5                  | 5.0                 | 5.0  | 10.0   | 1.5503                                      | 58                                   | 58.7286  |

By Linear Regression of Y on X

Slope, m = 34.4355      Intercept, b = 5.1361

Correlation Coefficient\* = 0.9989

Calibration Accepted = Yes/No\*\*



\* if Correlation Coefficient < 0.990, check and recalibration again.

\*\* Delete as appropriate.

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

Calibrated by : Wai Hung Poon  
 Poon Wai Hung

Checked by : Lo Kam Chuen  
 Lo Kam Chuen

Date : 3/4/2023

Date : 3/4/2023



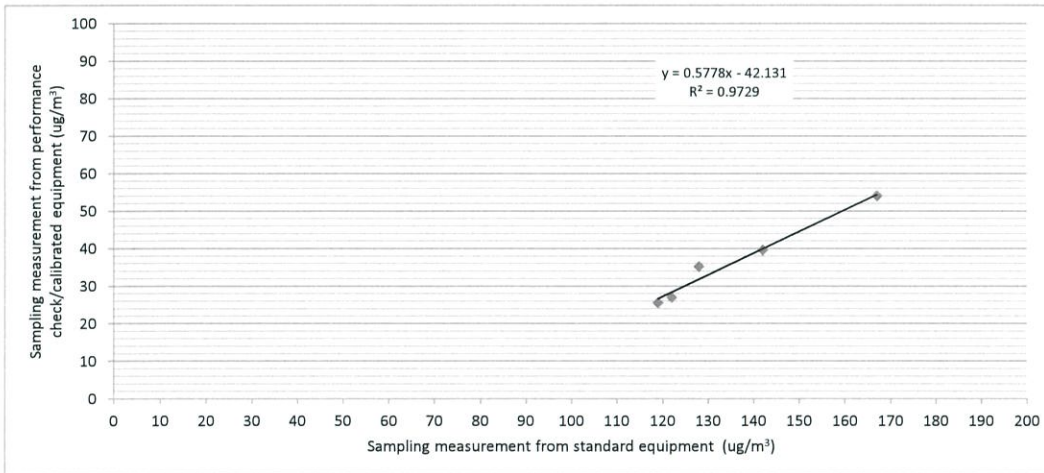
|               |   |  |
|---------------|---|--|
| Equipment     | Portable Dust Meter   | Standard Equipment (High Volume Sampler) |
| Manufacturer  | MET ONE INSTRUMENTS   | TISCH                                    |
| Model Number  | BT-645  | TE-5170                                  |
| Serial Number | C15622  | 2493                                     |
| Date          | 3/2/2023  | 3/2/2023                                 |
| Location      | GCE laboratory - G/FL; No.20, Pak Kung Street, Hung Hom, Kowloon. |  |

**Portable Dust Meter Performance Check Results**

| Check Point | Date & Time            | Mean Temp (°C) | Mean Pressure (hPa) | Concentration in ug/m <sup>3</sup> | Concentration in ug/m <sup>3</sup>                       |
|-------------|------------------------|----------------|---------------------|------------------------------------|--|
|             |                        |                |                     | (Standard equipment)<br>(X - Axis) | (Performance Check / Calibrated equipment)<br>(Y - Axis) |
| 1           | 3/2/2023 9:30 -10:30   | 18             | 1019                | 167                                | 54   |
| 2           | 3/2/2023 11:32 -12:32  | 18             | 1019                | 142                                | 40   |
| 3           | 3/2/2023 12:34 - 13:34 | 18             | 1019                | 128                                | 35   |
| 4           | 3/2/2023 13:36 - 14:36 | 18             | 1019                | 122                                | 27   |
| 5           | 3/2/2023 14:38 - 15:38 | 18             | 1019                | 119                                | 25   |

**Linear Regression of Y on X**

Slope (K- factor) : 1.7000  
 Correlation Coefficient : 0.9863  
 Validity of Performance Check / Calibration Record : 3/2/2024



Operator: Poon Wai Hung Date: 9/2/2023  
 Checked by: Ho Kam Chuen Date: 9/2/2023



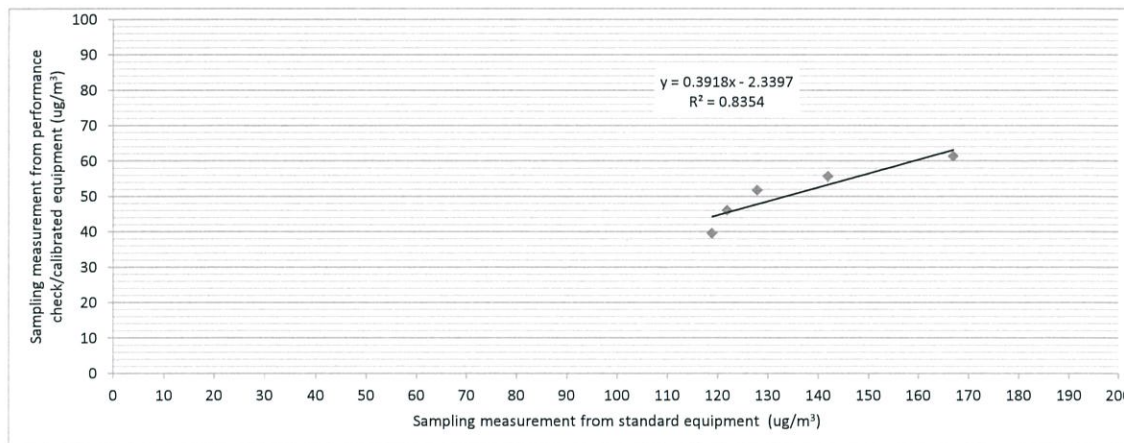
|               |   |  |
|---------------|---|--|
| Equipment     | Portable Dust Meter   | Standard Equipment (High Volume Sampler) |
| Manufacturer  | MET ONE INSTRUMENTS   | TISCH                                    |
| Model Number  | AEROGET831  | TE-5170                                  |
| Serial Number | Y23153  | 2493                                     |
| Date          | 3/2/2023  | 3/2/2023                                 |
| Location      | GCE laboratory-G/FL;No.20 Pak Kung Street., Hung Hom, Kowloon |  |

**Portable Dust Meter Performance Check Results**

| Check Point | Date & Time            | Mean Temp (°C) | Mean Pressure (hPa) | Concentration in ug/m <sup>3</sup><br>(Standard equipment)<br>(X - Axis) | Concentration in ug/m <sup>3</sup><br>(Performance Check /<br>Calibrated equipment)<br>(Y - Axis) |
|-------------|------------------------|----------------|---------------------|--|---|
| 1           | 3/2/2023 9:30 -10:30   | 18             | 1019                | 167  | 61  |
| 2           | 3/2/2023 11:32 -12:32  | 18             | 1019                | 142  | 56  |
| 3           | 3/2/2023 12:34 - 13:34 | 18             | 1019                | 128  | 52  |
| 4           | 3/2/2023 13:36 - 14:36 | 18             | 1019                | 122  | 46  |
| 5           | 3/2/2023 14:38 - 15:38 | 18             | 1019                | 119  | 40  |

**Linear Regression of Y on X**

Slope (K- factor) : 2.2000  
 Correlation Coefficient : 0.9140  
 Validity of Performance Check / Calibration Record : 3/2/2024



Operator: Poon Wai Hung Poon Wai Hung

Date: 9/2/2023

Checked by: Lo Kam Chuen Lo Kam Chuen

Date: 9/2/2023





## CERTIFICATE OF CALIBRATION

Certificate No.: 23CA0308 01 Page 1 of 2

### Item tested

|                       |                            |   |            |        |
|-----------------------|----------------------------|---|------------|--------|
| Description:          | Sound Level Meter (Type 1) | , | Microphone | Preamp |
| Manufacturer:         | Nti                        | , | Nti Andio  |        |
| Type/Model No.:       | XL2                        | , | MC230A     | MA220  |
| Serial/Equipment No.: | A2A-15269-EO               | , | A16673     | 8034   |
| Adaptors used:        | -                          | , |            |        |

### Item submitted by

Customer Name: Lam Environmental Services Limited.  
Address of Customer: -  
Request No.: -  
Date of receipt: 08-Mar-2023

Date of test: 09-Mar-2023

### Reference equipment used in the calibration

| Description:                    | Model:   | Serial No. | Expiry Date: | Traceable to: |
|---------------------------------|----------|------------|--------------|---------------|
| Multi function sound calibrator | B&K 4226 | 2288444    | 23-Aug-2023  | CIGISMEC      |
| Signal generator                | DS 360   | 61227      | 08-Jun-2023  | CEPREI        |

### Ambient conditions

Temperature:  $22 \pm 1$  °C  
Relative humidity:  $55 \pm 10$  %  
Air pressure:  $1010 \pm 5$  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  $\pm 20\%$ .
- 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 responsess of the Sound Level Meter.

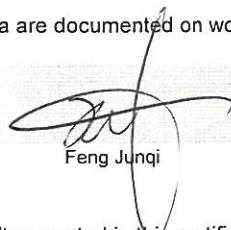
### Test results

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: 13-Mar-2023

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.:

23CA0308 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  | Pass    | 1.6                       |                 |
| Linearity range for Leq | At reference range , Step 5 dB at 4 kHz          | Pass    | 0.3                       | 2.2             |
|                         | 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  | Pass    | 0.3                       |                 |
|                         | Single Burst Fast                                | Pass    | 0.3                       |                 |
|                         | Single Burst Slow                                | Pass    | 0.3                       |                 |
| Peak response           | Single 100µs rectangular pulse                   | Pass    | 0.3                       |                 |
|                         | R.M.S. accuracy                                  | Pass    | 0.3                       |                 |
| Time weighting I        | Single burst 5 ms at 2000 Hz                     | Pass    | 0.3                       |                 |
|                         | Repeated at frequency of 100 Hz                  | Pass    | 0.3                       |                 |
| 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                      | Pass    | 0.4                       |                 |
| 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.

- End -

Calibrated by:

Date:

Fung Chi Yip  
09-Mar-2023

Checked by:

Date:

Chan Yuk Yiu  
13-Mar-2023

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 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023  
Microphone type: MC230A Serial No. A16673  
Report: 23CA0308 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 | 11.5 | dB |
| Noise level in C weighting | 15.4 | dB |
| Noise level in Lin         | 20.4 | 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        |
| 114.0                    | 114.0          | 114.0      | 0.7       | 0.0            | 0.0        |
| 115.0                    | 115.0          | 115.0      | 0.7       | 0.0            | 0.0        |
| 116.0                    | 116.0          | 116.0      | 0.7       | 0.0            | 0.0        |
| 117.0                    | 117.0          | 117.0      | 0.7       | 0.0            | 0.0        |
| 118.0                    | 118.0          | 118.0      | 0.7       | 0.0            | 0.0        |
| 119.0                    | 119.0          | 119.0      | 0.7       | 0.0            | 0.0        |
| 120.0                    | 120.0          | 120.0      | 0.7       | 0.0            | 0.0        |
| 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                     | 64.0           | 64.0       | 0.7       | 0.0            | 0.0        |
| 59.0                     | 59.0           | 59.0       | 0.7       | 0.0            | 0.0        |
| 54.0                     | 54.0           | 54.0       | 0.7       | 0.0            | 0.0        |
| 49.0                     | 49.0           | 49.0       | 0.7       | 0.0            | 0.0        |
| 44.0                     | 44.0           | 44.0       | 0.7       | 0.0            | 0.0        |
| 39.0                     | 39.0           | 39.0       | 0.7       | 0.0            | 0.0        |
| 34.0                     | 34.1           | 34.1       | 0.7       | 0.1            | 0.1        |
| 33.0                     | 33.1           | 33.1       | 0.7       | 0.1            | 0.1        |



Test Data for Sound Level Meter

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023  
Microphone type: MC230A Serial No. A16673

Report: 23CA0308 01

|      |      |      |     |     |     |
|------|------|------|-----|-----|-----|
| 32.0 | 32.2 | 32.2 | 0.7 | 0.2 | 0.2 |
| 31.0 | 31.2 | 31.2 | 0.7 | 0.2 | 0.2 |
| 30.0 | 30.3 | 30.3 | 0.7 | 0.3 | 0.3 |

Measurements for an indication of the reference SPL on all other ranges which include it

| Other ranges | Expected level | Actual level | Tolerance | Deviation |
|--------------|----------------|--------------|-----------|-----------|
| dB           | dB             | dB           | +/- dB    | dB        |
| 40-140       | 94.0           | 94.0         | 0.7       | 0.0       |
| 20-120       | 94.0           | 94.0         | 0.7       | 0.0       |
| 0-100        | 94.0           | 94.0         | 0.7       | 0.0       |

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        |
| 40-140 | 51.0                     | 51.7         | 0.7       | 0.7       |
|        | 138.0                    | 138.0        | 0.7       | 0.0       |
| 20-120 | 30.0                     | 30.3         | 0.7       | 0.3       |
|        | 118.0                    | 118.0        | 0.7       | 0.0       |
| 0-100  | 30.0                     | 30.0         | 0.7       | 0.0       |
|        | 98.0                     | 98.0         | 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           | 67.7         | 1.5           | 1.5 | -0.1      |
| 125.9     | 94.0       | 77.9           | 77.8         | 1.0           | 1.0 | -0.1      |
| 251.2     | 94.0       | 85.4           | 85.3         | 1.0           | 1.0 | -0.1      |
| 501.2     | 94.0       | 90.8           | 90.7         | 1.0           | 1.0 | -0.1      |
| 1995.0    | 94.0       | 95.2           | 95.2         | 1.0           | 1.0 | 0.0       |
| 3981.0    | 94.0       | 95.0           | 95.0         | 1.0           | 1.0 | 0.0       |
| 7943.0    | 94.0       | 92.9           | 92.9         | 1.5           | 3.0 | 0.0       |
| 12590.0   | 94.0       | 89.7           | 89.5         | 3.0           | 6.0 | -0.2      |

Frequency weighting C:

| Frequency | Ref. level | Expected level | Actual level | Tolerance(dB) |   | Deviation |
|-----------|------------|----------------|--------------|---------------|---|-----------|
|           |            |                |              | +             | - |           |
| Hz        | dB         | dB             | dB           |               |   | dB        |



Test Data for Sound Level Meter

Page 3 of 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023  
Microphone type: MC230A Serial No. A16673

Report: 23CA0308 01

|         |      |      |      |     |     |      |
|---------|------|------|------|-----|-----|------|
| 1000.0  | 94.0 | 94.0 | 94.0 | 0.0 | 0.0 | 0.0  |
| 31.6    | 94.0 | 91.0 | 90.8 | 1.5 | 1.5 | -0.2 |
| 63.1    | 94.0 | 93.2 | 93.1 | 1.5 | 1.5 | -0.1 |
| 125.9   | 94.0 | 93.8 | 93.8 | 1.0 | 1.0 | 0.0  |
| 251.2   | 94.0 | 94.0 | 93.9 | 1.0 | 1.0 | -0.1 |
| 501.2   | 94.0 | 94.0 | 94.0 | 1.0 | 1.0 | 0.0  |
| 1995.0  | 94.0 | 93.8 | 93.8 | 1.0 | 1.0 | 0.0  |
| 3981.0  | 94.0 | 93.2 | 93.2 | 1.0 | 1.0 | 0.0  |
| 7943.0  | 94.0 | 91.0 | 91.0 | 1.5 | 3.0 | 0.0  |
| 12590.0 | 94.0 | 87.8 | 87.6 | 3.0 | 6.0 | -0.2 |

Frequency weighting Lin:

| Frequency<br>Hz | Ref. level<br>dB | Expected level<br>dB | Actual level<br>dB | Tolerance(dB) |     | Deviation<br>dB |
|-----------------|------------------|----------------------|--------------------|---------------|-----|-----------------|
|                 |                  |                      |                    | +             | -   |                 |
| 1000.0          | 94.0             | 94.0                 | 94.0               | 0.0           | 0.0 | 0.0             |
| 31.6            | 94.0             | 94.0                 | 93.8               | 1.5           | 1.5 | -0.2            |
| 63.1            | 94.0             | 94.0                 | 93.9               | 1.5           | 1.5 | -0.1            |
| 125.9           | 94.0             | 94.0                 | 93.9               | 1.0           | 1.0 | -0.1            |
| 251.2           | 94.0             | 94.0                 | 93.9               | 1.0           | 1.0 | -0.1            |
| 501.2           | 94.0             | 94.0                 | 93.9               | 1.0           | 1.0 | -0.1            |
| 1995.0          | 94.0             | 94.0                 | 93.9               | 1.0           | 1.0 | -0.1            |
| 3981.0          | 94.0             | 94.0                 | 94.0               | 1.0           | 1.0 | 0.0             |
| 7943.0          | 94.0             | 94.0                 | 94.0               | 1.5           | 3.0 | 0.0             |
| 12590.0         | 94.0             | 94.0                 | 93.9               | 3.0           | 6.0 | -0.1            |

Note: No corrections for the frequency response of the microphone, instrument case and windshield are made to the sound level meter.

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<br>dB | Expected level<br>dB | Actual level<br>dB | Tolerance(dB) |     | Deviation<br>dB |
|------------------|----------------------|--------------------|---------------|-----|-----------------|
|                  |                      |                    | +             | -   |                 |
| 116.0            | 115.0                | 114.9              | 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<br>dB | Expected level<br>dB | Actual level<br>dB | Tolerance(dB) |     | Deviation<br>dB |
|------------------|----------------------|--------------------|---------------|-----|-----------------|
|                  |                      |                    | +             | -   |                 |
| 116.0            | 111.9                | 111.9              | 1.0           | 1.0 | 0.0             |



Test Data for Sound Level Meter

Page 4 of 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023  
Microphone type: MC230A Serial No. A16673

Report: 23CA0308 01

### PEAK RESPONSE TEST

The onset time of the peak detector is tested on the reference range by comparing the response to a 100 us rectangular test pulse with the response to a 10 ms reference pulse of the same amplitude. The amplitude of the 10 ms reference pulse is such as to produce an indication 1 dB below the upper limit of the primary indicator range.

Positive polarities: (Weighting Z, set the generator signal to single, Lzpeak)

| Ref. level | Response to 10 ms | Response to 100 us | Tolerance | Deviation |
|------------|-------------------|--------------------|-----------|-----------|
| dB         | dB                | dB                 | +/- dB    | dB        |
| 119.0      | 119.0             | 119.5              | 2.0       | 0.5       |

Negative polarities:

| Ref. level | Response to 10 ms | Response to 100 us | Tolerance | Deviation |
|------------|-------------------|--------------------|-----------|-----------|
| dB         | dB                | dB                 | +/- dB    | dB        |
| 119.0      | 119.0             | 119.5              | 2.0       | 0.5       |

### 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)

| Time weighting | Ref. Level | Expected level | Tone burst signal | Tolerance | Deviation |
|----------------|------------|----------------|-------------------|-----------|-----------|
|                | dB         | dB             | indication(dB)    | +/- dB    | dB        |
| Slow           | 118.0+6.6  | 118.0          | 117.9             | 0.5       | -0.1      |

### TIME WEIGHTING IMPULSE TEST

Time weighting I is tested on the reference range (Set the SLM to LAImax)

Test frequency: 2000 Hz  
Amplitude: The upper limit of the primary indicator range.

Single sinusoidal burst of duration 5 ms:

| Ref. Level | Single burst indication |               | Tolerance   | Deviation |
|------------|-------------------------|---------------|-------------|-----------|
|            | dB                      | Expected (dB) | Actual (dB) | +/- dB    |
| 120.0      | 111.2                   | 111.1         | 2.0         | -0.1      |

Repeated at 100 Hz

| Ref. Level | Repeated burst indication |               | Tolerance   | Deviation |
|------------|---------------------------|---------------|-------------|-----------|
|            | dB                        | Expected (dB) | Actual (dB) | +/- dB    |
| 120.0      | 117.3                     | 117.1         | 1.0         | -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 |
|-----------------|---------------------|--------------|------------|-----------|-----------|---------|
|                 |                     |              |            |           |           |         |



Test Data for Sound Level Meter

Page 5 of 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023  
Microphone type: MC230A Serial No. A16673  
Report: 23CA0308 01

| msec  | dB   | dB   | dB   | +/- dB | dB  |              |
|-------|------|------|------|--------|-----|--------------|
| 1000  | 90.0 | 90.0 | 90.0 | 1.0    | 0.0 | 60s integ.   |
| 10000 | 80.0 | 80.0 | 80.0 | 1.0    | 0.0 | 6min. integ. |

#### 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       | 88.0            | 58.0     | 58.0   | 1.7       | 0.0       |

The integrating sound level meter set to SEL:

| Duration | Rms level of    | Expected | Actual | Tolerance | Deviation |
|----------|-----------------|----------|--------|-----------|-----------|
| msec     | tone burst (dB) | dB       | dB     | +/- dB    | dB        |
| 10.0     | 88.0            | 68.0     | 68.0   | 1.7       | 0.0       |

#### 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        |
| 121.5            | 120.5            | 117.5           | 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        |
| 127.5            | 126.5            | 86.5           | 86.5         | 2.2       | 0.0       |

#### 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        |



Test Data for Sound Level Meter

Page 6 of 6

Sound level meter type: XL2 Serial No. A2A-15269-EO Date 09-Mar-2023

Microphone type: MC230A Serial No. A16673

Report: 23CA0308 01

|      |      |      |     |     |      |
|------|------|------|-----|-----|------|
| 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 | 92.6 | 1.5 | 3.0 | -0.3 |

-----END-----





## CERTIFICATE OF CALIBRATION

Certificate No.: 23CA0508 02-01 Page 1 of 2

### Item tested

|                       |                            |   |            |          |
|-----------------------|----------------------------|---|------------|----------|
| Description:          | Sound Level Meter (Type 1) | , | Microphone | Preamp   |
| Manufacturer:         | Larson Davis               | , | PCB        | PCB      |
| Type/Model No.:       | LxT1                       | , | 377B02     | PRMLxT1L |
| Serial/Equipment No.: | 0003737                    | , | 340739     | 042622   |
| Adaptors used:        | -                          | , | -          | -        |

### Item submitted by

Customer Name: Lam Environmental Services Limited.  
Address of Customer: -  
Request No.: -  
Date of receipt: 08-May-2023

Date of test: 11-May-2023

### Reference equipment used in the calibration

| Description:                    | Model:   | Serial No. | Expiry Date: | Traceable to: |
|---------------------------------|----------|------------|--------------|---------------|
| Multi function sound calibrator | B&K 4226 | 2288444    | 23-Aug-2023  | CIGISMEC      |
| Signal generator                | DS 360   | 61227      | 08-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 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.
- 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  $\pm 20\%$ .
- 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.

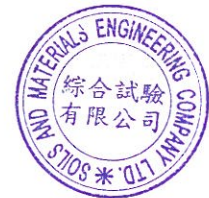
Approved Signatory:



Feng Junqi

Date: 13-May-2023

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.: 23CA0508 02-01

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                       |                 |
|                         | C  | Pass              | 0.8                       | 2.1             |
|                         | Lin  | Pass              | 1.6                       | 2.2             |
| 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                       |                 |
|                         | Lin  | Pass              | 0.3                       |                 |
| Time weightings         | Single Burst Fast                                | Pass              | 0.3                       |                 |
|                         | Single Burst Slow                                | Pass              | 0.3                       |                 |
| Peak response           | Single 100µs rectangular pulse                   | Pass              | 0.3                       |                 |
|                         | R.M.S. accuracy                                  | Crest factor of 3 | Pass                      | 0.3             |
| Time weighting I        | Single burst 5 ms at 2000 Hz                     | Pass              | 0.3                       |                 |
|                         | Repeated at frequency of 100 Hz                  | Pass              | 0.3                       |                 |
| 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                      | Pass              | 0.4                       |                 |
| 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.

- End -

Calibrated by:

Date:

  
Fung Chi Yip  
11-May-2023

Checked by:

Date:

  
Chan Yuk Yiu  
13-May-2023

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.



Sound level meter type: LxT1 Serial No. 0003737 Date 11-May-2023  
 Microphone type: 377B02 Serial No. 340739  
 Report: 23CA0508 02-01

### 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 | 10.6 | dB |
| Noise level in C weighting | 13.3 | dB |
| Noise level in Lin         | 22.2 | 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        |
| 114.0                    | 114.0          | 114.0      | 0.7       | 0.0            | 0.0        |
| 115.0                    | 115.0          | 115.0      | 0.7       | 0.0            | 0.0        |
| 116.0                    | 116.0          | 116.0      | 0.7       | 0.0            | 0.0        |
| 117.0                    | 117.0          | 117.0      | 0.7       | 0.0            | 0.0        |
| 118.0                    | 118.0          | 118.0      | 0.7       | 0.0            | 0.0        |
| 119.0                    | 119.0          | 119.0      | 0.7       | 0.0            | 0.0        |
| 120.0                    | 120.0          | 120.0      | 0.7       | 0.0            | 0.0        |
| 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                     | 64.0           | 64.0       | 0.7       | 0.0            | 0.0        |
| 59.0                     | 59.0           | 59.0       | 0.7       | 0.0            | 0.0        |
| 54.0                     | 54.0           | 54.0       | 0.7       | 0.0            | 0.0        |
| 49.0                     | 49.0           | 49.0       | 0.7       | 0.0            | 0.0        |
| 44.0                     | 44.0           | 44.0       | 0.7       | 0.0            | 0.0        |
| 39.0                     | 39.0           | 39.0       | 0.7       | 0.0            | 0.0        |
| 34.0                     | 34.0           | 34.0       | 0.7       | 0.0            | 0.0        |
| 33.0                     | 32.9           | 32.9       | 0.7       | -0.1           | -0.1       |



Test Data for Sound Level Meter

Sound level meter type: LxT1 Serial No. 0003737 Date 11-May-2023  
 Microphone type: 377B02 Serial No. 340739  
 Report: 23CA0508 02-01

|      |      |      |     |      |      |
|------|------|------|-----|------|------|
| 32.0 | 31.9 | 31.9 | 0.7 | -0.1 | -0.1 |
| 31.0 | 30.9 | 30.9 | 0.7 | -0.1 | -0.1 |
| 30.0 | 29.9 | 29.9 | 0.7 | -0.1 | -0.1 |

Measurements for an indication of the reference SPL on all other ranges which include it

| Other ranges | Expected level | Actual level | Tolerance | Deviation |
|--------------|----------------|--------------|-----------|-----------|
| dB           | dB             | dB           | +/- dB    | dB        |
| 20-120       | 94.0           | 94.0         | 0.7       | 0.0       |

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        |
| 20-120 | 30.0                     | 29.9         | 0.7       | -0.1      |
|        | 118.0                    | 118.0        | 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<br>Hz | Ref. level<br>dB | Expected level<br>dB | Actual level<br>dB | Tolerance(dB) |     | Deviation<br>dB |
|-----------------|------------------|----------------------|--------------------|---------------|-----|-----------------|
|                 |                  |                      |                    | +             | -   |                 |
| 1000.0          | 94.0             | 94.0                 | 94.0               | 0.0           | 0.0 | 0.0             |
| 31.6            | 94.0             | 54.6                 | 54.5               | 1.5           | 1.5 | -0.1            |
| 63.1            | 94.0             | 67.8                 | 67.7               | 1.5           | 1.5 | -0.1            |
| 125.9           | 94.0             | 77.9                 | 77.9               | 1.0           | 1.0 | 0.0             |
| 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                 | 95.0               | 1.0           | 1.0 | 0.0             |
| 7943.0          | 94.0             | 92.9                 | 92.9               | 1.5           | 3.0 | 0.0             |
| 12590.0         | 94.0             | 89.7                 | 89.6               | 3.0           | 6.0 | -0.1            |

Frequency weighting C:

| Frequency<br>Hz | Ref. level<br>dB | Expected level<br>dB | Actual level<br>dB | Tolerance(dB) |     | Deviation<br>dB |
|-----------------|------------------|----------------------|--------------------|---------------|-----|-----------------|
|                 |                  |                      |                    | +             | -   |                 |
| 1000.0          | 94.0             | 94.0                 | 94.0               | 0.0           | 0.0 | 0.0             |
| 31.6            | 94.0             | 91.0                 | 90.9               | 1.5           | 1.5 | -0.1            |
| 63.1            | 94.0             | 93.2                 | 93.1               | 1.5           | 1.5 | -0.1            |
| 125.9           | 94.0             | 93.8                 | 93.8               | 1.0           | 1.0 | 0.0             |
| 251.2           | 94.0             | 94.0                 | 94.0               | 1.0           | 1.0 | 0.0             |
| 501.2           | 94.0             | 94.0                 | 94.0               | 1.0           | 1.0 | 0.0             |



Test Data for Sound Level Meter

Sound level meter type: LxT1 Serial No. 0003737 Date 11-May-2023  
 Microphone type: 377B02 Serial No. 340739  
 Report: 23CA0508 02-01

|         |      |      |      |     |     |      |
|---------|------|------|------|-----|-----|------|
| 1995.0  | 94.0 | 93.8 | 93.8 | 1.0 | 1.0 | 0.0  |
| 3981.0  | 94.0 | 93.2 | 93.2 | 1.0 | 1.0 | 0.0  |
| 7943.0  | 94.0 | 91.0 | 91.0 | 1.5 | 3.0 | 0.0  |
| 12590.0 | 94.0 | 87.8 | 87.7 | 3.0 | 6.0 | -0.1 |

Frequency weighting Lin:

| Frequency<br>Hz | Ref. level<br>dB | Expected level<br>dB | Actual level<br>dB | Tolerance(dB) |     | Deviation<br>dB |
|-----------------|------------------|----------------------|--------------------|---------------|-----|-----------------|
|                 |                  |                      |                    | +             | -   |                 |
| 1000.0          | 94.0             | 94.0                 | 94.0               | 0.0           | 0.0 | 0.0             |
| 31.6            | 94.0             | 94.0                 | 93.9               | 1.5           | 1.5 | -0.1            |
| 63.1            | 94.0             | 94.0                 | 93.9               | 1.5           | 1.5 | -0.1            |
| 125.9           | 94.0             | 94.0                 | 93.9               | 1.0           | 1.0 | -0.1            |
| 251.2           | 94.0             | 94.0                 | 94.0               | 1.0           | 1.0 | 0.0             |
| 501.2           | 94.0             | 94.0                 | 94.0               | 1.0           | 1.0 | 0.0             |
| 1995.0          | 94.0             | 94.0                 | 94.0               | 1.0           | 1.0 | 0.0             |
| 3981.0          | 94.0             | 94.0                 | 94.0               | 1.0           | 1.0 | 0.0             |
| 7943.0          | 94.0             | 94.0                 | 94.0               | 1.5           | 3.0 | 0.0             |
| 12590.0         | 94.0             | 94.0                 | 94.0               | 3.0           | 6.0 | 0.0             |

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<br>dB | Expected level<br>dB | Actual level<br>dB | Tolerance(dB) |     | Deviation<br>dB |
|------------------|----------------------|--------------------|---------------|-----|-----------------|
|                  |                      |                    | +             | -   |                 |
| 116.0            | 115.0                | 114.9              | 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<br>dB | Expected level<br>dB | Actual level<br>dB | Tolerance(dB) |     | Deviation<br>dB |
|------------------|----------------------|--------------------|---------------|-----|-----------------|
|                  |                      |                    | +             | -   |                 |
| 116.0            | 111.9                | 111.8              | 1.0           | 1.0 | -0.1            |

PEAK RESPONSE TEST

The onset time of the peak detector is tested on the reference range by comparing the response to a 100 us rectangular test pulse with the response to a 10 ms reference pulse of the same amplitude. The amplitude of the 10 ms reference pulse is such as to produce an indication 1 dB below the upper limit of the primary indicator range. Positive polarities: (Weighting Z, set the generator signal to single, Lzpeak)

| Ref. level<br>dB | Response to 10 ms<br>dB | Response to 100 us<br>dB | Tolerance<br>+/- dB | Deviation<br>dB |
|------------------|-------------------------|--------------------------|---------------------|-----------------|
|                  |                         |                          |                     |                 |



Test Data for Sound Level Meter

Sound level meter type: LxT1 Serial No. 0003737 Date 11-May-2023  
 Microphone type: 377B02 Serial No. 340739 Report: 23CA0508 02-01

Negative polarities:

| Ref. level | Response to 10 ms | Response to 100 us | Tolerance | Deviation |
|------------|-------------------|--------------------|-----------|-----------|
| dB         | dB                | dB                 | +/- dB    | dB        |
| 119.0      | 119.0             | 119.5              | 2.0       | 0.5       |

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)

| Time weighting | Ref. Level | Expected level | Tone burst signal | Tolerance | Deviation |
|----------------|------------|----------------|-------------------|-----------|-----------|
|                | dB         | dB             | indication(dB)    | +/- dB    | dB        |
| Slow           | 114.0+6.6  | 114.0          | 113.8             | 0.5       | -0.2      |

TIME WEIGHTING IMPULSE TEST

Time weighting I is tested on the reference range (Set the SLM to LAImax)

Test frequency: 2000 Hz  
 Amplitude: The upper limit of the primary indicator range.

Single sinusoidal burst of duration 5 ms:

| Ref. Level | Single burst indication |             | Tolerance | Deviation |
|------------|-------------------------|-------------|-----------|-----------|
|            | Expected (dB)           | Actual (dB) |           |           |
| 120.0      | 111.2                   | 111.1       | 2.0       | -0.1      |

Repeated at 100 Hz

| Ref. Level | Repeated burst indication |             | Tolerance | Deviation |
|------------|---------------------------|-------------|-----------|-----------|
|            | Expected (dB)             | Actual (dB) |           |           |
| 120.0      | 117.3                     | 117.1       | 1.0       | -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            | 90.0                | 90.0         | 89.8       | 1.0       | -0.2      | 60s integ.   |
| 10000           | 80.0                | 80.0         | 79.9       | 1.0       | -0.1      | 6min. integ. |

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



Test Data for Sound Level Meter

Page 5 of 5

Sound level meter type: LxT1 Serial No. 0003737 Date 11-May-2023  
Microphone type: 377B02 Serial No. 340739 Report: 23CA0508 02-01

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       | 88.0            | 58.0     | 57.9   | 1.7       | -0.1      |

The integrating sound level meter set to SEL:

| Duration | Rms level of    | Expected | Actual | Tolerance | Deviation |
|----------|-----------------|----------|--------|-----------|-----------|
| msec     | tone burst (dB) | dB       | dB     | +/- dB    | dB        |
| 10.0     | 88.0            | 68.0     | 67.9   | 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        |
| 115.0            | 114.0            | 111.0           | 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        |
| 121.5            | 120.5            | 80.5           | 80.4         | 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 |
|-----------|----------------|---------------|--|----------------|-----|-----------|
|           |                | Measured (dB) |  | +              | -   |           |
| Hz        | 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           | 90.4          |  | 1.5            | 3.0 | -2.5      |

-----END-----



## CERTIFICATE OF CALIBRATION

Certificate No.: 23CA0317 02-04

Page: 1 of 2

### Item tested

Description: Acoustical Calibrator (Class 1)  
Manufacturer: Larson Davis  
Type/Model No.: CAL200  
Serial/Equipment No.: 13098  
Adaptors used: -

### Item submitted by

Customer: Lam Environmental Services Limited.  
Address of Customer: -  
Request No.: -  
Date of receipt: 17-Mar-2023

Date of test: 20-Mar-2023

### 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   | 61227      | 08-Jun-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:  $1010 \pm 5$  hPa

### Test specifications

- 1, 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.
- 2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- 3, 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.

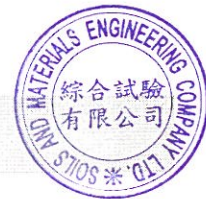
Details of the performed measurements are presented on page 2 of this certificate.

Approved Signatory:

Feng Junqi

Date: 21-Mar-2023

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.: 23CA0317 02-04

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<br>Hz | Output Sound Pressure<br>Level Setting<br>dB | Measured Output<br>Sound Pressure Level<br>dB | Estimated Expanded<br>Uncertainty<br>dB |
|-----------------------|--|---|---|
| 1000                  | 94.00  | 93.82   | 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 = 999.9 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 = 0.7 %

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:

Fung Chi Yip  
Date: 20-Mar-2023

- End -

Checked by:

Chan Yuk Yiu  
Date: 21-Mar-2023

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.



**Wind Station Performance Check Record**

Type : Weather Station

Manufacturer : 武汉辰云科技有限公司

Model Number : YGY-FSXY1

Serial Number : YG 21071630T0924

Performance Check Date : 18-Sep-2023

**Performance Check Results**

| Wind Speed Range (m/s) | Reading Value (V1, m/s) | Anemometer Value (V2, m/s) | Difference (V1 - V2, m/s) |
|------------------------|-------------------------|----------------------------|---------------------------|
| Zero Check             | 0.0                     | 0.0                        | 0.0                       |
| 1 - 2                  | 1.5                     | 1.8                        | -0.3                      |
| 3 - 4                  | 4.2                     | 4.4                        | -0.2                      |
| 5 - 6                  | 5.5                     | 5.3                        | 0.2                       |
| 7 - 8                  | 7.7                     | 7.5                        | 0.2                       |

| Wind Direction (°) | Reading Value (W1, °) | Compass Value (W2, °) | Difference (W1 - W2, °) |
|--------------------|-----------------------|-----------------------|-------------------------|
| 0                  | 0                     | 0                     | 0                       |
| 90                 | 90                    | 90                    | 0                       |
| 180                | 183                   | 180                   | 3                       |
| 270                | 268                   | 270                   | -2                      |

**Test Reference:**

1. Wind Speed Check - Speed reading checked on-site against anemometer logged value.
2. Wind Direction Check - Direction reading checked on on-site against compass marked reading.

Conducted by: Harry Po

Checked by: William Cheung



## ***Appendix 4.3***

### ***Wind Data***

**Wind Speed and Wind Direction**

| Date     | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|----------|-------|------------------|-------------------------|
| 1-Jan-24 | 00:00 | 1.9              | 69(ENE)                 |
|          | 01:00 | 2.1              | 147(SSE)                |
|          | 02:00 | 1.7              | 60(ENE)                 |
|          | 03:00 | 2.7              | 91(E)                   |
|          | 04:00 | 2.7              | 137(SE)                 |
|          | 05:00 | 1.5              | 134(SE)                 |
|          | 06:00 | 2.9              | 92(E)                   |
|          | 07:00 | 1.7              | 106(ESE)                |
|          | 08:00 | 1.9              | 127(SE)                 |
|          | 09:00 | 2.5              | 94(E)                   |
|          | 10:00 | 1.5              | 283(WNW)                |
|          | 11:00 | 1.3              | 295(WNW)                |
|          | 12:00 | 1.3              | 89(E)                   |
|          | 13:00 | 1.1              | 170(S)                  |
|          | 14:00 | 1.9              | 108(ESE)                |
|          | 15:00 | 0.9              | 99(E)                   |
|          | 16:00 | 2.5              | 116(ESE)                |
|          | 17:00 | 3.3              | 145(SE)                 |
|          | 18:00 | 0.9              | 144(SE)                 |
|          | 19:00 | 0.9              | 184(S)                  |
|          | 20:00 | 2.5              | 60(ENE)                 |
|          | 21:00 | 1.9              | 128(SE)                 |
|          | 22:00 | 4.3              | 43(NE)                  |
| 23:00    | 1.5   | 99(E)            |                         |
| 2-Jan-24 | 00:00 | 3.1              | 136(SE)                 |
|          | 01:00 | 2.9              | 88(E)                   |
|          | 02:00 | 1.7              | 40(NE)                  |
|          | 03:00 | 2.3              | 125(SE)                 |
|          | 04:00 | 3.3              | 98(E)                   |
|          | 05:00 | 1.7              | 114(ESE)                |
|          | 06:00 | 0.0              | 126(SE)                 |
|          | 07:00 | 0.0              | 90(E)                   |
|          | 08:00 | 0.0              | 105(ESE)                |
|          | 09:00 | 1.5              | 287(WNW)                |
|          | 10:00 | 1.3              | 133(SE)                 |
|          | 11:00 | 3.7              | 120(ESE)                |
|          | 12:00 | 1.9              | 126(SE)                 |
|          | 13:00 | 0.0              | 109(ESE)                |
|          | 14:00 | 0.0              | 84(E)                   |
|          | 15:00 | 0.0              | 95(E)                   |
|          | 16:00 | 0.0              | 157(SSE)                |
|          | 17:00 | 0.0              | 131(SE)                 |
|          | 18:00 | 0.0              | 226(SW)                 |
|          | 19:00 | 0.0              | 202(SSW)                |
|          | 20:00 | 0.0              | 104(ESE)                |
|          | 21:00 | 0.0              | 256(WSW)                |
|          | 22:00 | 0.0              | 111(ESE)                |
| 23:00    | 0.0   | 69(ENE)          |                         |

**Wind Speed and Wind Direction**

| Date     | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|----------|-------|------------------|-------------------------|
| 3-Jan-24 | 00:00 | 0.0              | 133(SE)                 |
|          | 01:00 | 0.0              | 27(NNE)                 |
|          | 02:00 | 0.0              | 70(ENE)                 |
|          | 03:00 | 0.0              | 133(SE)                 |
|          | 04:00 | 0.0              | 85(E)                   |
|          | 05:00 | 0.0              | 124(SE)                 |
|          | 06:00 | 0.0              | 121(ESE)                |
|          | 07:00 | 0.0              | 96(E)                   |
|          | 08:00 | 0.0              | 142(SE)                 |
|          | 09:00 | 3.1              | 54(NE)                  |
|          | 10:00 | 1.3              | 290(WNW)                |
|          | 11:00 | 0.0              | 66(ENE)                 |
|          | 12:00 | 0.0              | 211(SSW)                |
|          | 13:00 | 0.0              | 145(SE)                 |
|          | 14:00 | 0.7              | 116(ESE)                |
|          | 15:00 | 1.3              | 289(WNW)                |
|          | 16:00 | 0.0              | 201(SSW)                |
|          | 17:00 | 0.0              | 181(S)                  |
|          | 18:00 | 0.0              | 162(SSE)                |
|          | 19:00 | 0.0              | 55(NE)                  |
|          | 20:00 | 0.0              | 348(NNW)                |
|          | 21:00 | 2.5              | 146(SE)                 |
|          | 22:00 | 0.0              | 309(NW)                 |
| 23:00    | 1.9   | 145(SE)          |                         |
| 4-Jan-24 | 00:00 | 0.0              | 138(SE)                 |
|          | 01:00 | 0.0              | 179(S)                  |
|          | 02:00 | 1.3              | 241(WSW)                |
|          | 03:00 | 0.0              | 108(ESE)                |
|          | 04:00 | 0.9              | 263(W)                  |
|          | 05:00 | 0.9              | 91(E)                   |
|          | 06:00 | 1.1              | 77(ENE)                 |
|          | 07:00 | 0.0              | 85(E)                   |
|          | 08:00 | 0.0              | 205(SSW)                |
|          | 09:00 | 0.0              | 129(SE)                 |
|          | 10:00 | 0.0              | 190(S)                  |
|          | 11:00 | 0.0              | 82(E)                   |
|          | 12:00 | 0.0              | 215(SW)                 |
|          | 13:00 | 0.0              | 62(ENE)                 |
|          | 14:00 | 0.0              | 51(NE)                  |
|          | 15:00 | 0.0              | 186(S)                  |
|          | 16:00 | 0.0              | 235(SW)                 |
|          | 17:00 | 0.0              | 151(SSE)                |
|          | 18:00 | 0.0              | 184(S)                  |
|          | 19:00 | 0.0              | 210(SSW)                |
|          | 20:00 | 0.0              | 22(NNE)                 |
|          | 21:00 | 0.0              | 63(ENE)                 |
|          | 22:00 | 0.0              | 99(E)                   |
| 23:00    | 0.0   | 158(SSE)         |                         |

**Wind Speed and Wind Direction**

| Date     | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|----------|-------|------------------|-------------------------|
| 5-Jan-24 | 00:00 | 0.0              | 178(S)                  |
|          | 01:00 | 0.0              | 69(ENE)                 |
|          | 02:00 | 0.0              | 272(W)                  |
|          | 03:00 | 0.0              | 108(ESE)                |
|          | 04:00 | 0.0              | 55(NE)                  |
|          | 05:00 | 0.0              | 89(E)                   |
|          | 06:00 | 0.0              | 60(ENE)                 |
|          | 07:00 | 0.0              | 42(NE)                  |
|          | 08:00 | 0.0              | 64(ENE)                 |
|          | 09:00 | 0.0              | 244(WSW)                |
|          | 10:00 | 0.0              | 6(N)                    |
|          | 11:00 | 0.0              | 211(SSW)                |
|          | 12:00 | 0.9              | 122(ESE)                |
|          | 13:00 | 0.5              | 263(W)                  |
|          | 14:00 | 0.9              | 240(WSW)                |
|          | 15:00 | 1.9              | 235(SW)                 |
|          | 16:00 | 2.1              | 150(SSE)                |
|          | 17:00 | 1.1              | 136(SE)                 |
|          | 18:00 | 1.7              | 81(E)                   |
|          | 19:00 | 1.7              | 68(ENE)                 |
|          | 20:00 | 0.0              | 353(N)                  |
|          | 21:00 | 0.0              | 211(SSW)                |
|          | 22:00 | 0.0              | 94(E)                   |
| 23:00    | 0.9   | 44(NE)           |                         |
| 6-Jan-24 | 00:00 | 0.0              | 64(ENE)                 |
|          | 01:00 | 0.0              | 228(SW)                 |
|          | 02:00 | 0.0              | 74(ENE)                 |
|          | 03:00 | 0.0              | 275(W)                  |
|          | 04:00 | 0.0              | 283(WNW)                |
|          | 05:00 | 0.0              | 279(W)                  |
|          | 06:00 | 0.5              | 356(N)                  |
|          | 07:00 | 0.0              | 22(NNE)                 |
|          | 08:00 | 0.0              | 0(N)                    |
|          | 09:00 | 0.7              | 101(E)                  |
|          | 10:00 | 0.0              | 289(WNW)                |
|          | 11:00 | 0.7              | 336(NNW)                |
|          | 12:00 | 1.9              | 117(ESE)                |
|          | 13:00 | 0.0              | 347(NNW)                |
|          | 14:00 | 0.5              | 94(E)                   |
|          | 15:00 | 0.5              | 256(WSW)                |
|          | 16:00 | 0.0              | 305(NW)                 |
|          | 17:00 | 0.0              | 249(WSW)                |
|          | 18:00 | 1.7              | 118(ESE)                |
|          | 19:00 | 1.5              | 80(E)                   |
|          | 20:00 | 0.0              | 92(E)                   |
|          | 21:00 | 0.9              | 91(E)                   |
|          | 22:00 | 0.0              | 79(E)                   |
| 23:00    | 1.5   | 94(E)            |                         |

**Wind Speed and Wind Direction**

| Date     | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|----------|-------|------------------|-------------------------|
| 7-Jan-24 | 00:00 | 0.0              | 62(ENE)                 |
|          | 01:00 | 0.0              | 41(NE)                  |
|          | 02:00 | 0.0              | 71(ENE)                 |
|          | 03:00 | 0.0              | 234(SW)                 |
|          | 04:00 | 2.3              | 93(E)                   |
|          | 05:00 | 0.0              | 143(SE)                 |
|          | 06:00 | 0.0              | 157(SSE)                |
|          | 07:00 | 0.0              | 79(E)                   |
|          | 08:00 | 0.0              | 40(NE)                  |
|          | 09:00 | 0.0              | 297(WNW)                |
|          | 10:00 | 3.3              | 78(ENE)                 |
|          | 11:00 | 3.7              | 81(E)                   |
|          | 12:00 | 3.3              | 133(SE)                 |
|          | 13:00 | 2.7              | 119(ESE)                |
|          | 14:00 | 3.9              | 160(SSE)                |
|          | 15:00 | 3.1              | 170(S)                  |
|          | 16:00 | 1.9              | 168(SSE)                |
|          | 17:00 | 2.5              | 118(ESE)                |
|          | 18:00 | 1.3              | 67(ENE)                 |
|          | 19:00 | 3.1              | 115(ESE)                |
|          | 20:00 | 2.1              | 121(ESE)                |
|          | 21:00 | 2.3              | 93(E)                   |
|          | 22:00 | 4.1              | 127(SE)                 |
| 23:00    | 2.5   | 118(ESE)         |                         |
| 8-Jan-24 | 00:00 | 2.7              | 109(ESE)                |
|          | 01:00 | 1.9              | 61(ENE)                 |
|          | 02:00 | 2.5              | 86(E)                   |
|          | 03:00 | 0.0              | 40(NE)                  |
|          | 04:00 | 2.9              | 216(SW)                 |
|          | 05:00 | 0.7              | 101(E)                  |
|          | 06:00 | 0.0              | 77(ENE)                 |
|          | 07:00 | 0.7              | 315(NW)                 |
|          | 08:00 | 1.7              | 112(ESE)                |
|          | 09:00 | 1.1              | 113(ESE)                |
|          | 10:00 | 0.5              | 113(ESE)                |
|          | 11:00 | 1.9              | 76(ENE)                 |
|          | 12:00 | 0.7              | 221(SW)                 |
|          | 13:00 | 1.9              | 111(ESE)                |
|          | 14:00 | 1.1              | 134(SE)                 |
|          | 15:00 | 3.3              | 89(E)                   |
|          | 16:00 | 0.7              | 90(E)                   |
|          | 17:00 | 0.7              | 17(NNE)                 |
|          | 18:00 | 1.7              | 106(ESE)                |
|          | 19:00 | 0.5              | 106(ESE)                |
|          | 20:00 | 0.5              | 89(E)                   |
|          | 21:00 | 0.0              | 81(E)                   |
|          | 22:00 | 0.0              | 80(E)                   |
| 23:00    | 0.0   | 157(SSE)         |                         |

**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 9-Jan-24  | 00:00 | 0.0              | 326(NW)                 |
|           | 01:00 | 0.0              | 86(E)                   |
|           | 02:00 | 0.0              | 334(NNW)                |
|           | 03:00 | 1.3              | 120(ESE)                |
|           | 04:00 | 0.9              | 103(ESE)                |
|           | 05:00 | 1.3              | 54(NE)                  |
|           | 06:00 | 0.0              | 60(ENE)                 |
|           | 07:00 | 0.0              | 265(W)                  |
|           | 08:00 | 0.0              | 139(SE)                 |
|           | 09:00 | 1.1              | 29(NNE)                 |
|           | 10:00 | 0.7              | 232(SW)                 |
|           | 11:00 | 0.5              | 4(N)                    |
|           | 12:00 | 1.1              | 319(NW)                 |
|           | 13:00 | 0.9              | 193(SSW)                |
|           | 14:00 | 1.1              | 306(NW)                 |
|           | 15:00 | 1.1              | 303(WNW)                |
|           | 16:00 | 1.7              | 252(WSW)                |
|           | 17:00 | 2.1              | 74(ENE)                 |
|           | 18:00 | 1.1              | 68(ENE)                 |
|           | 19:00 | 2.1              | 98(E)                   |
|           | 20:00 | 1.5              | 70(ENE)                 |
|           | 21:00 | 0.0              | 83(E)                   |
|           | 22:00 | 0.9              | 77(ENE)                 |
| 23:00     | 0.0   | 10(N)            |                         |
| 10-Jan-24 | 00:00 | 0.0              | 148(SSE)                |
|           | 01:00 | 0.0              | 117(ESE)                |
|           | 02:00 | 0.0              | 51(NE)                  |
|           | 03:00 | 1.1              | 69(ENE)                 |
|           | 04:00 | 0.7              | 173(S)                  |
|           | 05:00 | 2.7              | 100(E)                  |
|           | 06:00 | 2.3              | 78(ENE)                 |
|           | 07:00 | 3.9              | 49(NE)                  |
|           | 08:00 | 2.3              | 83(E)                   |
|           | 09:00 | 4.9              | 92(E)                   |
|           | 10:00 | 1.5              | 82(E)                   |
|           | 11:00 | 3.9              | 85(E)                   |
|           | 12:00 | 5.7              | 57(ENE)                 |
|           | 13:00 | 5.7              | 104(ESE)                |
|           | 14:00 | 2.5              | 87(E)                   |
|           | 15:00 | 1.3              | 63(ENE)                 |
|           | 16:00 | 3.7              | 69(ENE)                 |
|           | 17:00 | 2.7              | 69(ENE)                 |
|           | 18:00 | 2.7              | 96(E)                   |
|           | 19:00 | 2.3              | 90(E)                   |
|           | 20:00 | 2.9              | 87(E)                   |
|           | 21:00 | 0.9              | 67(ENE)                 |
|           | 22:00 | 1.9              | 60(ENE)                 |
| 23:00     | 1.1   | 53(NE)           |                         |



**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 11-Jan-24 | 00:00 | 3.7              | 101(E)                  |
|           | 01:00 | 0.9              | 143(SE)                 |
|           | 02:00 | 1.7              | 92(E)                   |
|           | 03:00 | 3.1              | 94(E)                   |
|           | 04:00 | 2.1              | 88(E)                   |
|           | 05:00 | 2.1              | 81(E)                   |
|           | 06:00 | 0.0              | 148(SSE)                |
|           | 07:00 | 0.0              | 72(ENE)                 |
|           | 08:00 | 1.5              | 127(SE)                 |
|           | 09:00 | 1.7              | 26(NNE)                 |
|           | 10:00 | 0.5              | 91(E)                   |
|           | 11:00 | 0.9              | 357(N)                  |
|           | 12:00 | 3.1              | 97(E)                   |
|           | 13:00 | 3.1              | 83(E)                   |
|           | 14:00 | 1.5              | 146(SE)                 |
|           | 15:00 | 0.7              | 122(ESE)                |
|           | 16:00 | 1.3              | 263(W)                  |
|           | 17:00 | 1.5              | 200(SSW)                |
|           | 18:00 | 1.9              | 79(E)                   |
|           | 19:00 | 0.7              | 25(NNE)                 |
|           | 20:00 | 0.9              | 333(NNW)                |
|           | 21:00 | 1.5              | 84(E)                   |
|           | 22:00 | 0.0              | 101(E)                  |
|           | 23:00 | 1.5              | 86(E)                   |
| 12-Jan-24 | 00:00 | 0.0              | 118(ESE)                |
|           | 01:00 | 0.0              | 110(ESE)                |
|           | 02:00 | 1.1              | 56(NE)                  |
|           | 03:00 | 0.0              | 96(E)                   |
|           | 04:00 | 0.0              | 189(S)                  |
|           | 05:00 | 0.0              | 70(ENE)                 |
|           | 06:00 | 0.0              | 344(NNW)                |
|           | 07:00 | 0.0              | 121(ESE)                |
|           | 08:00 | 1.7              | 87(E)                   |
|           | 09:00 | 1.1              | 99(E)                   |
|           | 10:00 | 1.9              | 127(SE)                 |
|           | 11:00 | 1.9              | 229(SW)                 |
|           | 12:00 | 2.3              | 109(ESE)                |
|           | 13:00 | 0.0              | 235(SW)                 |
|           | 14:00 | 0.0              | 166(SSE)                |
|           | 15:00 | 2.7              | 225(SW)                 |
|           | 16:00 | 1.3              | 153(SSE)                |
|           | 17:00 | 0.9              | 115(ESE)                |
|           | 18:00 | 0.7              | 352(N)                  |
|           | 19:00 | 1.9              | 88(E)                   |
|           | 20:00 | 1.5              | 74(ENE)                 |
|           | 21:00 | 1.1              | 37(NE)                  |
|           | 22:00 | 0.9              | 116(ESE)                |
|           | 23:00 | 0.0              | 83(E)                   |

**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 13-Jan-24 | 00:00 | 0.0              | 12(NNE)                 |
|           | 01:00 | 0.0              | 137(SE)                 |
|           | 02:00 | 0.5              | 341(NNW)                |
|           | 03:00 | 0.0              | 69(ENE)                 |
|           | 04:00 | 0.0              | 63(ENE)                 |
|           | 05:00 | 0.0              | 82(E)                   |
|           | 06:00 | 1.3              | 49(NE)                  |
|           | 07:00 | 1.7              | 359(N)                  |
|           | 08:00 | 0.0              | 78(ENE)                 |
|           | 09:00 | 2.9              | 118(ESE)                |
|           | 10:00 | 3.3              | 99(E)                   |
|           | 11:00 | 2.1              | 91(E)                   |
|           | 12:00 | 1.9              | 55(NE)                  |
|           | 13:00 | 2.7              | 161(SSE)                |
|           | 14:00 | 1.9              | 108(ESE)                |
|           | 15:00 | 3.1              | 73(ENE)                 |
|           | 16:00 | 1.9              | 164(SSE)                |
|           | 17:00 | 2.1              | 181(S)                  |
|           | 18:00 | 0.9              | 54(NE)                  |
|           | 19:00 | 0.0              | 218(SW)                 |
|           | 20:00 | 1.3              | 75(ENE)                 |
|           | 21:00 | 1.3              | 45(NE)                  |
|           | 22:00 | 0.0              | 147(SSE)                |
|           | 23:00 | 0.0              | 101(E)                  |
| 14-Jan-24 | 00:00 | 0.0              | 169(S)                  |
|           | 01:00 | 0.5              | 58(ENE)                 |
|           | 02:00 | 0.9              | 66(ENE)                 |
|           | 03:00 | 0.0              | 119(ESE)                |
|           | 04:00 | 0.7              | 128(SE)                 |
|           | 05:00 | 0.0              | 101(E)                  |
|           | 06:00 | 0.7              | 84(E)                   |
|           | 07:00 | 0.0              | 115(ESE)                |
|           | 08:00 | 0.0              | 110(ESE)                |
|           | 09:00 | 1.3              | 54(NE)                  |
|           | 10:00 | 2.3              | 126(SE)                 |
|           | 11:00 | 0.5              | 115(ESE)                |
|           | 12:00 | 2.1              | 159(SSE)                |
|           | 13:00 | 1.1              | 116(ESE)                |
|           | 14:00 | 2.1              | 78(ENE)                 |
|           | 15:00 | 2.1              | 147(SSE)                |
|           | 16:00 | 1.3              | 240(WSW)                |
|           | 17:00 | 2.3              | 83(E)                   |
|           | 18:00 | 0.9              | 146(SE)                 |
|           | 19:00 | 0.5              | 91(E)                   |
|           | 20:00 | 0.0              | 64(ENE)                 |
|           | 21:00 | 1.5              | 61(ENE)                 |
|           | 22:00 | 1.1              | 107(ESE)                |
|           | 23:00 | 0.9              | 132(SE)                 |

**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 15-Jan-24 | 00:00 | 0.0              | 125(SE)                 |
|           | 01:00 | 0.0              | 146(SE)                 |
|           | 02:00 | 0.0              | 141(SE)                 |
|           | 03:00 | 0.0              | 96(E)                   |
|           | 04:00 | 0.0              | 50(NE)                  |
|           | 05:00 | 0.0              | 109(ESE)                |
|           | 06:00 | 0.0              | 69(ENE)                 |
|           | 07:00 | 0.9              | 39(NE)                  |
|           | 08:00 | 0.0              | 114(ESE)                |
|           | 09:00 | 0.0              | 129(SE)                 |
|           | 10:00 | 1.1              | 72(ENE)                 |
|           | 11:00 | 2.3              | 137(SE)                 |
|           | 12:00 | 2.9              | 78(ENE)                 |
|           | 13:00 | 2.1              | 88(E)                   |
|           | 14:00 | 2.3              | 87(E)                   |
|           | 15:00 | 2.9              | 74(ENE)                 |
|           | 16:00 | 1.7              | 89(E)                   |
|           | 17:00 | 4.1              | 121(ESE)                |
|           | 18:00 | 3.3              | 110(ESE)                |
|           | 19:00 | 2.5              | 140(SE)                 |
|           | 20:00 | 2.5              | 79(E)                   |
|           | 21:00 | 3.5              | 95(E)                   |
|           | 22:00 | 2.3              | 76(ENE)                 |
|           | 23:00 | 1.1              | 268(W)                  |
| 16-Jan-24 | 00:00 | 1.9              | 114(ESE)                |
|           | 01:00 | 4.5              | 84(E)                   |
|           | 02:00 | 2.9              | 67(ENE)                 |
|           | 03:00 | 3.9              | 135(SE)                 |
|           | 04:00 | 3.5              | 127(SE)                 |
|           | 05:00 | 2.1              | 86(E)                   |
|           | 06:00 | 1.9              | 75(ENE)                 |
|           | 07:00 | 2.5              | 77(ENE)                 |
|           | 08:00 | 3.9              | 88(E)                   |
|           | 09:00 | 4.3              | 121(ESE)                |
|           | 10:00 | 1.1              | 58(ENE)                 |
|           | 11:00 | 2.7              | 145(SE)                 |
|           | 12:00 | 2.9              | 178(S)                  |
|           | 13:00 | 2.3              | 114(ESE)                |
|           | 14:00 | 1.5              | 237(WSW)                |
|           | 15:00 | 1.5              | 232(SW)                 |
|           | 16:00 | 2.5              | 221(SW)                 |
|           | 17:00 | 4.7              | 226(SW)                 |
|           | 18:00 | 0.7              | 257(WSW)                |
|           | 19:00 | 1.7              | 222(SW)                 |
|           | 20:00 | 1.3              | 71(ENE)                 |
|           | 21:00 | 1.7              | 95(E)                   |
|           | 22:00 | 0.0              | 92(E)                   |
|           | 23:00 | 0.9              | 87(E)                   |

**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 17-Jan-24 | 00:00 | 2.1              | 121(ESE)                |
|           | 01:00 | 2.9              | 128(SE)                 |
|           | 02:00 | 1.1              | 93(E)                   |
|           | 03:00 | 1.5              | 124(SE)                 |
|           | 04:00 | 0.0              | 347(NNW)                |
|           | 05:00 | 0.0              | 108(ESE)                |
|           | 06:00 | 0.0              | 26(NNE)                 |
|           | 07:00 | 1.5              | 68(ENE)                 |
|           | 08:00 | 1.1              | 79(E)                   |
|           | 09:00 | 1.9              | 125(SE)                 |
|           | 10:00 | 2.1              | 86(E)                   |
|           | 11:00 | 1.7              | 81(E)                   |
|           | 12:00 | 3.5              | 107(ESE)                |
|           | 13:00 | 1.7              | 98(E)                   |
|           | 14:00 | 1.9              | 43(NE)                  |
|           | 15:00 | 1.3              | 106(ESE)                |
|           | 16:00 | 0.5              | 314(NW)                 |
|           | 17:00 | 2.9              | 85(E)                   |
|           | 18:00 | 1.3              | 88(E)                   |
|           | 19:00 | 1.3              | 15(NNE)                 |
|           | 20:00 | 1.5              | 105(ESE)                |
|           | 21:00 | 1.3              | 50(NE)                  |
|           | 22:00 | 0.0              | 155(SSE)                |
| 23:00     | 0.0   | 305(NW)          |                         |
| 18-Jan-24 | 00:00 | 0.0              | 88(E)                   |
|           | 01:00 | 1.1              | 42(NE)                  |
|           | 02:00 | 0.0              | 40(NE)                  |
|           | 03:00 | 0.0              | 68(ENE)                 |
|           | 04:00 | 0.0              | 68(ENE)                 |
|           | 05:00 | 0.0              | 209(SSW)                |
|           | 06:00 | 1.3              | 68(ENE)                 |
|           | 07:00 | 0.9              | 133(SE)                 |
|           | 08:00 | 0.0              | 64(ENE)                 |
|           | 09:00 | 0.0              | 72(ENE)                 |
|           | 10:00 | 2.7              | 72(ENE)                 |
|           | 11:00 | 1.7              | 215(SW)                 |
|           | 12:00 | 3.5              | 85(E)                   |
|           | 13:00 | 1.9              | 70(ENE)                 |
|           | 14:00 | 1.9              | 247(WSW)                |
|           | 15:00 | 2.9              | 120(ESE)                |
|           | 16:00 | 1.5              | 74(ENE)                 |
|           | 17:00 | 2.3              | 111(ESE)                |
|           | 18:00 | 1.3              | 132(SE)                 |
|           | 19:00 | 0.9              | 82(E)                   |
|           | 20:00 | 1.7              | 123(ESE)                |
|           | 21:00 | 1.3              | 52(NE)                  |
|           | 22:00 | 1.9              | 128(SE)                 |
| 23:00     | 1.3   | 102(ESE)         |                         |

**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 19-Jan-24 | 00:00 | 1.5              | 49(NE)                  |
|           | 01:00 | 0.7              | 51(NE)                  |
|           | 02:00 | 0.9              | 66(ENE)                 |
|           | 03:00 | 0.9              | 351(N)                  |
|           | 04:00 | 0.5              | 354(N)                  |
|           | 05:00 | 0.7              | 123(ESE)                |
|           | 06:00 | 1.1              | 122(ESE)                |
|           | 07:00 | 0.7              | 96(E)                   |
|           | 08:00 | 0.0              | 74(ENE)                 |
|           | 09:00 | 0.0              | 186(S)                  |
|           | 10:00 | 1.7              | 173(S)                  |
|           | 11:00 | 2.1              | 47(NE)                  |
|           | 12:00 | 3.1              | 193(SSW)                |
|           | 13:00 | 3.1              | 194(SSW)                |
|           | 14:00 | 1.9              | 308(NW)                 |
|           | 15:00 | 1.1              | 104(ESE)                |
|           | 16:00 | 3.1              | 182(S)                  |
|           | 17:00 | 0.9              | 283(WNW)                |
|           | 18:00 | 0.7              | 267(W)                  |
|           | 19:00 | 1.5              | 232(SW)                 |
|           | 20:00 | 1.3              | 93(E)                   |
|           | 21:00 | 0.9              | 70(ENE)                 |
|           | 22:00 | 1.1              | 89(E)                   |
|           | 23:00 | 0.9              | 76(ENE)                 |
| 20-Jan-24 | 00:00 | 0.0              | 98(E)                   |
|           | 01:00 | 1.7              | 64(ENE)                 |
|           | 02:00 | 1.3              | 38(NE)                  |
|           | 03:00 | 1.5              | 78(ENE)                 |
|           | 04:00 | 0.0              | 90(E)                   |
|           | 05:00 | 1.3              | 26(NNE)                 |
|           | 06:00 | 0.0              | 56(NE)                  |
|           | 07:00 | 0.0              | 91(E)                   |
|           | 08:00 | 0.0              | 206(SSW)                |
|           | 09:00 | 0.0              | 249(WSW)                |
|           | 10:00 | 1.7              | 62(ENE)                 |
|           | 11:00 | 1.1              | 276(W)                  |
|           | 12:00 | 1.9              | 57(ENE)                 |
|           | 13:00 | 1.1              | 344(NNW)                |
|           | 14:00 | 2.3              | 39(NE)                  |
|           | 15:00 | 0.7              | 164(SSE)                |
|           | 16:00 | 1.9              | 49(NE)                  |
|           | 17:00 | 1.1              | 52(NE)                  |
|           | 18:00 | 2.5              | 77(ENE)                 |
|           | 19:00 | 0.0              | 69(ENE)                 |
|           | 20:00 | 1.7              | 158(SSE)                |
|           | 21:00 | 1.5              | 63(ENE)                 |
|           | 22:00 | 0.9              | 132(SE)                 |
|           | 23:00 | 1.5              | 79(E)                   |

**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 21-Jan-24 | 00:00 | 1.7              | 95(E)                   |
|           | 01:00 | 3.7              | 43(NE)                  |
|           | 02:00 | 2.5              | 29(NNE)                 |
|           | 03:00 | 2.3              | 359(N)                  |
|           | 04:00 | 3.7              | 90(E)                   |
|           | 05:00 | 5.5              | 62(ENE)                 |
|           | 06:00 | 3.7              | 66(ENE)                 |
|           | 07:00 | 1.7              | 56(NE)                  |
|           | 08:00 | 1.5              | 93(E)                   |
|           | 09:00 | 2.9              | 49(NE)                  |
|           | 10:00 | 1.1              | 21(NNE)                 |
|           | 11:00 | 1.9              | 23(NNE)                 |
|           | 12:00 | 2.7              | 57(ENE)                 |
|           | 13:00 | 1.9              | 20(NNE)                 |
|           | 14:00 | 1.9              | 70(ENE)                 |
|           | 15:00 | 2.5              | 84(E)                   |
|           | 16:00 | 3.5              | 46(NE)                  |
|           | 17:00 | 1.3              | 74(ENE)                 |
|           | 18:00 | 1.1              | 58(ENE)                 |
|           | 19:00 | 0.0              | 16(NNE)                 |
|           | 20:00 | 0.5              | 304(NW)                 |
|           | 21:00 | 1.3              | 64(ENE)                 |
|           | 22:00 | 1.5              | 68(ENE)                 |
| 23:00     | 1.5   | 103(ESE)         |                         |
| 22-Jan-24 | 00:00 | 2.3              | 101(E)                  |
|           | 01:00 | 3.1              | 71(ENE)                 |
|           | 02:00 | 2.7              | 104(ESE)                |
|           | 03:00 | 2.5              | 67(ENE)                 |
|           | 04:00 | 2.3              | 107(ESE)                |
|           | 05:00 | 4.7              | 98(E)                   |
|           | 06:00 | 3.3              | 58(ENE)                 |
|           | 07:00 | 1.5              | 70(ENE)                 |
|           | 08:00 | 2.7              | 62(ENE)                 |
|           | 09:00 | 2.1              | 336(NNW)                |
|           | 10:00 | 4.5              | 107(ESE)                |
|           | 11:00 | 3.5              | 97(E)                   |
|           | 12:00 | 2.7              | 70(ENE)                 |
|           | 13:00 | 2.7              | 19(NNE)                 |
|           | 14:00 | 6.3              | 50(NE)                  |
|           | 15:00 | 3.1              | 130(SE)                 |
|           | 16:00 | 2.9              | 108(ESE)                |
|           | 17:00 | 6.5              | 69(ENE)                 |
|           | 18:00 | 4.3              | 54(NE)                  |
|           | 19:00 | 4.7              | 89(E)                   |
|           | 20:00 | 2.7              | 185(S)                  |
|           | 21:00 | 2.9              | 87(E)                   |
|           | 22:00 | 7.3              | 97(E)                   |
| 23:00     | 7.7   | 75(ENE)          |                         |

**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 23-Jan-24 | 00:00 | 8.5              | 87(E)                   |
|           | 01:00 | 5.3              | 68(ENE)                 |
|           | 02:00 | 4.7              | 77(ENE)                 |
|           | 03:00 | 1.9              | 48(NE)                  |
|           | 04:00 | 4.3              | 76(ENE)                 |
|           | 05:00 | 5.7              | 81(E)                   |
|           | 06:00 | 3.3              | 62(ENE)                 |
|           | 07:00 | 6.3              | 65(ENE)                 |
|           | 08:00 | 4.3              | 66(ENE)                 |
|           | 09:00 | 8.1              | 97(E)                   |
|           | 10:00 | 2.3              | 61(ENE)                 |
|           | 11:00 | 4.3              | 90(E)                   |
|           | 12:00 | 4.7              | 76(ENE)                 |
|           | 13:00 | 5.1              | 98(E)                   |
|           | 14:00 | 3.3              | 63(ENE)                 |
|           | 15:00 | 1.5              | 148(SSE)                |
|           | 16:00 | 6.9              | 89(E)                   |
|           | 17:00 | 4.3              | 71(ENE)                 |
|           | 18:00 | 4.7              | 136(SE)                 |
|           | 19:00 | 4.7              | 73(ENE)                 |
|           | 20:00 | 2.3              | 43(NE)                  |
|           | 21:00 | 5.1              | 58(ENE)                 |
|           | 22:00 | 6.3              | 72(ENE)                 |
| 23:00     | 1.3   | 83(E)            |                         |
| 24-Jan-24 | 00:00 | 2.1              | 91(E)                   |
|           | 01:00 | 3.7              | 86(E)                   |
|           | 02:00 | 2.9              | 86(E)                   |
|           | 03:00 | 3.7              | 82(E)                   |
|           | 04:00 | 2.1              | 141(SE)                 |
|           | 05:00 | 4.1              | 44(NE)                  |
|           | 06:00 | 3.9              | 61(ENE)                 |
|           | 07:00 | 1.9              | 237(WSW)                |
|           | 08:00 | 1.1              | 191(S)                  |
|           | 09:00 | 2.1              | 54(NE)                  |
|           | 10:00 | 2.9              | 73(ENE)                 |
|           | 11:00 | 2.3              | 33(NNE)                 |
|           | 12:00 | 1.1              | 133(SE)                 |
|           | 13:00 | 0.5              | 308(NW)                 |
|           | 14:00 | 2.7              | 30(NNE)                 |
|           | 15:00 | 1.1              | 48(NE)                  |
|           | 16:00 | 2.9              | 111(ESE)                |
|           | 17:00 | 1.7              | 124(SE)                 |
|           | 18:00 | 2.7              | 49(NE)                  |
|           | 19:00 | 3.1              | 50(NE)                  |
|           | 20:00 | 1.7              | 71(ENE)                 |
|           | 21:00 | 2.9              | 52(NE)                  |
|           | 22:00 | 1.5              | 328(NNW)                |
| 23:00     | 2.9   | 50(NE)           |                         |

**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 25-Jan-24 | 00:00 | 1.9              | 177(S)                  |
|           | 01:00 | 1.7              | 91(E)                   |
|           | 02:00 | 5.1              | 65(ENE)                 |
|           | 03:00 | 0.0              | 37(NE)                  |
|           | 04:00 | 3.3              | 50(NE)                  |
|           | 05:00 | 2.5              | 70(ENE)                 |
|           | 06:00 | 1.1              | 44(NE)                  |
|           | 07:00 | 0.7              | 194(SSW)                |
|           | 08:00 | 1.9              | 309(NW)                 |
|           | 09:00 | 2.1              | 87(E)                   |
|           | 10:00 | 1.1              | 88(E)                   |
|           | 11:00 | 2.7              | 53(NE)                  |
|           | 12:00 | 1.3              | 8(N)                    |
|           | 13:00 | 1.5              | 359(N)                  |
|           | 14:00 | 1.3              | 244(WSW)                |
|           | 15:00 | 2.1              | 327(NNW)                |
|           | 16:00 | 2.9              | 54(NE)                  |
|           | 17:00 | 1.1              | 263(W)                  |
|           | 18:00 | 0.9              | 41(NE)                  |
|           | 19:00 | 0.7              | 278(W)                  |
|           | 20:00 | 1.9              | 34(NE)                  |
|           | 21:00 | 3.3              | 52(NE)                  |
|           | 22:00 | 2.9              | 51(NE)                  |
| 23:00     | 0.9   | 136(SE)          |                         |
| 26-Jan-24 | 00:00 | 0.0              | 312(NW)                 |
|           | 01:00 | 1.5              | 78(ENE)                 |
|           | 02:00 | 0.7              | 12(NNE)                 |
|           | 03:00 | 1.7              | 63(ENE)                 |
|           | 04:00 | 1.1              | 81(E)                   |
|           | 05:00 | 0.7              | 336(NNW)                |
|           | 06:00 | 1.5              | 73(ENE)                 |
|           | 07:00 | 1.3              | 110(ESE)                |
|           | 08:00 | 0.7              | 235(SW)                 |
|           | 09:00 | 3.1              | 66(ENE)                 |
|           | 10:00 | 1.1              | 343(NNW)                |
|           | 11:00 | 2.5              | 61(ENE)                 |
|           | 12:00 | 0.7              | 212(SSW)                |
|           | 13:00 | 2.3              | 17(NNE)                 |
|           | 14:00 | 1.1              | 114(ESE)                |
|           | 15:00 | 1.5              | 133(SE)                 |
|           | 16:00 | 2.1              | 75(ENE)                 |
|           | 17:00 | 3.3              | 100(E)                  |
|           | 18:00 | 1.3              | 68(ENE)                 |
|           | 19:00 | 1.9              | 44(NE)                  |
|           | 20:00 | 1.3              | 297(WNW)                |
|           | 21:00 | 2.3              | 46(NE)                  |
|           | 22:00 | 2.7              | 67(ENE)                 |
| 23:00     | 2.1   | 54(NE)           |                         |



**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 27-Jan-24 | 00:00 | 1.3              | 103(ESE)                |
|           | 01:00 | 0.7              | 235(SW)                 |
|           | 02:00 | 0.7              | 153(SSE)                |
|           | 03:00 | 1.3              | 98(E)                   |
|           | 04:00 | 0.9              | 118(ESE)                |
|           | 05:00 | 2.5              | 87(E)                   |
|           | 06:00 | 1.7              | 43(NE)                  |
|           | 07:00 | 0.5              | 179(S)                  |
|           | 08:00 | 1.9              | 346(NNW)                |
|           | 09:00 | 1.9              | 28(NNE)                 |
|           | 10:00 | 1.9              | 0(N)                    |
|           | 11:00 | 1.3              | 3(N)                    |
|           | 12:00 | 1.3              | 60(ENE)                 |
|           | 13:00 | 2.7              | 60(ENE)                 |
|           | 14:00 | 2.7              | 50(NE)                  |
|           | 15:00 | 1.9              | 147(SSE)                |
|           | 16:00 | 2.1              | 45(NE)                  |
|           | 17:00 | 1.3              | 155(SSE)                |
|           | 18:00 | 6.3              | 60(ENE)                 |
|           | 19:00 | 3.3              | 56(NE)                  |
|           | 20:00 | 2.1              | 62(ENE)                 |
|           | 21:00 | 0.7              | 86(E)                   |
|           | 22:00 | 1.1              | 172(S)                  |
| 23:00     | 2.7   | 97(E)            |                         |
| 28-Jan-24 | 00:00 | 5.1              | 93(E)                   |
|           | 01:00 | 3.1              | 62(ENE)                 |
|           | 02:00 | 1.7              | 61(ENE)                 |
|           | 03:00 | 1.5              | 143(SE)                 |
|           | 04:00 | 1.5              | 78(ENE)                 |
|           | 05:00 | 2.9              | 73(ENE)                 |
|           | 06:00 | 1.5              | 49(NE)                  |
|           | 07:00 | 1.1              | 94(E)                   |
|           | 08:00 | 2.3              | 86(E)                   |
|           | 09:00 | 2.3              | 79(E)                   |
|           | 10:00 | 1.3              | 9(N)                    |
|           | 11:00 | 2.1              | 27(NNE)                 |
|           | 12:00 | 1.9              | 289(WNW)                |
|           | 13:00 | 3.3              | 58(ENE)                 |
|           | 14:00 | 3.1              | 84(E)                   |
|           | 15:00 | 0.9              | 87(E)                   |
|           | 16:00 | 2.5              | 44(NE)                  |
|           | 17:00 | 1.1              | 117(ESE)                |
|           | 18:00 | 1.1              | 117(ESE)                |
|           | 19:00 | 1.5              | 144(SE)                 |
|           | 20:00 | 2.1              | 90(E)                   |
|           | 21:00 | 0.9              | 129(SE)                 |
|           | 22:00 | 1.5              | 131(SE)                 |
| 23:00     | 0.9   | 133(SE)          |                         |

**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 29-Jan-24 | 00:00 | 0.0              | 158(SSE)                |
|           | 01:00 | 0.5              | 47(NE)                  |
|           | 02:00 | 1.3              | 133(SE)                 |
|           | 03:00 | 0.7              | 130(SE)                 |
|           | 04:00 | 1.5              | 130(SE)                 |
|           | 05:00 | 0.7              | 142(SE)                 |
|           | 06:00 | 1.3              | 122(ESE)                |
|           | 07:00 | 0.7              | 150(SSE)                |
|           | 08:00 | 1.3              | 66(ENE)                 |
|           | 09:00 | 2.1              | 106(ESE)                |
|           | 10:00 | 1.5              | 136(SE)                 |
|           | 11:00 | 1.5              | 65(ENE)                 |
|           | 12:00 | 0.9              | 110(ESE)                |
|           | 13:00 | 0.7              | 18(NNE)                 |
|           | 14:00 | 0.7              | 342(NNW)                |
|           | 15:00 | 1.3              | 118(ESE)                |
|           | 16:00 | 1.9              | 113(ESE)                |
|           | 17:00 | 0.0              | 205(SSW)                |
|           | 18:00 | 0.0              | 57(ENE)                 |
|           | 19:00 | 0.0              | 200(SSW)                |
|           | 20:00 | 0.5              | 14(NNE)                 |
|           | 21:00 | 1.1              | 94(E)                   |
|           | 22:00 | 0.5              | 163(SSE)                |
| 23:00     | 0.0   | 132(SE)          |                         |
| 30-Jan-24 | 00:00 | 0.7              | 19(NNE)                 |
|           | 01:00 | 1.7              | 97(E)                   |
|           | 02:00 | 1.7              | 144(SE)                 |
|           | 03:00 | 0.7              | 22(NNE)                 |
|           | 04:00 | 0.0              | 172(S)                  |
|           | 05:00 | 0.9              | 101(E)                  |
|           | 06:00 | 0.7              | 306(NW)                 |
|           | 07:00 | 1.1              | 65(ENE)                 |
|           | 08:00 | 0.7              | 114(ESE)                |
|           | 09:00 | 0.0              | 228(SW)                 |
|           | 10:00 | 0.0              | 349(N)                  |
|           | 11:00 | 1.3              | 48(NE)                  |
|           | 12:00 | 1.5              | 108(ESE)                |
|           | 13:00 | 1.3              | 138(SE)                 |
|           | 14:00 | 0.0              | 210(SSW)                |
|           | 15:00 | 1.5              | 91(E)                   |
|           | 16:00 | 1.5              | 253(WSW)                |
|           | 17:00 | 1.7              | 162(SSE)                |
|           | 18:00 | 0.9              | 97(E)                   |
|           | 19:00 | 0.0              | 71(ENE)                 |
|           | 20:00 | 1.1              | 133(SE)                 |
|           | 21:00 | 0.0              | 76(ENE)                 |
|           | 22:00 | 1.7              | 115(ESE)                |
| 23:00     | 1.7   | 100(E)           |                         |

**Wind Speed and Wind Direction**

| Date      | Time  | Wind Speed (m/s) | Wind Direction (degree) |
|-----------|-------|------------------|-------------------------|
| 31-Jan-24 | 00:00 | 0.0              | 102(ESE)                |
|           | 01:00 | 0.0              | 203(SSW)                |
|           | 02:00 | 1.9              | 99(E)                   |
|           | 03:00 | 0.5              | 324(NW)                 |
|           | 04:00 | 0.0              | 237(WSW)                |
|           | 05:00 | 0.0              | 152(SSE)                |
|           | 06:00 | 0.0              | 170(S)                  |
|           | 07:00 | 1.1              | 51(NE)                  |
|           | 08:00 | 0.7              | 122(ESE)                |
|           | 09:00 | 1.5              | 138(SE)                 |
|           | 10:00 | 1.1              | 356(N)                  |
|           | 11:00 | 0.0              | 298(WNW)                |
|           | 12:00 | 0.0              | 279(W)                  |
|           | 13:00 | 2.9              | 172(S)                  |
|           | 14:00 | 3.1              | 146(SE)                 |
|           | 15:00 | 0.0              | 291(WNW)                |
|           | 16:00 | 1.1              | 160(SSE)                |
|           | 17:00 | 0.5              | 245(WSW)                |
|           | 18:00 | 0.0              | 273(W)                  |
|           | 19:00 | 1.3              | 123(ESE)                |
|           | 20:00 | 0.9              | 62(ENE)                 |
|           | 21:00 | 0.7              | 70(ENE)                 |
|           | 22:00 | 1.1              | 40(NE)                  |
|           | 23:00 | 1.9              | 123(ESE)                |



## ***Appendix 5.1***

# ***Monitoring Schedule for Reporting Month and Next Reporting Month***

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**Contract No. SPW 12/2021**  
**Environmental Team (2021-2024)**  
**for Shek Wui Effluent Polishing Plant - Main Works**  
**Impact Monitoring Schedule**  
**Jan 2024**

| Sunday | Monday              | Tuesday             | Wednesday             | Thursday              | Friday                | Saturday      |
|--------|---------------------|---------------------|-----------------------|-----------------------|-----------------------|---------------|
|        | 1-Jan               | 2-Jan               | 3-Jan                 | 4-Jan                 | 5-Jan                 | 6-Jan         |
|        |                     |                     | AQM+24hr TSP          | AQM + 1hr TSP<br>NM   | Ecological Monitoring |               |
| 7-Jan  | 8-Jan               | 9-Jan               | 10-Jan                | 11-Jan                | 12-Jan                | 13-Jan        |
|        |                     | AQM+24hr TSP        | AQM + 1hr TSP<br>NM   |                       | Ecological Monitoring |               |
| 14-Jan | 15-Jan              | 16-Jan              | 17-Jan                | 18-Jan                | 19-Jan                | 20-Jan        |
|        | AQM+24hr TSP        | AQM + 1hr TSP<br>NM |                       | Ecological Monitoring |                       | AQM+24hr TSP  |
| 21-Jan | 22-Jan              | 23-Jan              | 24-Jan                | 25-Jan                | 26-Jan                | 27-Jan        |
|        | AQM + 1hr TSP<br>NM |                     |                       | Ecological Monitoring | AQM+24hr TSP          | AQM + 1hr TSP |
| 28-Jan | 29-Jan              | 30-Jan              | 31-Jan                |                       |                       |               |
|        |                     |                     | Ecological Monitoring |                       |                       |               |

Remarks

- AQM: Air Quality Monitoring
- NM: Noise Monitoring, the monitoring dates are tentative and subject to change
- Ecological Monitoring dates are tentative and subject to change based on real-time tide.



**Contract No. SPW 12/2021**  
**Environmental Team (2021-2024)**  
**for Shek Wui Effluent Polishing Plant - Main Works**  
**Tentative Impact Monitoring Schedule**  
**Feb 2024**

| Sunday | Monday  | Tuesday                       | Wednesday                     | Thursday                      | Friday  | Saturday |
|--------|---|-------------------------------|-------------------------------|-------------------------------|---|----------|
|        |   |                               |                               | 1-Feb<br>AQM+24hr TSP         | 2-Feb<br>AQM + 1hr TSP<br>NM                        | 3-Feb    |
| 4-Feb  | 5-Feb<br>AQM+24hr TSP                               | 6-Feb<br>AQM + 1hr TSP<br>NM  | 7-Feb                         | 8-Feb<br>AQM+24hr TSP         | 9-Feb<br>AQM + 1hr TSP<br><br>Ecological Monitoring | 10-Feb   |
| 11-Feb | 12-Feb  | 13-Feb                        | 14-Feb<br>AQM+24hr TSP        | 15-Feb<br>AQM + 1hr TSP<br>NM | 16-Feb<br><br>Ecological Monitoring                 | 17-Feb   |
| 18-Feb | 19-Feb  | 20-Feb<br>AQM+24hr TSP        | 21-Feb<br>AQM + 1hr TSP<br>NM | 22-Feb                        | 23-Feb<br><br>Ecological Monitoring                 | 24-Feb   |
| 25-Feb | 26-Feb<br>AQM+24hr TSP<br><br>Ecological Monitoring | 27-Feb<br>AQM + 1hr TSP<br>NM | 28-Feb                        | 29-Feb                        |   |          |

Remarks

- AQM: Air Quality Monitoring
- NM: Noise Monitoring, the monitoring dates are tentative and subject to change
- Ecological Monitoring dates are tentative and subject to change based on real-time tide.



Contract No. SPW 12/2021  
 Environmental Team (2021-2024)  
 for Shek Wui Effluent Polishing Plant - Main Works  
 Tentative Impact Monitoring Schedule  
 Mar 2024

| Sunday | Monday                          | Tuesday                | Wednesday                     | Thursday   | Friday                        | Saturday               |
|--------|---------------------------------|------------------------|-------------------------------|--|-------------------------------|------------------------|
|        |                                 |                        |                               |  | 1-Mar                         | 2-Mar<br>AQM+24hr TSP  |
| 3-Mar  | 4-Mar<br>AQM + 1hr TSP<br>NM    | 5-Mar                  | 6-Mar                         | 7-Mar<br>Ecological Monitoring                         | 8-Mar<br>AQM+24hr TSP         | 9-Mar<br>AQM + 1hr TSP |
| 10-Mar | 11-Mar<br>Ecological Monitoring | 12-Mar                 | 13-Mar                        | 14-Mar<br>AQM+24hr TSP                                 | 15-Mar<br>AQM + 1hr TSP<br>NM | 16-Mar                 |
| 17-Mar | 18-Mar                          | 19-Mar                 | 20-Mar<br>AQM+24hr TSP        | 21-Mar<br>AQM + 1hr TSP<br>NM<br>Ecological Monitoring | 22-Mar                        | 23-Mar                 |
| 24-Mar | 25-Mar                          | 26-Mar<br>AQM+24hr TSP | 27-Mar<br>AQM + 1hr TSP<br>NM | 28-Mar<br>Ecological Monitoring                        | 29-Mar                        | 30-Mar                 |
| 31-Mar |                                 |                        |                               |  |                               |                        |

Remarks

- AQM: Air Quality Monitoring
- NM: Noise Monitoring, the monitoring dates are tentative and subject to change
- Ecological Monitoring dates are tentative and subject to change based on real-time tide.



## ***Appendix 5.2***

# ***Noise Monitoring Results and Graphical Presentations***

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**Noise Monitoring Result**

Location: NM1 - G/F, Wai Loi Tsuen

| Date                 | Time  | Weather | Wind Speed<br>(m/s) | Measurement Noise Level |      |      | Baseline Level | Construction Noise Level | Limit Level |
|----------------------|-------|---------|---------------------|-------------------------|------|------|----------------|--------------------------|-------------|
|                      |       |         |                     | Leq                     | L10  | L90  | Leq            | Leq                      | Leq         |
| Unit: dB(A), (30min) |       |         |                     |                         |      |      |                |                          |             |
| 04/01/2024           | 11:30 | Fine    | 0.0                 | 56.8                    | 58.6 | 51.3 | 63.4           | 56.8                     | 75          |
| 10/01/2024           | 15:30 | Fine    | 0.1                 | 55.9                    | 57.8 | 50.6 | 63.4           | 55.9                     | 75          |
| 16/01/2024           | 11:30 | Fine    | 0.0                 | 57.2                    | 59.5 | 51.8 | 63.4           | 57.2                     | 75          |
| 22/01/2024           | 15:25 | Fine    | 0.1                 | 55.6                    | 58.1 | 50.3 | 63.4           | 55.6                     | 75          |

Location: NM2 - G/F, Fu Tei Au

| Date                  | Time  | Weather | Wind Speed<br>(m/s) | Measurement Noise Level |      |      | Baseline Level | Construction Noise Level | Limit Level |
|-----------------------|-------|---------|---------------------|-------------------------|------|------|----------------|--------------------------|-------------|
|                       |       |         |                     | Leq                     | L10  | L90  | Leq            | Leq                      | Leq         |
| Unit: dB(A), (30-min) |       |         |                     |                         |      |      |                |                          |             |
| 04/01/2024            | 8:55  | Fine    | 0.1                 | 60.2                    | 62.9 | 57.9 | 58.0           | 56.2                     | 75          |
| 10/01/2024            | 13:00 | Fine    | 0.0                 | 59.8                    | 61.8 | 57.2 | 58.0           | 55.1                     | 75          |
| 16/01/2024            | 8:45  | Fine    | 0.0                 | 61.1                    | 63.5 | 58.9 | 58.0           | 58.2                     | 75          |
| 22/01/2024            | 11:00 | Fine    | 0.0                 | 60.2                    | 62.4 | 55.2 | 58.0           | 56.2                     | 75          |

Location: NM3 - G/F, Man kok Village

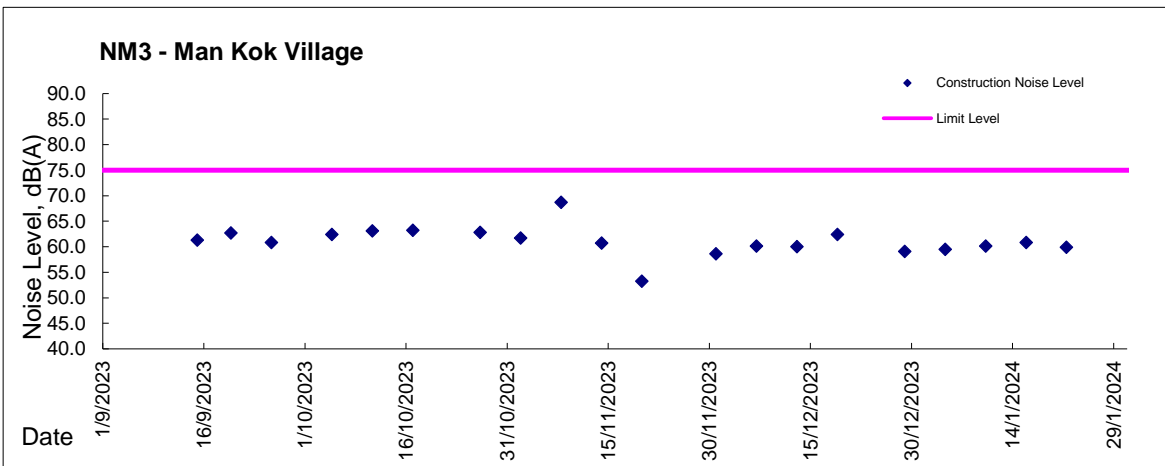
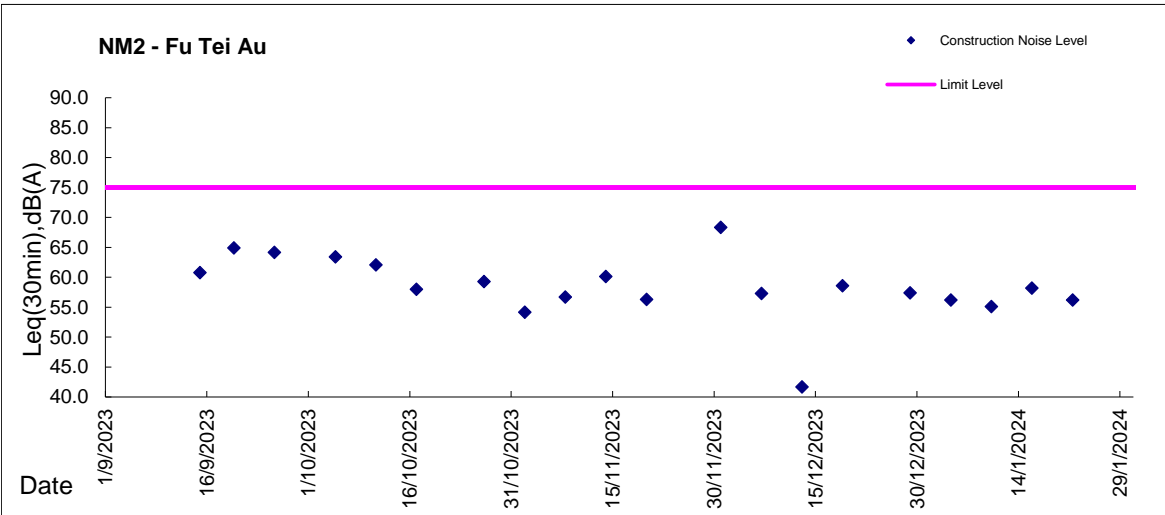
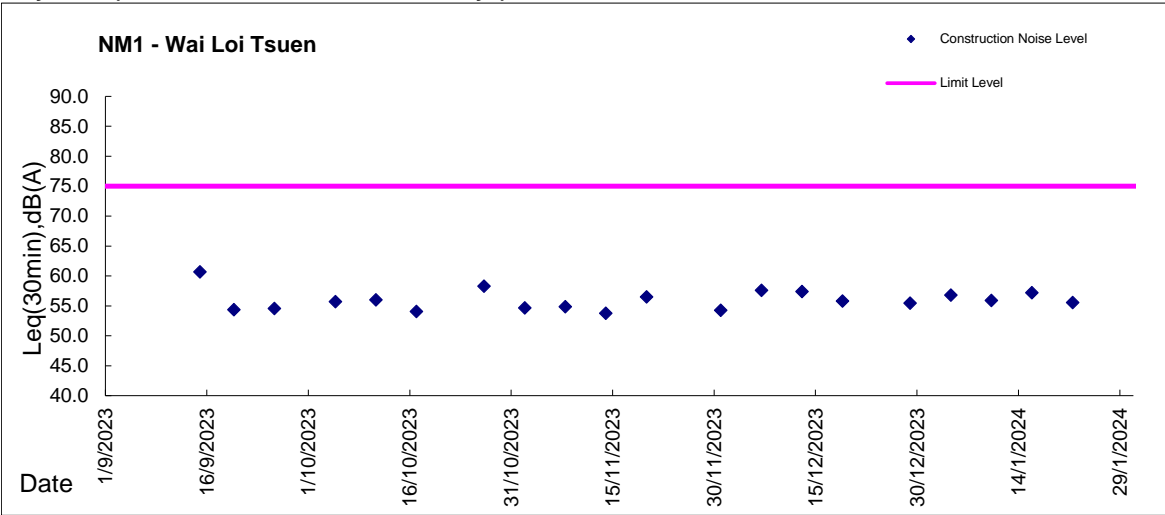
| Date                 | Time  | Weather | Wind Speed<br>(m/s) | Measurement Noise Level |      |      | Baseline Level | Construction Noise Level | Limit Level |
|----------------------|-------|---------|---------------------|-------------------------|------|------|----------------|--------------------------|-------------|
|                      |       |         |                     | Leq                     | L10  | L90  | Leq            | Leq                      | Leq         |
| Unit: dB(A), (30min) |       |         |                     |                         |      |      |                |                          |             |
| 04/01/2024           | 9:45  | Fine    | 0.1                 | 59.5                    | 61.5 | 52.5 | 63.4           | 59.5                     | 75          |
| 10/01/2024           | 13:45 | Fine    | 0.0                 | 60.1                    | 62.6 | 53.5 | 63.4           | 60.1                     | 75          |
| 16/01/2024           | 9:35  | Fine    | 0.0                 | 60.8                    | 62.8 | 55.9 | 63.4           | 60.8                     | 75          |
| 22/01/2024           | 14:00 | Fine    | 0.1                 | 59.9                    | 62.4 | 52.1 | 63.4           | 59.9                     | 75          |

\* Free field correction (Additional 3dB(A)) was made on NM1, NM2, and NM3 measurement result



Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)





## ***Appendix 5.3***

# ***Air Quality Monitoring Results and Graphical Presentations***

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Report on 1-hour TSP monitoring at AM1 - Wai Loi Tsuen  
 Action Level ( $\mu\text{g}/\text{m}^3$ ) - 320  
 Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 500

| Date      | Weather Condition | Time  | Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) | Model No.   | Serial No. |
|-----------|-------------------|-------|---|-------------|------------|
| 4-Jan-24  | Fine              | 8:20  | 16  | AEROCET 831 | C15622     |
| 4-Jan-24  | Fine              | 9:21  | 17  |             |            |
| 4-Jan-24  | Fine              | 10:22 | 17  |             |            |
| 10-Jan-24 | Fine              | 8:11  | 16  |             |            |
| 10-Jan-24 | Fine              | 9:12  | 15  |             |            |
| 10-Jan-24 | Fine              | 10:13 | 17  |             |            |
| 16-Jan-24 | Cloudy            | 8:28  | 24  |             |            |
| 16-Jan-24 | Cloudy            | 9:29  | 24  |             |            |
| 16-Jan-24 | Cloudy            | 10:30 | 24  |             |            |
| 22-Jan-24 | Cloudy            | 8:43  | 30  |             |            |
| 22-Jan-24 | Cloudy            | 9:44  | 21  |             |            |
| 22-Jan-24 | Cloudy            | 10:45 | 22  |             |            |
| 27-Jan-24 | Cloudy            | 8:19  | 38  |             |            |
| 27-Jan-24 | Cloudy            | 9:20  | 41  |             |            |
| 27-Jan-24 | Cloudy            | 10:21 | 44  |             |            |

Report on 1-hour TSP monitoring at AM2 - Fu Tei Au

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 322  
 Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 500

| Date      | Weather Condition | Time  | Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) | Model No.   | Serial No. |
|-----------|-------------------|-------|---|-------------|------------|
| 4-Jan-24  | Fine              | 8:40  | 15  | AEROCET 831 | Y23153     |
| 4-Jan-24  | Fine              | 9:41  | 13  |             |            |
| 4-Jan-24  | Fine              | 10:42 | 15  |             |            |
| 10-Jan-24 | Fine              | 8:40  | 16  |             |            |
| 10-Jan-24 | Fine              | 9:41  | 15  |             |            |
| 10-Jan-24 | Fine              | 10:42 | 16  |             |            |
| 16-Jan-24 | Cloudy            | 8:39  | 17  |             |            |
| 16-Jan-24 | Cloudy            | 9:40  | 18  |             |            |
| 16-Jan-24 | Cloudy            | 10:40 | 18  |             |            |
| 22-Jan-24 | Cloudy            | 8:46  | 35  |             |            |
| 22-Jan-24 | Cloudy            | 9:47  | 22  |             |            |
| 22-Jan-24 | Cloudy            | 10:48 | 22  |             |            |
| 27-Jan-24 | Cloudy            | 8:14  | 32  |             |            |
| 27-Jan-24 | Cloudy            | 9:15  | 38  |             |            |
| 27-Jan-24 | Cloudy            | 10:16 | 41  |             |            |



Location: AM1a\* - Site boundary of the Shek Wu Hui STW (East), Roof floor of the control room of SWHSTW  
 Impact Monitoring Result on 24-hour TSP monitoring

| Date      | Sampling Time | Weather Condition | Pressure, hPa |        | Temp., °C |       | Filter paper no. | Filter Weight, g |        | Elapse Time, hr |          | Sampling Time, hr | Flow Rate, m <sup>3</sup> /min |      |      | Total Volume, m <sup>3</sup> | TSP Level, ug/m <sup>3</sup> | Model No. | Serial No. |
|-----------|---------------|-------------------|---------------|--------|-----------|-------|------------------|------------------|--------|-----------------|----------|-------------------|--------------------------------|------|------|------------------------------|------------------------------|-----------|------------|
|           |               |                   | Initial       | Final  | Initial   | Final |                  | Initial          | Final  | Initial         | Final    |                   | Average                        |      |      |                              |                              |           |            |
| 03-Jan-24 | 8:00          | Fine              | 1020.0        | 1020.9 | 18.8      | 17.0  | AM1a_24hr_008013 | 2.6619           | 2.8092 | 17867.88        | 17891.88 | 24.00             | 1.29                           | 1.30 | 1.29 | 1864                         | 79                           | G3101     | 2036       |
| 09-Jan-24 | 8:00          | Cloudy            | 1017.2        | 1018.6 | 20.5      | 20.3  | AM1a_24hr_011304 | 2.7527           | 2.8902 | 17891.88        | 17915.88 | 24.00             | 1.29                           | 1.29 | 1.29 | 1857                         | 74                           |           |            |
| 15-Jan-24 | 8:00          | Fine              | 1021.2        | 1022.1 | 20.9      | 18.7  | AM1a_24hr_011306 | 2.6811           | 2.7856 | 17915.88        | 17939.88 | 24.00             | 1.25                           | 1.25 | 1.25 | 1796                         | 58                           |           |            |
| 20-Jan-24 | 8:00          | Cloudy            | 1016.3        | 1020.3 | 21.4      | 19.1  | AM1a_24hr_011308 | 2.6761           | 2.8267 | 17939.88        | 17963.88 | 24.00             | 1.29                           | 1.29 | 1.29 | 1857                         | 81                           |           |            |
| 26-Jan-24 | 8:00          | Fine              | 1027.3        | 1025.8 | 15.0      | 15.5  | AM1a_24hr_011310 | 2.6866           | 2.8138 | 17939.88        | 17963.88 | 24.00             | 1.26                           | 1.26 | 1.26 | 1808                         | 70                           |           |            |

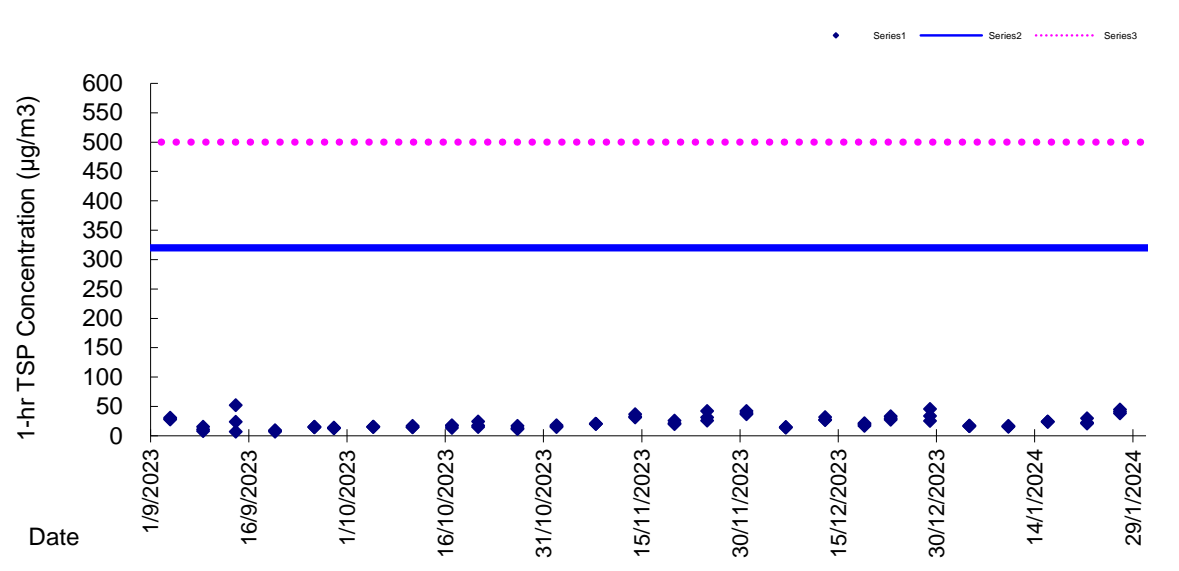


Location: AM2a - Site Boundary of the Shek Wu Hui STW (North)  
 Impact Monitoring Result on 24-hour TSP monitoring

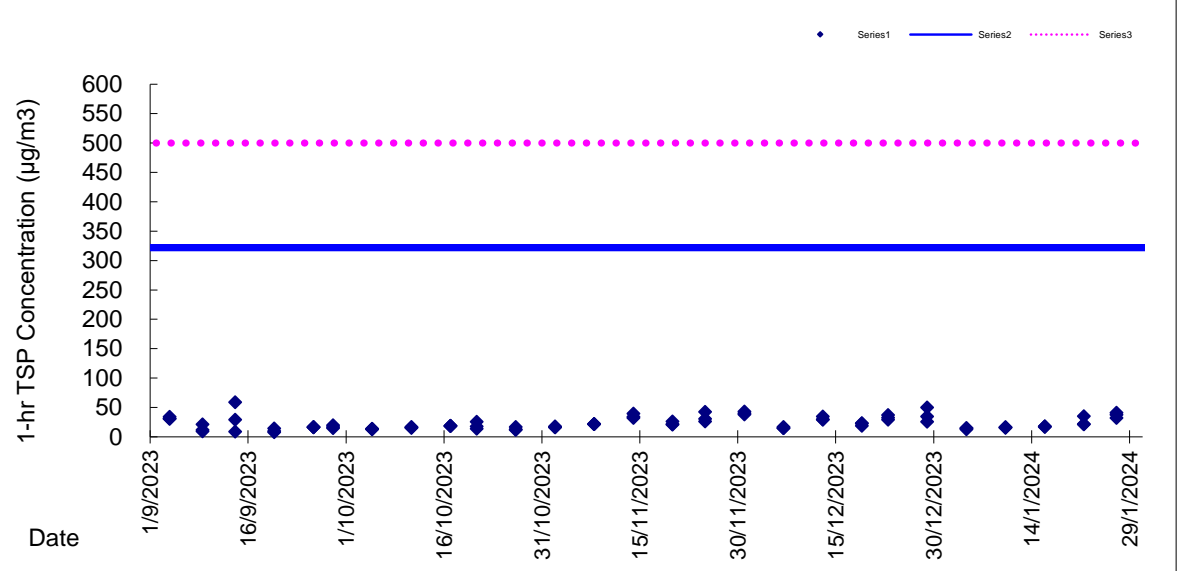
| Date      | Sampling Time | Weather Condition | Pressure, hPa |        | Temp., °C |       | Filter paper no. | Filter Weight, g |        | Elapse Time, hr |            | Sampling Time, hr | Flow Rate, m <sup>3</sup> /min |      |      | Total Volume, m <sup>3</sup> | TSP Level, ug/m <sup>3</sup> | Model No. | Serial No. |
|-----------|---------------|-------------------|---------------|--------|-----------|-------|------------------|------------------|--------|-----------------|------------|-------------------|--------------------------------|------|------|------------------------------|------------------------------|-----------|------------|
|           |               |                   | Initial       | Final  | Initial   | Final |                  | Initial          | Final  | Initial, Qsi    | Final, Qsf |                   | Average                        |      |      |                              |                              |           |            |
| 03-Jan-24 | 8:00          | Fine              | 1020.0        | 1020.9 | 18.8      | 17.0  | AM2a_24hr_008014 | 2.6569           | 2.8343 | 14145.83        | 14169.83   | 24.00             | 1.64                           | 1.64 | 1.64 | 2360                         | 75                           | G3101     | 774        |
| 09-Jan-24 | 8:00          | Cloudy            | 1017.2        | 1018.6 | 20.5      | 20.3  | AM2a_24hr_011305 | 2.7705           | 2.9758 | 14193.83        | 14217.83   | 24.00             | 1.61                           | 1.61 | 1.61 | 2318                         | 89                           |           |            |
| 15-Jan-24 | 8:00          | Fine              | 1021.2        | 1022.1 | 20.9      | 18.7  | AM2a_24hr_011307 | 2.6942           | 2.8729 | 14217.83        | 14241.83   | 24.00             | 1.63                           | 1.64 | 1.64 | 2356                         | 76                           |           |            |
| 20-Jan-24 | 8:00          | Cloudy            | 1016.3        | 1020.3 | 21.4      | 19.1  | AM2a_24hr_011309 | 2.6892           | 2.8793 | 14241.83        | 14265.83   | 24.00             | 1.63                           | 1.64 | 1.63 | 2352                         | 81                           |           |            |
| 26-Jan-24 | 8:00          | Fine              | 1027.3        | 1025.8 | 15.0      | 15.5  | AM2a_24hr_011311 | 2.6819           | 2.8562 | 14265.83        | 14289.83   | 24.00             | 1.74                           | 1.74 | 1.74 | 2505                         | 70                           |           |            |

Graphic Presentation of TSP Result

AM1 - Wai Loi Tsuen

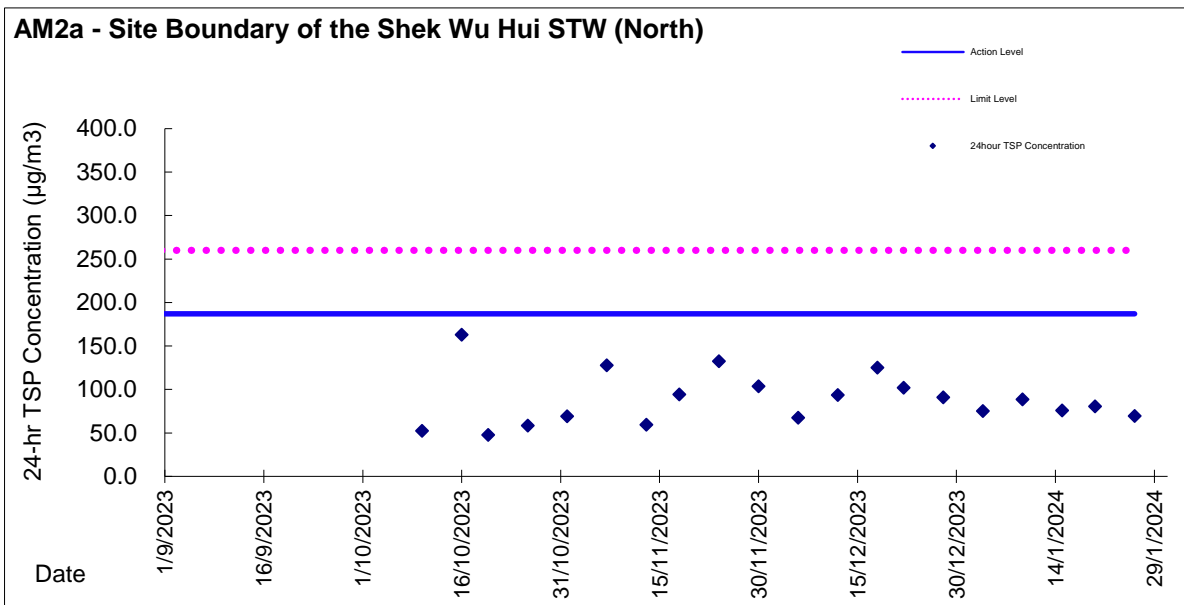
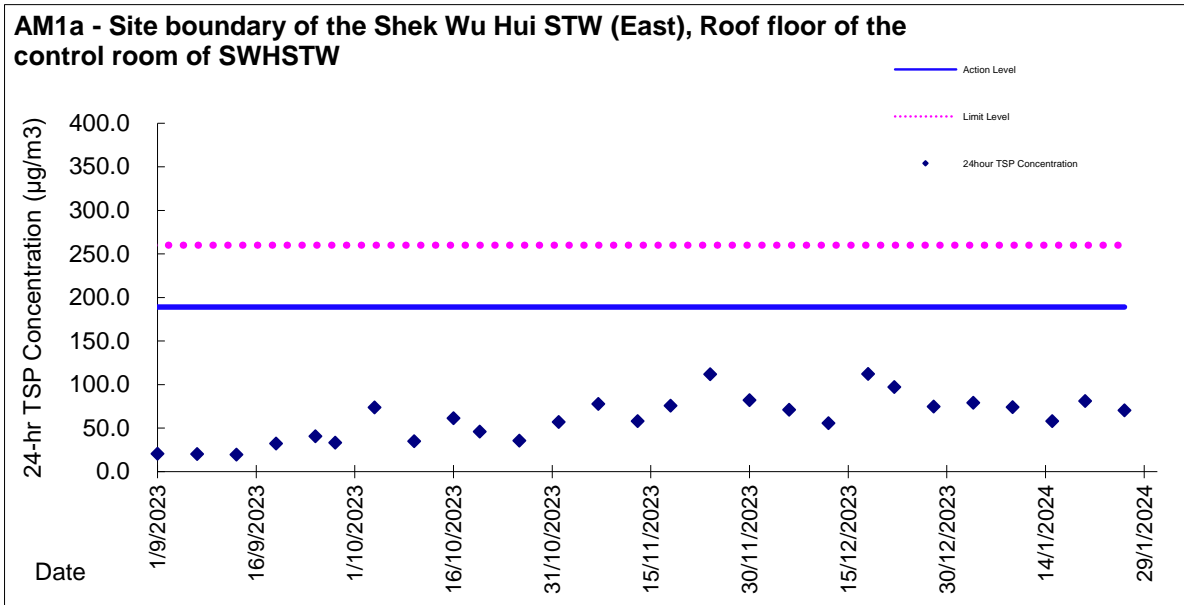


AM2 - Fu Tei Au





Graphic Presentation of TSP Result





## ***Appendix 5.4***

### ***Details of Ecological Monitoring Results in the Reporting Month***

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## Summary data of the Ecological Monitoring

| Scientific Names                 | Common Names                 | Chinese Names | Waterbird | Point Count<br>Abundance | Transect Count<br>Abundance |
|----------------------------------|------------------------------|---------------|-----------|--------------------------|-----------------------------|
| <i>Ardeola bacchus</i>           | Chinese Pond<br>Heron        | 池鷺            | X         | 32                       | +++++                       |
| <i>Bubulcus<br/>coromandus</i>   | Eastern Cattle<br>Egret      | 牛背鷺           | X         | 29                       | ++++                        |
| <i>Ardea cinerea</i>             | Grey Heron                   | 蒼鷺            | X         | 83                       | +++++                       |
| <i>Ardea alba</i>                | Great Egret                  | 大白鷺           | X         | 24                       | +++                         |
| <i>Egretta garzetta</i>          | Little Egret                 | 小白鷺           | X         | 74                       | +++++                       |
| <i>Phalacrocorax<br/>carbo</i>   | Great Cormorant              | 普通鸕鶿          | X         | 39                       | +++++                       |
| <i>Milvus migrans</i>            | Black Kite                   | 黑鳶            | X         | 9                        | +                           |
| <i>Himantopus<br/>himantopus</i> | Black-winged Stilt           | 黑翅長腳鸕         | X         | 4                        | +                           |
| <i>Tringa stagnatilis</i>        | Marsh Sandpiper              | 澤鵞            | X         | 1                        | +                           |
| <i>Tringa nebularia</i>          | Common<br>Greenshank         | 青腳鵞           | X         | 1                        | +                           |
| <i>Actitis hypoleucos</i>        | Common<br>Sandpiper          | 磯鵞            | X         | 19                       | +++                         |
| <i>Spilopelia chinensis</i>      | Spotted Dove                 | 珠頸斑鳩          |           | 53                       | +++++                       |
| <i>Eudynamys<br/>scolopaceus</i> | Asian Koel                   | 噪鵞            |           | 1                        | N/A                         |
| <i>Apus pacificus</i>            | Pacific Swift                | 白腰雨燕          |           | 0                        | +                           |
| <i>Apus nipalensis</i>           | House Swift                  | 小白腰雨燕         |           | 41                       | ++++                        |
| <i>Halcyon smyrnensis</i>        | White-throated<br>Kingfisher | 白胸翡翠          | X         | 12                       | ++                          |
| <i>Alcedo atthis</i>             | Common<br>Kingfisher         | 普通翠鳥          | X         | 1                        | +                           |

| Scientific Names                    | Common Names             | Chinese Names | Waterbird | Point Count<br>Abundance | Transect Count<br>Abundance |
|-------------------------------------|--------------------------|---------------|-----------|--------------------------|-----------------------------|
| <i>Ceryle rudis</i>                 | Pied Kingfisher          | 斑魚狗           | X         | 3                        | +                           |
| <i>Psittacula krameri</i>           | Rose-ringed<br>Parakeet  | 紅領綠鸚鵡         |           | 4                        | +                           |
| <i>Dicrurus<br/>macrocerus</i>      | Black Drongo             | 黑卷尾           |           | 0                        | +                           |
| <i>Pica pica</i>                    | Eurasian Magpie          | 喜鵲            |           | 7                        | +                           |
| <i>Parus cinereus</i>               | Cinereous Tit            | 蒼背山雀          |           | 13                       | ++                          |
| <i>Pycnonotus jocosus</i>           | Red-whiskered<br>Bulbul  | 紅耳鶇           |           | 76                       | +++++                       |
| <i>Pycnonotus<br/>sinensis</i>      | Chinese Bulbul           | 白頭鶇           |           | 28                       | +++++                       |
| <i>Phylloscopus<br/>fuscatus</i>    | Dusky Warbler            | 褐柳鶇           |           | 1                        | +                           |
| <i>Phylloscopus<br/>proregulus</i>  | Pallas's Leaf<br>Warbler | 黃腰柳鶇          |           | 3                        | +                           |
| <i>Phylloscopus<br/>inornatus</i>   | Yellow-browed<br>Warbler | 黃眉柳鶇          |           | 27                       | ++++                        |
| <i>Prinia flaviventris</i>          | Yellow-bellied<br>Prinia | 黃腹鷓鴣          |           | 3                        | +                           |
| <i>Prinia inornata</i>              | Plain Prinia             | 純色鷓鴣          |           | 13                       | +++                         |
| <i>Orthotomus sutorius</i>          | Common<br>Tailorbird     | 長尾縫葉鶇         |           | 32                       | +++++                       |
| <i>Garrulax<br/>perspicillatus</i>  | Masked<br>Laughingthrush | 黑臉噪鶇          |           | 25                       | +++++                       |
| <i>Zosterops japonicus</i>          | Japanese White-<br>eye   | 暗綠繡眼鳥         |           | 26                       | ++++                        |
| <i>Acridotheres<br/>crisatellus</i> | Crested Myna             | 八哥            |           | 186                      | +++++                       |

| Scientific Names                    | Common Names               | Chinese Names | Waterbird | Point Count<br>Abundance | Transect Count<br>Abundance |
|-------------------------------------|----------------------------|---------------|-----------|--------------------------|-----------------------------|
| <i>Gracupica nigricollis</i>        | Black-collared<br>Starling | 黑領棕鳥          |           | 49                       | +++++                       |
| <i>Copsychus saularis</i>           | Oriental Magpie<br>Robin   | 鵲鴝            |           | 7                        | +                           |
| <i>Saxicola stejnegeri</i>          | Stejneger's<br>Stonechat   | 黑喉石(即鳥)       |           | 1                        | +                           |
| <i>Passer montanus</i>              | Eurasian Tree<br>Sparrow   | 樹麻雀           |           | 22                       | ++++                        |
| <i>Motacilla<br/>tschutschensis</i> | Eastern Yellow<br>Wagtail  | 東黃鵲鴝          |           | 0                        | +                           |
| <i>Motacilla cinerea</i>            | Grey Wagtail               | 灰鵲鴝           |           | 2                        | +                           |
| <i>Motacilla alba</i>               | White Wagtail              | 白鵲鴝           |           | 65                       | +++++                       |

Remarks:

X: Waterbird ;

Transect abundance, +: <10, ++: 11-20, +++: 21-30, ++++: 31-40, +++++: >40

According to S4.7 of the approved Baseline Monitoring Report (Ecology), "waterbirds" was defined as "waterbirds and wetland-dependent species", which was referenced to Monthly Waterbird Monitoring Biannual Reports prepared by the Hong Kong Bird Watching Society (Anon, 2020).

Also, S.13.11.3.2 of NENT NDA EIA Study requires "Monitoring of Measures to Mitigate for Impacts of the Project on Wetland-dependent Fauna using the Ng Tung, Sheung Yue and Shek Sheung Rivers". Therefore, "wetland-dependent birds" should be considered as "waterbirds". As raptors and Collared Crow are "wetland-dependent species", they should be taken into consideration in data analysis and impact assessment on waterbirds.

**Waterbird Ecological Monitoring Result**

| Total Bird Abundance from Point Count |           |       |            |                                       |       |                  |
|---------------------------------------|-----------|-------|------------|---------------------------------------|-------|------------------|
| Survey Information                    |           |       |            | Total Bird Abundance from Point Count |       |                  |
| No.                                   | Date      | Time  | Tide Level | Individuals Recorded                  | Total | Species Recorded |
| 1                                     | 5/1/2024  | 14:30 | H          | 90                                    | 216   | 22               |
|                                       |           | 12:30 | L          | 126                                   |       | 28               |
| 2                                     | 12/1/2024 | 12:15 | H          | 103                                   | 233   | 22               |
|                                       |           | 14:30 | L          | 130                                   |       | 21               |
| 3                                     | 18/1/2024 | 14:00 | H          | 74                                    | 173   | 19               |
|                                       |           | 11:45 | L          | 99                                    |       | 22               |
| 4                                     | 25/1/2024 | 11:15 | H          | 84                                    | 204   | 19               |
|                                       |           | 14:15 | L          | 120                                   |       | 24               |
| 5                                     | 31/1/2024 | 13:30 | H          | 90                                    | 190   | 22               |
|                                       |           | 10:00 | L          | 100                                   |       | 24               |

Remarks: H: High Tide; L: Low Tide

| Total Waterbird Abundance from Point Count |           |       |            |  |       |
|--|-----------|-------|------------|--|-------|
| Survey Information                         |           |       |            | Total Waterbird Abundance from Point Count |       |
| No.  | Date      | Time  | Tide Level | Individuals Recorded                       | Total |
| 1  | 5/1/2024  | 12:15 | H          | 20   | 74    |
|  |           | 10:00 | L          | 54   |       |
| 2  | 12/1/2024 | 12:15 | H          | 21   | 62    |
|  |           | 14:30 | L          | 41   |       |
| 3  | 18/1/2024 | 14:00 | H          | 43   | 77    |
|  |           | 11:45 | L          | 34   |       |
| 4  | 25/1/2024 | 11:15 | H          | 19   | 56    |
|  |           | 14:15 | L          | 37   |       |
| 5  | 31/1/2024 | 13:30 | H          | 22   | 62    |
|  |           | 10:00 | L          | 40   |       |

Remarks: H: High Tide; L: Low Tide

## T-Test Analysis for All Waterbirds

### **Baseline Data**

|  |       |
|--|-------|
| Monthly Average Abundance (January)        | 65.75 |
| Seasonal Average Abundance (Winter season) | 62.15 |

### T-Test

The following hypothesis was made and a one-tail t-test will be used to test the data collected from the monitoring:

H<sub>0</sub>: The data collected in the reporting month falls within the normal distribution when compared to the baseline monitoring data;

H<sub>1</sub>: The data collected does not falls within the normal distribution when compared to the baseline monitoring data.

If t-test value is **smaller** than the critical value, then rejects H<sub>0</sub>.

For the data in the reporting month, the critical values are:

Crit. Value = -2.132 (95% Confidence Level)

Crit. Value = -3.747 (99% Confidence Level)

| T-values of Data in Reporting Month |          |       | Confidence Level (Critical Value) |              |
|-------------------------------------|----------|-------|-----------------------------------|--------------|
|                                     |          |       | 95% (-2.132)                      | 99% (-3.747) |
| Abundance                           | Monthly  | 0.377 | ✓                                 | ✓            |
|                                     | Seasonal | 1.281 | ✓                                 | ✓            |

Remarks:

✓ = T-value falls within the confidence level; the impact monitoring data shows no significant difference to the baseline data.

✗ = T-value falls outside the confidence level; the impact monitoring data shows significant difference to the baseline d

| Abundance of Representative Waterbirds from Point Count |                      |                    |        |       |        |        |        |       |         |               |              |
|---|----------------------|--------------------|--------|-------|--------|--------|--------|-------|---------|---------------|--------------|
| Representative Species                                  |                      | Recorded Abundance |        |       |        |        |        |       | Average | Baseline Data |              |
| Species Name  | Common Name          | Chinese Name       | Week 1 | Week2 | Week 3 | Week 4 | Week 5 | Total |         | Avg (Jan)     | Avg (winter) |
| <i>Egretta garzetta</i>                                 | Little Egret         | 小白鷺                | 18     | 12    | 15     | 16     | 13     | 74    | 15      | 13            | 15           |
| <i>Ardea cinerea</i>                                    | Grey Heron           | 蒼鷺                 | 18     | 11    | 20     | 16     | 18     | 83    | 17      | 18            | 13           |
| <i>Ardeola bacchus</i>                                  | Chinese Pond Heron   | 池鷺                 | 8      | 7     | 4      | 5      | 8      | 32    | 6       | 8             | 9            |
| <i>Phalacrocorax carbo</i>                              | Great Cormorant      | 普通鸕鶿               | 10     | 9     | 8      | 6      | 6      | 39    | 8       | 7             | 7            |
| <i>Ardea alba</i>                                       | Great Egret          | 大白鷺                | 5      | 6     | 8      | 3      | 2      | 24    | 5       | 5             | 5            |
| <i>Bubulcus coromandus</i>                              | Eastern Cattle Egret | 牛背鷺                | 5      | 5     | 10     | 3      | 6      | 29    | 6       | 3             | 4            |

### **T-test Analysis for Representative Waterbirds from Point Count**

The following hypothesis was made and a one-tail t-test will be used to test the data collected from the monitoring:

H<sub>0</sub>: The data collected in the reporting month falls within the normal distribution when compared to the baseline monitoring data;

H<sub>1</sub>: The data collected does not falls within the normal distribution when compared to the baseline monitoring data.

If t-test value is **smaller** than the critical value, then rejects H<sub>0</sub>.

For the data in the reporting month, the critical values are:

Crit. Value = -2.132 (95% Confidence Level)

Crit. Value = -3.747 (99% Confidence Level)



| Common Name of Representative Waterbird | T-value | Confidence Level (Critical Value) |              | T-value  | Confidence Level (Critical Value) |              | Overall |
|---|---------|-----------------------------------|--------------|----------|-----------------------------------|--------------|---------|
|   | Monthly | 95% (-2.132)                      | 99% (-3.747) | Seasonal | 95% (-2.132)                      | 99% (-3.747) |         |
| Little Egret                            | 1.686   | ✓                                 | ✓            | -0.187   | ✓                                 | ✓            | ✓       |
| Grey Heron                              | -0.911  | ✓                                 | ✓            | 2.343    | ✓                                 | ✓            | ✓       |
| Chinese Pond Heron                      | -1.969  | ✓                                 | ✓            | -3.200   | X                                 | ✓            | ✓       |
| Great Cormorant                         | 1.000   | ✓                                 | ✓            | 1.000    | ✓                                 | ✓            | ✓       |
| Great Egret                             | -0.187  | ✓                                 | ✓            | -0.187   | ✓                                 | ✓            | ✓       |
| Eastern Cattle Egret                    | 2.419   | ✓                                 | ✓            | 1.555    | ✓                                 | ✓            | ✓       |

Remarks:

✓ = T-value falls within the confidence level; the impact monitoring data shows no significant difference to the baseline data.

X = T-value falls outside the confidence level; the impact monitoring data shows significant difference to the baseline data.

\* Great Cormorant (*Phalacrocorax carbo*) and Grey Heron (*Ardea cinerea*) were not recognised as representative waterbird species during wet season.



***Appendix 5.5  
Photo Record of Ecological  
Monitoring***

**Conditions of Rivers**



**Sheung Yue River – Survey Point 7 (Taken on 18 Jan 2024)**



**Shek Sheung River – Survey Point 6 (Taken on 25 Jan 2024)**



**Shek Sheung River - Survey Point 5 (Taken on 5 Jan 2024)**



**Ng Tung River - Survey Point 4 (Taken on 18 Jan 2024)**

## Human Activities & Site Conditions



**Construction Activities (Ng Tung River)**  
**(Project-related, taken on 5 Jan 2024)**



**Construction Activities (Shek Sheung River)**  
**(Project-related, taken on 12 Jan 2024)**



**Construction Activities (Sheung Yue River)**  
**(Non-project-related, taken on 31 Jan 2024)**



**Construction Activities (Ng Tung River)**  
**(Non-Project-related, taken on 25 Jan 2024)**



**Human Activities (Sheung Yue River)**  
(Non-project-related, taken on 5 Jan 2024)



**Human Activities (Ng Tung River)**  
(Non-project-related, taken on 12 Jan 2024)



**Human Activities (Shek Sheung River)**  
(Non-project-related, taken on 31 Jan 2024)



**Construction Activities (Ng Tung River)**  
(Non-Project-related, taken on 12 Jan 2023)



**Construction Activities (Sheung Yue River)**  
(Non-project-related, taken on 25 Jan 2024)



**Construction Activities (Sheung Yue River)**  
(Non-project-related, taken on 31 Jan 2024)

**Waterbird Species**



**Chinese Pond Heron**



**Great Cormorant**



**White-throated Kingfisher**



**Eastern Cattle Egret**



**Pied Kingfisher**



**Waterbird in Ng Tung River**



## ***Appendix 5.9***

### ***Monthly Summary Waste Flow Table***

### Monthly Summary Waste Flow Table for 2024

| 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    | Chemical Waste | Others, e.g. general refuse |
|                  | (in '000m3)  | (in '000m3)                         | (in '000m3)            | (in '000m3)              | (in '000m3)             | (in '000m3)   | (in '000kg)                                       | (in '000kg)                | (in '000kg) | (in '000kg)    | (in '000m3)                 |
| Jan              | 0.089  | 0.000                               | 0.000                  | 0.000                    | 0.089                   | 0.072         | 0.000   | 0.000                      | 0.000       | 0.000          | 0.005                       |
| Feb              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| Mar              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| Apr              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| May              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| Jun              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| <b>Sub-total</b> |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| Jul              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| Aug              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| Sep              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| Oct              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| Nov              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| Dec              |  |                                     |                        |                          |                         |               |   |                            |             |                |                             |
| <b>Total</b>     | 0.000  | 0.000                               | 0.000                  | 0.000                    | 0.000                   | 0.000         | 0.000   | 0.000                      | 0.000       | 0.000          | 0.000                       |

- Notes:
1. Assume the density of soil fill is 2 ton/m<sup>3</sup>.
  2. Assume the density of rock and broken concrete is 2.5 ton/m<sup>3</sup>.
  3. Assume the density of general refuse is 0.9 ton/m<sup>3</sup>.
  4. Assume density of waste oil is assumed to be 0.8 kg/L.
  5. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38.
  6. The non-inert C&D wastes are disposed at NENT.
  7. The quantities of C&D material disposed at Public Fill Facilities and Landfill was until 19/10/2023.



**Monthly Summary Waste Flow Table for 2024**

| 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     | Chemical Waste | Others, e.g. general refuse |
|                  | (in '000m <sup>3</sup> )                                   | (in '000m <sup>3</sup> )            | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000kg)                                       | (in '000kg)                | (in '000kg)  | (in '000kg)    | (in '000m <sup>3</sup> )    |
| Jan              | 0.489  | 0.000                               | 0.000                    | 0.000                    | 0.489                    | 0.012                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.122                       |
| Feb              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| Mar              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| Apr              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| May              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| Jun              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| <b>Sub-total</b> | <b>0.489</b>   | <b>0.000</b>                        | <b>0.000</b>             | <b>0.000</b>             | <b>0.489</b>             | <b>0.012</b>             | <b>0.000</b>                                      | <b>0.000</b>               | <b>0.000</b> | <b>0.000</b>   | <b>0.122</b>                |
| Jul              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| Aug              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| Sep              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| Oct              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| Nov              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| Dec              | 0.000  | 0.000                               | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.00  | 0.000                      | 0.000        | 0.000          | 0.000                       |
| <b>Total</b>     | <b>0.489</b>   | <b>0.000</b>                        | <b>0.000</b>             | <b>0.000</b>             | <b>0.489</b>             | <b>0.012</b>             | <b>0.000</b>                                      | <b>0.000</b>               | <b>0.000</b> | <b>0.000</b>   | <b>0.122</b>                |

- Notes:
1. Assume the density of soil fill and special waste (i.e. sediment from DSD sedimentation tank) is 2 ton/m<sup>3</sup>.
  2. Assume the density of rock and broken concrete is 2.5 ton/m<sup>3</sup>
  3. Assume the density of general refuse is 0.9 ton/m<sup>3</sup>
  4. Density of waste oil is assumed to be 0.8 kg/L. Chemical waste includes waste oil.
  5. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38
  6. The slurry and bentonite are disposed at Tseung Kwun O 137
  7. The non-inert C&D wastes, including general refuse & special waste (i.e. sediment from DSD sedimentation tank) are disposed at NENT

## EM&A Monthly Reporting Template (cut-off at the end of each month)

Name of Department: ArchSD/CEDD/DSD/EMSD/HyD/WSD

Contract No.: DE/2018/03

### Monthly Summary Waste Flow Table for 2024 (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              | 31.75T                      |
| Feb       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Mar       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Apr       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| May       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| June      |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Sub-total |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| July      |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Aug       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Sept      |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Oct       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Nov       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Dec       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Total     | 0  | 0                                   | 0                        | 0                        | 0                        | 0                        | 0   | 0                          | 0                     | 0              | 31.75T                      |





## ***Appendix 6.1***

### ***Event and Action Plans***

**Event and Action Plan**

**Event and Action Plan for Construction Noise**

| Event                 | Action   |  |  |   |
|-----------------------|--|--|--|---|
|                       | ET   | IEC  | ER   | Contractor  |
| Action Level exceeded | <ol style="list-style-type: none"> <li>1. Notify IEC and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IEC, ER and Contractor;</li> <li>4. Discuss with the Contractor and formulate remedial measures;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness;</li> </ol>  | <ol style="list-style-type: none"> <li>1. Review the analysed results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC;</li> <li>2. Implement noise mitigation proposals.</li> </ol>  |
| Limit Level exceeded  | <ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC, ER, EPD and Contractor;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol> | <ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>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.</li> </ol> | <ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol> |

### Event and Action Plan for Construction Dust Monitoring

| Event   | Action  |   |  |  |
|---|---|---|--|--|
|   | ET  | IEC   | ER   | Contractor   |
| <b>Action Level</b>   |   |   |  |  |
| Action level being exceeded by one sampling                     | <ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of complaint and propose remedial measures;</li> <li>2. Inform IEC and ER;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Notify the Contractor.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Rectify any unacceptable practices.</li> <li>2. Amend working methods agreed with the ER as appropriate.</li> </ol>  |
| Action level being exceeded by two or more consecutive sampling | <ol style="list-style-type: none"> <li>1. Identify sources.</li> <li>2. Inform the IEC and ER.</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings.</li> <li>5. Increase monitoring frequency to daily.</li> <li>6. Discuss with the IEC, ER and Contractor on remedial action required.</li> <li>7. If exceedance continues, arrange meeting with the IEC, Contractor and ER.</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol> | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise Implementation of remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol> | <ol style="list-style-type: none"> <li>1. Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>2. Implement the agreed proposals;</li> <li>3. Amend proposal if appropriate.</li> </ol>  |
| <b>Limit Level</b>  |   |   |  |  |
| Limit level being exceeded by one sampling                      | <ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform Contractor, IEC, ER, and EPD;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and</li> </ol>   | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise implementation of remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol> | <ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend proposal if appropriate.</li> </ol> |

| Event  | Action   |  |  |   |
|--|--|--|--|---|
|  | ET   | IEC  | ER   | Contractor  |
|  | ER informed of the results.  |  |  |   |
| Limit level being exceeded by two or more consecutive sampling | <ol style="list-style-type: none"> <li>1. Notify IEC, ER, Contractor and EPD;</li> <li>2. Identify source;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol> | <ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>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.</li> </ol> | <ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol> |

### Event and Action Plan for Ecological Monitoring

| 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 the Project instigate remedial action to remove or reduce source of disturbance. | 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 the Project instigate remedial action. |
| 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 the 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 the Project instigate remedial action. |

### Event and Action Plan for Landscape and Visual

| Event                          | Action   |   |   |   |
|--------------------------------|--|---|---|---|
|                                | ET   | IEC   | ER  | Contractor  |
| Non-conformity on one occasion | <ol style="list-style-type: none"> <li>1. Inform the Contractor, IEC and ER;</li> <li>2. Discuss remedial actions with IEC, ER and Contractor</li> <li>3. Monitor remedial actions until rectification has been completed.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Check inspection report;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET, ER and Contractor on possible remedial measures;</li> <li>4. Advise ER on effectiveness of proposed remedial measures..</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Review and agree on the remedial measures proposed by the Contractor;</li> <li>3. Supervise implementation of remedial measures.</li> </ol>      | <ol style="list-style-type: none"> <li>1. Identify source and investigate the non-conformity;</li> <li>2. Implement remedial measures;</li> <li>3. Amend working methods agreed with ER as appropriate;</li> <li>4. Rectify damage and undertake any necessary replacement.</li> </ol>  |
| Repeated Non-conformity        | <ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC, ER, EPD;</li> <li>3. Discuss inspection frequency;</li> <li>4. Discuss remedial actions with IEC, ER and Contractor;</li> <li>5. Monitor remedial actions until rectification has been completed;</li> <li>6. If non-conformity stops, cease additional monitoring</li> </ol> | <ol style="list-style-type: none"> <li>1. Check inspection report;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET, ER and Contractor on possible remedial measures;</li> <li>4. Advise ER on effectiveness of proposed remedial measures.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Notify the Contractor;</li> <li>2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>3. Supervise implementation of remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify source and investigate the non-conformity;</li> <li>2. Implement remedial measures;</li> <li>3. Amend working methods agreed with ER as appropriate;</li> <li>4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by ER until the non-conformity is abated.</li> </ol> |





## ***Appendix 6.2***

# ***Summary of Notification of Exceedance***

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## ***Appendix 8.1***

## ***Complaint Log***



**Summary of Environmental Complaints Log**

| Complaint Log No. | Date of Complaint | Received From and Received By | Location of Complainant              | Nature of Complaint | Outcome   | Status |
|-------------------|-------------------|-------------------------------|--------------------------------------|---------------------|---|--------|
| 1                 | 18 March 2020     | EPD                           | Expansion Site of SWHSTP (Portion C) | Water contamination | <p>Muddy water was suspected to be discharged from the expansion site of SWHSTP to Shek Sheung River, manholes and foul drains nearby</p> <p>The investigation and mitigation measures included</p> <ul style="list-style-type: none"><li>- Employed suction truck and dump truck to clear the silt and mud at Shek Sheung River</li><li>- Arranged to repair the wastewater treatment system</li><li>- Installed additional sedimentation tanks and wastewater treatment system to increase the on-site treatment capacity</li><li>- Clean the slurry sediment released from the outlet regularly by suction trucks</li><li>- Avoid damage of underground drains and pipes caused by existing construction works</li><li>- Avoid illegal discharge from the Site into foul drains and manholes</li></ul> | Closed |
| 2                 | 19 February 2021  | EPD                           | SWHEPP                               | Odour nuisance      | <p>Significant odour nuisance was suspected to be emitted from the construction activities of SWHEPP</p> <p>The investigation and mitigation measures included</p> <ul style="list-style-type: none"><li>- Ensured only PMEs with valid NRMM label were used on-site</li><li>- Conducted regular visual checking against emission quality of exhaust pipe of equipment by using the Ringlemann Chart</li><li>- Used ULSD for diesel-powered equipment</li><li>- Provided water spraying and water sprinklers system for haul road access and demolition works</li><li>- Used battery powered solution to provide power to the tower crane</li><li>- Provided cover for all rubbish bins on-site</li><li>- Separated general refuse from construction waste</li></ul>                                      | Closed |



| Complaint Log No. | Date of Complaint | Received From and Received By | Location of Complainant | Nature of Complaint | Outcome  | Status |
|-------------------|-------------------|-------------------------------|-------------------------|---------------------|--|--------|
| 3                 | 9 August 2021     | EPD                           | SWHEPP                  | Air Quality         | <p>Air nuisance was suspected to be originated from the construction activities of SWHEPP</p> <p>The investigation and mitigation measures included</p> <ul style="list-style-type: none"><li>- Ensured only PMEs with valid NRMM label were used on-site</li><li>- Conducted regular visual checking against emission quality of exhaust pipe of equipment by using the Ringlemann Chart</li><li>- Used ULSD for diesel-powered equipment</li><li>- Used battery powered solution to provide power to the tower crane</li><li>- Carried out plant maintenance in a timely manner</li></ul>  | Closed |
| 20220304          | 4 March 2022      | EPD                           | SWHEPP                  | Odour nuisance      | <p>The complainant alleged the odour nuisance was sourced from the construction site of Shek Wu Hui Effluent Polishing Plant on 4 March 2022. Thus, all four contracts (Contract Nos. DC/2018/06, DC/2018/07, DE/2018/03 and DE/2018/04) were involved in the complaint investigation.</p> <p>After investigation, no construction activities undertaken by all four contracts was associated with the odour nuisance received on 4 March 2022. Nevertheless, the contractors were reminded and recommended to:</p> <ul style="list-style-type: none"><li>• Ensure only equipment with valid NRMM label is allowed to be used at site and regular maintenance of equipment</li><li>• Provide regular visual checking against emission quality of exhaust pipe of equipment by using the Ringlemann Chart</li><li>• Use ULSD as fuel for diesel-powered equipment</li><li>• Maintain proper segregation and storage of general refuse</li></ul> | Closed |



| Complaint Log No. | Date of Complaint | Received From and Received By | Location of Complainant                       | Nature of Complaint             | Outcome  | Status                                   |
|-------------------|-------------------|-------------------------------|---|---------------------------------|--|--|
| 231214            | 14 December 2023  | EPD                           | BR2 of SWHEPP; SWHSTW Administration Building | Air Pollution & Water Pollution | <p>EPD received a complaint on 19 December 2023, mentioned that dust netting was not provided to a building known as BR2 under the construction by Contract DC/2018/07; also polluting effluent was being discharged by a construction site near the SWHSTW Administration Building.</p> <p>Upon the receipt of the complaint, BR2 has just finishing forming the first layer of building structure and dust netting is about to be provided, major works included formwork erection and removal. No significant air quality impact has been made by the works as no action nor limit level exceedance of air quality monitoring was recorded at AM1 and AM1a* which are the closest impact air quality monitoring stations to BR2.</p> <p>For the illegal discharge issue, ET did not observed the discharge of wastewater at the concerned location after the receipt of the complaint. Works carried out and water quality mitigation measures implemented by each Contractor were also investigated, no non-compliance was observed. Yet one observation related to water quality has been made during the weekly environmental site inspection on 14 December 2023 to Contact DC/2018/07 and Contactor of DC/2018/07 has immediately rectified the situation.</p> <p>After the receipt of the complaint, Contractor of DC/2018/07 has taken the following actions:</p> <ul style="list-style-type: none"><li>• Provision of effective dust screening or netting to enclose the scaffolding of building under construction</li><li>• All wastewater generated on site should be properly treated before discharge</li></ul> <p>ET also reminded all Contractors to implement the following measures:</p> <ul style="list-style-type: none"><li>• Regular maintenance of sedimentation tanks and Wetsep to ensure their effectiveness for treating wastewater generated on site</li><li>• Provision of sandbags, bunds or other effective</li></ul> | Closed as confirm with EPD on 6 Feb 2024 |



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| Complaint Log No. | Date of Complaint | Received From and Received By | Location of Complainant | Nature of Complaint | Outcome   | Status |
|-------------------|-------------------|-------------------------------|-------------------------|---------------------|---|--------|
|                   |                   |                               |                         |                     | <p>measures to U-channels, manholes and gully to prevent direct discharge of site runoff</p> <ul style="list-style-type: none"><li>• Provide water spraying on haul road to suppress dust emission, frequency of water spraying should also be reviewed to keep the road surface wet at all time.</li></ul> |        |

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## ***Appendix 9.1***

# ***Construction Programme of Individual Contracts***





| Activity ID | Activity Name | Key Date | NCE/(EWPMI)/(CE) | Task Name  | 工期           | 開始時間        | 完成時間        | 實際開始時間           | 實際完成時間           | 前置任務                   | 後續任務                               | 總實時時間         | Risk Allow | 完成百分比 | 9年 | 2020年 | 2021年 | 2022年 | 2023年 | 2024年 | 2025年 |  |
|-------------|---------------|----------|------------------|--|--------------|-------------|-------------|------------------|------------------|------------------------|------------------------------------|---------------|------------|-------|----|-------|-------|-------|-------|-------|-------|--|
| 40          | PD-1000       | *        |                  | Planned Completion   | 2113 days    | 2020年1月28日  | 2025年11月9日  | 年1月28日 星期二 2020  | NA               |                        |                                    | 0 days        |            | 49%   |    |       |       |       |       |       |       |  |
| 41          | PCD-1000      | *        |                  | Planned Completion - Key Dates (cal. day)  | 1298.79 days | 2020年9月30日  | 2024年4月21日  | 年9月30日 星期三 2020  | NA               |                        |                                    | -96.79 days   |            | 0%    |    |       |       |       |       |       |       |  |
| 42          | PKD-1010      | KD1A     |                  | KD1A completion of AR3 in Portion B-1  | 0 days       | 2020年9月30日  | 2020年9月30日  | 年9月30日 星期三 2020  | 年9月30日 星期三 2020  | 290FF                  | 21FF, 56FF+3.39 days               | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 43          | PCD-1020      | KD1B     |                  | KD1B completion of utilities diversion for commencement of Inlet Works No.1 in Portion B-2           | 0 days       | 2021年1月22日  | 2021年1月22日  | 年1月22日 星期五 2021  | 年1月22日 星期五 2021  | 373FF, 355FF           | 22FF, 56FF+3.39 days, 2210         | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 44          | PCD-1030      | KD1C     |                  | KD1C completion of civil and structural works of Inlet Works No.1 in Portion B-2                     | 0 days       | 2024年2月1日   | 2024年2月1日   | NA               | NA               | 480FF+3.19 days, 1100  | 23FF, 56FF+3.39 days, -324.39 days | 0 days        |            | 0%    |    |       |       |       |       |       |       |  |
| 45          | PCD-1040      | KD1D     |                  | KD1D completion of civil and structural works of Primary Sedimentation Tanks in Portion B-3          | 0 days       | 2023年12月4日  | 2023年12月4日  | NA               | NA               | 587FF+3.33 days        | 24FF, 56FF+3.39 days               | -215.53 days  |            | 0%    |    |       |       |       |       |       |       |  |
| 46          | PCD-1050      | KD1E     |                  | KD1E completion of civil and structural works of Bioreactor in Portion B-4                           | 0 days       | 2024年2月12日  | 2024年2月12日  | NA               | NA               | 694FF+2.97 days        | 25FF, 56FF+3.39 days, -249.17 days | 0 days        |            | 0%    |    |       |       |       |       |       |       |  |
| 47          | PCD-1060      | KD1F     |                  | KD1F completion of civil and structural works of MFB from B2 floor to 1st floor level in Portion B-5 | 0 days       | 2023年12月19日 | 2023年12月19日 | NA               | NA               | 877FF+3.39 days        | 26FF, 56FF+3.39 days               | -539.59 days  |            | 0%    |    |       |       |       |       |       |       |  |
| 48          | PCD-1070      | KD1G     |                  | KD1G completion of civil and structural works of MFB in Portion B-5                                  | 0 days       | 2024年4月21日  | 2024年4月21日  | NA               | NA               | 878FF+3.39 days        | 27FF, 56FF+3.39 days, -471.79 days | 0 days        |            | 0%    |    |       |       |       |       |       |       |  |
| 49          | PCD-1080      | KD1H     |                  | KD1H completion of civil and structural works of SAS Pumping Station in Portion B-6                  | 0 days       | 2022年3月11日  | 2022年3月11日  | 年3月11日 星期五 2022  | 年3月11日 星期五 2022  | 924FF, 921FF           | 28FF, 56FF+3.39 days               | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 50          | PCD-1090      | KD1I     |                  | KD1I completion alternation works for existing Power House in Portion B-7A                           | 0 days       | 2021年1月29日  | 2021年1月29日  | 年1月29日 星期五 2021  | 年1月29日 星期五 2021  | 1125FF                 | 28FF, 56FF+3.39 days               | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 51          | PCD-1100      | KD1J     |                  | KD1J completion of auxiliary facilities in Portion B-7   | 0 days       | 2022年9月28日  | 2022年9月28日  | 年9月28日 星期三 2022  | 年9月28日 星期三 2022  | 1058FF, 1082FF, 1065FF | 30FF, 56FF+3.39 days               | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 52          | PCD-1110      | KD2A     |                  | KD2A completion of effluent pipes to UV system and connection to its downstream in Portion B-9       | 0 days       | 2021年7月20日  | 2021年7月20日  | 年7月20日 星期二 2021  | 年7月20日 星期二 2021  | 1131FF, 1129FF         | 31FF, 57FF+2.33 days               | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 53          | PCD-1120      | KD2B     |                  | KD2B completion of air supply main alternation to existing air blower house No.2 in Portion B-8A     | 0 days       | 2021年3月26日  | 2021年3月26日  | 年3月26日 星期五 2021  | 年3月26日 星期五 2021  | 1118FF, 1122FF, 1123FF | 32FF, 57FF+2.33 days               | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 54          | PCD-1130      | KD3A     |                  | KD3A completion of all utilities and road works in Portion B-9A                                      | 0 days       | 2024年1月17日  | 2024年1月17日  | NA               | NA               | 1127FF+2.33 days, 1123 | 33FF                               | -1.53 days    |            | 0%    |    |       |       |       |       |       |       |  |
| 55          | PCD-1000      | *        |                  | Planned Completion Date (cal. Day)   | 553.47 days  | 2024年5月5日   | 2025年11月9日  | NA               | NA               |                        |                                    | -512.53 da... |            | 0%    |    |       |       |       |       |       |       |  |
| 56          | PCD-1010      | SW1      |                  | Section 1 of the Works   | 0 days       | 2025年3月10日  | 2025年3月10日  | NA               | NA               | 1116FF+3.39 days, 927  | 35FF                               | -235.79 days  |            | 0%    |    |       |       |       |       |       |       |  |
| 57          | PCD-1020      | SW2      |                  | Section 2 of the Works   | 0 days       | 2024年5月5日   | 2024年5月5日   | NA               | NA               | 689FF+2.33 days, 690F  | 36FF                               | -512.53 days  |            | 0%    |    |       |       |       |       |       |       |  |
| 58          | PCD-1030      | SW3      |                  | Section 3 of the Works   | 0 days       | 2024年11月9日  | 2024年11月9日  | NA               | NA               | 2238FF+2.33 days, 223  | 37FF, 59                           | 0 days        |            | 0%    |    |       |       |       |       |       |       |  |
| 59          | PCD-1040      | DLP      |                  | Defects Liability Period   | 365 days     | 2024年11月10日 | 2025年11月9日  | NA               | NA               | 58                     | 38FF                               | 0 days        |            | 0%    |    |       |       |       |       |       |       |  |
| 275         | C-1000        | *        |                  | Construction Works (Working day)   | 2181.67 days | 2019年11月18日 | 2025年11月7日  | 年11月18日 星期一 2019 | NA               |                        |                                    | 2.33 days     |            | 68%   |    |       |       |       |       |       |       |  |
| 281         | CAR-0000      | *        |                  | Access Road (AR3), B-1   | 238 days     | 2019年12月12日 | 2020年9月30日  | 年12月12日 星期四 2019 | 年9月30日 星期三 2020  | 4,230                  | 1218SS                             | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 290         | CAR-3000      | KD1A     |                  | Roadworks  | 133 days     | 2020年4月24日  | 2020年9月30日  | 年4月24日 星期五 2020  | 年9月30日 星期三 2020  | 200,289,288            | 42FF                               | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 291         | CIW-0000      | *        |                  | Inlet Works No.1, B-2  | 754 days     | 2019年11月26日 | 2022年6月15日  | 年11月26日 星期二 2019 | 年6月15日 星期三 2022  |                        |                                    | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 332         | CIW-1510      | KD1B     |                  | Diversion of Tank Drain MHD9.5 (approx. 70m CHES1 & CHES2)   | 405 days     | 2018年11月26日 | 2021年4月10日  | 年11月26日 星期二 2019 | 年4月10日 星期六 2021  | 360                    | 393                                | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 391         | CIW-2500      | KD1B     |                  | Conditions to be met for KD1B  | 0 days       | 2021年1月22日  | 2021年1月22日  | 年1月22日 星期五 2021  | 年1月22日 星期五 2021  | 389                    | 390                                | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 392         | CIW-3000      | *        |                  | Inlet Works No.1 Building (1)  | 1167 days    | 2020年9月15日  | 2024年8月23日  | 年9月15日 星期二 2020  | NA               | 6                      |                                    | 374.8 days    |            | 62%   |    |       |       |       |       |       |       |  |
| 480         | CIW-3700      | KD1C     |                  | Allow access to Contractor DE/2018/04 for E&M installation and T&C works                             | 0 days       | 2024年1月29日  | 2024年1月29日  | NA               | NA               | 411,465,447            | 44FF+3.19 days                     | -264.19 days  |            | 0%    |    |       |       |       |       |       |       |  |
| 494         | CIW-4000      | SW1      |                  | ABWF Works   | 180 days     | 2024年1月13日  | 2024年8月23日  | NA               | NA               | 265,215                | 56FF+3.39 days                     | -34.2 days    |            | 0%    |    |       |       |       |       |       |       |  |
| 502         | CPS-0000      | *        |                  | Primary Sedimentation Tanks, B-3 (2)   | 1297 days    | 2019年11月18日 | 2024年4月6日   | 年11月18日 星期一 2019 | NA               | 8                      |                                    | 489.8 days    |            | 76%   |    |       |       |       |       |       |       |  |
| 587         | CPS-9000      | KD1D     |                  | Allow access to Contractor DE/2018/04 for E&M installation and T&C works                             | 0 days       | 2023年12月1日  | 2023年12月1日  | NA               | NA               | 536                    | 45FF+3.33 days                     | -178.33 days  |            | 0%    |    |       |       |       |       |       |       |  |
| 592         | CPS-10000     | SW1      |                  | ABWF works + BS works  | 152 days     | 2023年9月28日  | 2024年4月6日   | 年9月28日 星期三 2023  | 年4月6日 星期三 2024   | 265,215                | 56FF+3.39 days                     | 80.8 days     |            | 0%    |    |       |       |       |       |       |       |  |
| 600         | CBR-0000      | *        |                  | Bioreactors No.2A & 2B, B-4 (3)  | 1144 days    | 2020年9月23日  | 2024年8月5日   | 年9月23日 星期三 2020  | NA               | 9                      |                                    | 390.8 days    |            | 65%   |    |       |       |       |       |       |       |  |
| 694         | CBR-18000     | KD1E     |                  | Allow access to Contractor DE/2018/04 for E&M installation and T&C works                             | 0 days       | 2024年2月9日   | 2024年2月9日   | NA               | NA               | 686,691,692,693,657    | 46FF+2.97 days                     | -206.97 days  |            | 0%    |    |       |       |       |       |       |       |  |
| 698         | CBR-21000     | SW1      |                  | ABWF Works + BS Works  | 381 days     | 2023年4月25日  | 2024年8月5日   | 年4月25日 星期二 2023  | 年8月5日 星期二 2024   | 265,215                | 56FF+3.39 days                     | -18.2 days    |            | 1%    |    |       |       |       |       |       |       |  |
| 704         | CMF-0000      | *        |                  | Membrane Facilities Building No.2, B-5 (4)   | 1536.2 days  | 2020年1月6日   | 2025年3月7日   | 年1月6日 星期一 2020   | NA               | 2                      |                                    | 211.6 days    |            | 57%   |    |       |       |       |       |       |       |  |
| 877         | CMF-8000      | KD1F     |                  | Allow access to Contractor DE/2018/04 for E&M installation and T&C works (from B1 to 1/F)            | 0 days       | 2023年12月16日 | 2023年12月16日 | NA               | NA               | 855,827,847            | 47FF+3.39 days                     | -442.39 days  |            | 0%    |    |       |       |       |       |       |       |  |
| 878         | CMF-8100      | KD1G     |                  | Allow access to Contractor DE/2018/04 for E&M installation and T&C works (from 1/F to Roof)          | 0 days       | 2024年4月18日  | 2024年4月18日  | NA               | NA               | 849,830                | 48FF+3.39 days                     | -381.2 days   |            | 0%    |    |       |       |       |       |       |       |  |
| 879         | CMF-9000      | SW1      |                  | ABWF works + BS works  | 707.2 days   | 2022年10月24日 | 2025年3月7日   | 年10月24日 星期一 2022 | 年3月7日 星期一 2025   | 265,215                | 56FF+3.39 days                     | -197.4 days   |            | 2%    |    |       |       |       |       |       |       |  |
| 897         | CSA-0000      | *        |                  | SAS Pumping Station, B-6 (12)  | 934 days     | 2020年4月9日   | 2023年6月6日   | 年4月9日 星期四 2020   | NA               | 11                     |                                    | 327.8 days    |            | 98%   |    |       |       |       |       |       |       |  |
| 924         | CSA-8000      | KD1H     |                  | Allow access to Contractor DE/2018/03 for E&M installation and T&C works                             | 1 day        | 2022年3月11日  | 2022年3月11日  | 年3月11日 星期五 2022  | 年3月11日 星期五 2022  | 923                    | 49FF, 925SS-1 day                  | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 927         | CSA-9000      | SW1      |                  | ABWF works + BS works  | 331 days     | 2022年4月25日  | 2023年6月6日   | 年4月25日 星期五 2022  | 年6月6日 星期三 2023   | 926                    | 56FF+3.39 days                     | 327.8 days    |            | 93%   |    |       |       |       |       |       |       |  |
| 939         | CFS-1000      | *        | 301              | Fire Services Sprinkler Pumping Room & Emergency Generator House (9)*10)**                           | 534 days     | 2021年5月4日   | 2023年2月18日  | 年5月4日 星期二 2021   | 年2月18日 星期六 2023  |                        |                                    | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 982         | CFS-5000      | KD1J     |                  | Allow access to Contractor DE/2018/04 for E&M installation and T&C works                             | 1 day        | 2022年8月29日  | 2022年8月29日  | 年8月29日 星期一 2022  | 年8月29日 星期一 2022  | 957                    | 51FF, 983SS-1 day                  | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 996         | CFS-6100      | SW1      |                  | Inspection and Handover  | 37 days      | 2022年12月6日  | 2023年1月20日  | 年12月6日 星期二 2022  | 年1月20日 星期五 2023  | 994,995                | 56FF+3.39 days                     | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 997         | CCS-1000      | *        | 295,297          | Chemical System No.1 (8)*  | 539 days     | 2021年7月13日  | 2023年5月8日   | 年7月13日 星期二 2021  | NA               |                        |                                    | 351.8 days    |            | 99%   |    |       |       |       |       |       |       |  |
| 1032        | CCS-1900      | KD1J     |                  | Allow access to Contractor DE/2018/04 for E&M installation and T&C works                             | 0 days       | 2022年9月5日   | 2022年9月5日   | 年9月5日 星期一 2022   | 年9月5日 星期一 2022   | 1034                   | 51FF, 1039, 1038                   | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 1044        | CCS-2050      | SW1      |                  | Inspection and Handover  | 1 day        | 2023年5月8日   | 2023年5月8日   | NA               | NA               | 1043                   | 56FF+3.39 days                     | 351.8 days    |            | 0%    |    |       |       |       |       |       |       |  |
| 1045        | CDS-0000      | *        |                  | Deodorization System No.3A (7)*  | 387 days     | 2021年6月11日  | 2022年9月28日  | 年6月11日 星期五 2021  | 年9月28日 星期三 2022  |                        |                                    | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 1058        | CDS-7000      | KD1J     |                  | Allow access to Contractor DE/2018/04 for E&M installation and T&C works                             | 1 day        | 2022年9月28日  | 2022年9月28日  | 年9月28日 星期三 2022  | 年9月28日 星期三 2022  | 1057                   | 51FF, 1062                         | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 1059        | CTC-0000      | *        |                  | Temporary Chemical Dosing System (5)   | 466 days     | 2021年6月3日   | 2022年12月23日 | 年6月3日 星期四 2021   | 年12月23日 星期五 2022 |                        |                                    | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 1082        | CTC-11000     | KD1J     |                  | Allow access to Contractor DE/2018/04 for E&M installation and T&C works                             | 0 days       | 2022年9月28日  | 2022年9月28日  | 年9月28日 星期三 2022  | 年9月28日 星期三 2022  | 1080FS+1 day           | 51FF, 1084                         | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 1087        | CTC-13000     | SW1      |                  | Inspection and Handover  | 1 day        | 2022年11月22日 | 2022年11月22日 | 年11月22日 星期二 2022 | 年11月22日 星期二 2022 | 1086                   | 56FF+3.39 days                     | 0 days        |            | 100%  |    |       |       |       |       |       |       |  |
| 1088        | CFB-0000      | *        |                  | Fire Hydrant and Booster Pump Room (13)*   | 650.8 days   | 2021年10月29日 | 2024年1月8日   | 年10月29日 星期五 2021 | NA               |                        |                                    | 150 days      |            | 9%    |    |       |       |       |       |       |       |  |
| 1100        | CFB-4000      | KD1C     |                  | Allow access to Contractor DE/2018/04 for E&M installation and T&C works                             | 1 day        | 2023年10月31日 | 2023年10月31日 | NA               | NA               | 1099FF                 | 1101SF, 44FF+3.19 d                | -190.99 days  |            | 0%    |    |       |       |       |       |       |       |  |
| 1107        | CFB-5100      | SW1      |                  | Inspection and Handover  | 10 days      | 2023年12月27日 | 2024年1月8日   | NA               | NA               | 1103, 1104, 1105, 1106 | 56                                 |               |            |       |    |       |       |       |       |       |       |  |

| 識別碼  | Activity ID | Key Date | NCE/(EWPMI)/(CE) | Task Name  | 工期         | 開始時間        | 完成時間        | 實際開始時間           | 實際完成時間                | 前置任務           | 後續任務 | 總覽時間          | Risk Allow | 完成百分比 | 9年 | 2020年 | 2021年 | 2022年 | 2023年 | 2024年 | 2025年 |
|------|-------------|----------|------------------|--|------------|-------------|-------------|------------------|-----------------------|----------------|------|---------------|------------|-------|----|-------|-------|-------|-------|-------|-------|
| 1131 | C2AUU-1000b | KD2A     | 255              | Trenchless work for Process Pipes CHR and CHS (approx. 7m twin DN900 D.I.)   | 60 days    | 2020年12月21日 | 2021年3月6日   | 年12月21日 星期一—2020 | 年3月6日 星期六 2021        |                | 52FF | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1132 | C2AUU-1001  | KD2A     | 033              | Removal of Abandoned DN1800 Concrete Pipe and Concrete Mass near Existing UV Disinfection Channel at CHR & CHS Process Pipe Works Area   | 43 days    | 2019年11月18日 | 2020年1月9日   | 年11月18日 星期一—2019 | 年1月9日 星期四 2020        |                |      | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1133 | C2AUU-1002  | KD2A     | 222              | Grouting for Sheung Shui Slaughter House Boundary Walls along CHR & CHS Pipes Works Area   | 16.83 days | 2019年11月18日 | 2019年12月6日  | 年11月18日 星期一—2019 | 年12月6日 星期五 2019       |                |      | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1134 | C2AUU-1004  | KD2A     | (076)            | Delay Delivery of DI pipes due to COVID-19   | 75 days    | 2019年11月18日 | 2020年2月19日  | 年11月18日 星期一—2019 | 年2月19日 星期三 2020       |                |      | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1135 | CS2-0000    | SW2      |                  | External Underground Service, Utilities, Road/Drain (Section 2)  | 1268 days  | 2020年1月20日  | 2024年5月3日   | 年1月20日 星期一—2020  | NA                    | 57FF+2.33 days |      | -135 days     |            | 68%   |    |       |       |       |       |       |       |
| 1163 | CS2-1000    | SW2      |                  | Sewerage and utilities in Workfront A2   | 539 days   | 2021年6月30日  | 2023年4月25日  | 年6月30日 星期三 2021  | NA                    |                |      | -20 days      |            | 94%   |    |       |       |       |       |       |       |
| 1181 | CS2-1100    | SW2      |                  | Workfront A2b: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH157-190), 2 nos. of DN350 DI sewage pipe (CHT CH62-91, CHY CH62-91) and 3 nos. of DN150 DI pipe (CHW, CHX, CHZ CH62-91)                              | 539 days   | 2021年6月30日  | 2023年4月25日  | 年6月30日 星期三 2021  | NA                    | 1164           |      | -20 days      |            | 85%   |    |       |       |       |       |       |       |
| 1191 | CS2-2000    | SW2      |                  | Sewerage and utilities in Workfront A3   | 756.8 days | 2021年6月2日   | 2023年12月15日 | 年6月2日 星期三 2021   | NA                    |                |      | -211.8 days   |            | 61%   |    |       |       |       |       |       |       |
| 1208 | CS2-2100    | SW2      |                  | Workfront A3b: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH133-146), 2 nos. of DN350 DI sewage pipe (CHT CH100-114, CHY CH100-114) and 3 nos. of DN150 DI pipe (CHW CH100-114, CHX&CHZ CH100-114); Watermains   | 756.8 days | 2021年6月2日   | 2023年12月15日 | 年6月2日 星期三 2021   | NA 1967               |                |      | -304.13 days  |            | 64%   |    |       |       |       |       |       |       |
| 1219 | CS2-3000a   | SW2      |                  | Sewerage and utilities in Workfront A5a  | 531 days   | 2022年3月18日  | 2024年1月2日   | 年3月18日 星期五 2022  | NA                    | 2025, 2018     |      | -80 days      |            | 64%   |    |       |       |       |       |       |       |
| 1221 | CS2-3100a   | SW2      |                  | Construction of DN825 concrete pipe (CHU CH9.81-67.72) and manhole MHS01-MHS03   | 531 days   | 2022年3月18日  | 2024年1月2日   | 年3月18日 星期五 2022  | NA                    |                |      | -80 days      |            | 64%   |    |       |       |       |       |       |       |
| 1250 | CS2-3000b   | SW2      |                  | Sewerage and utilities in Workfront A5b  | 316 days   | 2022年12月29日 | 2024年1月22日  | 年12月29日 星期四 2022 | NA                    | 2025, 2018     |      | -103 days     |            | 17%   |    |       |       |       |       |       |       |
| 1261 | CS2-3300    | SW2      |                  | Sewerage and utilities in Workfront A6   | 940 days   | 2021年3月1日   | 2024年5月3日   | 年3月1日 星期一—2021   | NA                    |                |      | -135 days     |            | 61%   |    |       |       |       |       |       |       |
| 1263 | CS2-3310    | SW2      |                  | Construction of CHPS1 CH274.233 - 355.037; CHPSW1 CH0-7  | 171 days   | 2022年10月6日  | 2023年5月5日   | 年10月6日 星期四 2022  | NA                    |                |      | 112 days      |            | 76%   |    |       |       |       |       |       |       |
| 1312 | CS2-4000    | SW2      |                  | Sewerage and utilities in Workfront B1   | 680 days   | 2021年8月4日   | 2023年11月17日 | 年8月4日 星期三 2021   | NA                    |                |      | -50 days      |            | 44%   |    |       |       |       |       |       |       |
| 1325 | CS2-4100    | SW2      |                  | Workfront B1b: DN600 concrete pipe (CHU CH0-9.81)  | 117 days   | 2023年6月30日  | 2023年11月17日 | 年6月30日 星期三 2023  | NA                    |                |      | -50 days      |            | 5%    |    |       |       |       |       |       |       |
| 1342 | CS2-5000    | SW2      |                  | Sewerage and utilities in Workfront C1   | 427 days   | 2022年6月21日  | 2023年11月24日 | 年6月21日 星期二 2022  | NA                    | 2042           |      | -65 days      |            | 57%   |    |       |       |       |       |       |       |
| 1343 | CS2-5100    | SW2      |                  | Workfront C1a: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH50-133), 2 nos. of DN350 DI sewage pipe (CHT&CHY CH114-189) and 3 nos. of DN150 DI pipe (CHW CH114-140, CHX&CHZ CH114-140), MHFB64B-MHFB64C          | 427 days   | 2022年6月21日  | 2023年11月24日 | 年6月21日 星期二 2022  | NA 1508               |                |      | -73 days      |            | 78%   |    |       |       |       |       |       |       |
| 1370 | CS2-5100    | SW2      |                  | Workfront C1b: Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH50-133), 2 nos. of DN350 DI sewage pipe (CHT&CHY CH114-189) and 3 nos. of DN150 DI pipe (CHW CH114-140, CHX&CHZ CH114-140), MHFB64B-MHFB64C, CHPSW-5 | 179 days   | 2023年2月6日   | 2023年9月11日  | 年2月6日 星期一—2023   | NA                    | 1388           |      | -4 days       |            | 32%   |    |       |       |       |       |       |       |
| 1387 | CS2-6000    | SW2      |                  | Sewerage and utilities in Workfront C2   | 423 days   | 2022年8月9日   | 2024年1月10日  | 年8月9日 星期二 2022   | NA                    | 2052, 1482     |      | -422 days     |            | 1%    |    |       |       |       |       |       |       |
| 1388 | CS2-6100    | SW2      |                  | Construction of 2 nos. of DN250 DI sludge pipe (CHPS1, CHPS2 CH25-50), CH PSW-7  | 423 days   | 2022年8月9日   | 2024年1月10日  | 年8月9日 星期二 2022   | NA 1370               |                |      | -422 days     |            | 1%    |    |       |       |       |       |       |       |
| 1405 | CS2-7000    | SW2      |                  | Sewerage and utilities in Workfront C3   | 768 days   | 2021年3月13日  | 2023年10月14日 | 年3月13日 星期六 2021  | NA                    | 2060           |      | -191 days     |            | 71%   |    |       |       |       |       |       |       |
| 1406 | CS2-7100    | SW2      |                  | Construction of DN1000 HDPE odour pipe (CHD02), DN250 DI sludge pipe (CHPS1, CHPS2, CH0-25), DN250 DI pipe (CHPSW-6), DN300 DI pipe (CHTF2), manhole MHD5A and its associated backdrop manhole                                     | 353 days   | 2021年3月13日  | 2022年5月24日  | 年3月13日 星期六 2021  | 年5月24日 星期二 2022 1502  |                |      | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1440 | CS2-8000    | SW2      |                  | Sewerage and utilities in Workfront D1   | 438 days   | 2022年8月5日   | 2024年1月24日  | 年8月5日 星期五 2022   | NA                    |                |      | -105 days     |            | 36%   |    |       |       |       |       |       |       |
| 1441 | CS2-8100    | SW2      |                  | Construction of DN250 DI pipe (CHTF2-2), DN800 MS pipe (CHTA) and watermains   | 438 days   | 2022年8月5日   | 2024年1月24日  | 年8月5日 星期五 2022   | NA 1358, 1379         |                |      | -105 days     |            | 38%   |    |       |       |       |       |       |       |
| 1469 | CS2-9000    | SW2      |                  | Sewerage and utilities in Workfront D2   | 100 days   | 2021年8月2日   | 2021年11月29日 | 年8月2日 星期一—2021   | 年11月29日 星期一—2021      |                |      | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1470 | CS2-9100    | SW2      |                  | Construction of DN350 DI temporary flow diversion pipe (CHTE(A), CHTE(B))  | 100 days   | 2021年8月2日   | 2021年11月29日 | 年8月2日 星期一—2021   | 年11月29日 星期一—2021      |                |      | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1480 | CS2-10000   | SW2      |                  | Sewerage and utilities in Workfront D3   | 734 days   | 2021年8月31日  | 2024年2月22日  | 年8月31日 星期二 2021  | NA                    |                |      | -356.33 da... |            | 84%   |    |       |       |       |       |       |       |
| 1482 | CS2-10100   | SW2      |                  | Construction of DN100 DI pretreatment screen pipe (CHPT2)  | 642 days   | 2021年12月20日 | 2024年2月22日  | 年12月20日 星期一—2021 | NA 1387               |                |      | -356.33 da... |            | 66%   |    |       |       |       |       |       |       |
| 1496 | CS2-11000   | SW2      |                  | Sewerage and utilities in Portion D4   | 695 days   | 2021年9月1日   | 2024年1月5日   | 年9月1日 星期一 2021   | NA                    |                |      | -70 days      |            | 81%   |    |       |       |       |       |       |       |
| 1497 | CS2-11100   | SW2      |                  | Construction of DN350 DI pipe (CHPSW-1)  | 191 days   | 2021年9月1日   | 2022年4月26日  | 年9月1日 星期一 2021   | 年4月26日 星期二 2022       |                |      | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1527 | CS2-12000   | SW2      |                  | Sewerage and utilities in Portion E1   | 162 days   | 2022年11月1日  | 2023年5月20日  | 年11月1日 星期二 2022  | NA                    |                |      | 0 days        |            | 87%   |    |       |       |       |       |       |       |
| 1528 | CS2-12100   | SW2      |                  | Construction of watermains   | 162 days   | 2022年11月1日  | 2023年5月20日  | 年11月1日 星期二 2022  | 年5月20日 星期六 2023       |                |      | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1548 | CS2-13000   | SW2      |                  | Sewerage and utilities in Portion E2   | 52 days    | 2023年12月27日 | 2024年3月1日   | NA               | NA                    | 2098           |      | -363.33 da... |            | 0%    |    |       |       |       |       |       |       |
| 1549 | CS2-13100   | SW2      |                  | Construction of DN1600 DI sewage pipe (CHI CH75-95)  | 52 days    | 2023年12月27日 | 2024年3月1日   | NA               | NA                    |                |      | -363.33 da... |            | 0%    |    |       |       |       |       |       |       |
| 1564 | CS2-14000   | SW2      |                  | Sewerage and utilities in Portion E3   | 52 days    | 2023年11月6日  | 2024年1月9日   | NA               | NA                    | 2106           |      | -321.33 da... |            | 0%    |    |       |       |       |       |       |       |
| 1565 | CS2-14100   | SW2      |                  | Construction of DN1600 DI sewage pipe (CHI CH35-75), CHJ   | 52 days    | 2023年11月6日  | 2024年1月9日   | NA               | NA 1581FS-3 days      |                |      | -321.33 da... |            | 0%    |    |       |       |       |       |       |       |
| 1581 | CS2-15000   | SW2      |                  | Sewerage and utilities in Portion E4   | 703 days   | 2021年6月29日  | 2023年11月9日  | 年6月29日 星期二 2021  | NA                    | 1565FS-3 days  |      | -321.33 da... |            | 67%   |    |       |       |       |       |       |       |
| 1584 | CS2-15100   | SW2      |                  | Construction of DN1600 DI sewage pipe CHH, CHG   | 703 days   | 2021年6月29日  | 2023年11月9日  | 年6月29日 星期二 2021  | NA                    |                |      | -321.33 da... |            | 1%    |    |       |       |       |       |       |       |
| 1600 | CS2-16000   | SW2      |                  | Sewerage and utilities in Workfront E5   | 596 days   | 2021年9月13日  | 2023年9月16日  | 年9月13日 星期一—2021  | NA                    | 2120           |      | -229.33 da... |            | 4%    |    |       |       |       |       |       |       |
| 1601 | CS2-16100a  | SW2      |                  | Workfront E5a: Process Pipe CHG chainage 0-50, CHH chainage 0-80, CHJ chainage 0-40, CHPSW-4, CHPT1, CHPT2 diversion pipe, manhole MHS44A, MHS44R  | 596 days   | 2021年9月13日  | 2023年9月16日  | 年9月13日 星期一—2021  | NA 1803               |                |      | -229.33 days  |            | 7%    |    |       |       |       |       |       |       |
| 1613 | CS2-16100b  | SW2      |                  | Workfront E5b: Process Pipe CHI chainage 0-35  | 116 days   | 2023年5月2日   | 2023年9月16日  | NA               | NA                    |                |      | -229.33 da... |            | 0%    |    |       |       |       |       |       |       |
| 1641 | CS2-17000   | SW2      |                  | Sewerage and utilities in Workfront F1   | 388 days   | 2022年5月5日   | 2023年8月23日  | 年5月5日 星期四 2022   | NA                    |                |      | -16 days      |            | 71%   |    |       |       |       |       |       |       |
| 1642 | CS2-17100a  | SW2      |                  | Workfront F1a: Process Pipe CHPSW-1 CH100-108, DN150 DI SAS pipe CHZB, Bioreactor Tank Drain CHTD1, watermains of CHPSW-1 and chemical trench  | 388 days   | 2022年5月5日   | 2023年8月23日  | 年5月5日 星期四 2022   | NA                    |                |      | -16 days      |            | 93%   |    |       |       |       |       |       |       |
| 1659 | CS2-17100b  | SW2      |                  | Workfront F1b: Bioreactor Tank Drain CHTD1, cable ducts laying   | 104 days   | 2023年4月11日  | 2023年8月14日  | 年4月11日 星期二 2023  | NA                    |                |      | -9 days       |            | 0%    |    |       |       |       |       |       |       |
| 1669 | CS2-18000   | SW2      |                  | Sewerage and utilities in Workfront F2   | 494 days   | 2022年2月4日   | 2023年10月4日  | 年2月4日 星期五 2022   | NA                    |                |      | -13 days      |            | 84%   |    |       |       |       |       |       |       |
| 1670 | CS2-18100   | SW2      |                  | Workfront F2a: Construction of Process Pipe CHPSW-4  | 494 days   | 2022年2月4日   | 2023年10月4日  | 年2月4日 星期五 2022   | NA                    |                |      | -13 days      |            | 76%   |    |       |       |       |       |       |       |
| 1696 | CS2-19000   | SW2      |                  | Sewerage and utilities in Workfront F3   | 945.8 days | 2021年1月5日   | 2024年3月13日  | 年1月5日 星期二 2021   | NA                    |                |      | -120 days     |            | 81%   |    |       |       |       |       |       |       |
| 1715 | CS2-19300   | SW2      |                  | Construction of DN350 DI process pipe CHPSW-1  | 276 days   | 2022年6月12日  | 2023年5月17日  | 年6月12日 星期日 2022  | NA                    |                |      | -127.33 da... |            | 63%   |    |       |       |       |       |       |       |
| 1741 | CS2-20000   | SW2      |                  | Sewerage and utilities in Workfront G1   | 96 days    | 2022年8月25日  | 2022年12月17日 | 年8月25日 星期四 2022  | 年12月17日 星期六 2022      |                |      | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1742 | CS2-20100   | SW2      |                  | Process Pipe DN900 DI RAS pipe (CHP) and 2 nos. of DN250 DI sludge pipe (CHSS1 CH140-183, CHSS2 CH140-182)   | 96 days    | 2022年8月25日  | 2022年12月17日 | 年8月25日 星期四 2022  | 年12月17日 星期六 2022 1899 |                |      | 0 days        |            | 100%  |    |       |       |       |       |       |       |
| 1756 | CS2-21000   | SW2      |                  | Sewerage and utilities in Workfront G2   | 887 days   | 2021年1月11日  | 2024年1月9日   | 年1月11日 星期一—2021  | NA                    |                |      | -91 days      |            | 85%   |    |       |       |       |       |       |       |
| 1758 | CS2-21100   | SW2      |                  | Process Pipe DN1400 DI sewage pipe (CHK CH0-6), 2 nos. of DN250 DI sludge pipe (CHSS1, CHSS2 CH100-140)  | 887 days   | 2021年1月11日  | 2024年1月9日   | 年1月11日 星期一—2021  | NA                    |                |      | -91 days      |            | 79%   |    |       |       |       |       |       |       |
| 1786 | CS2-22000   | SW2      |                  | Sewerage and utilities in Workfront G3   | 732 days   | 2021年6月24日  | 2023年12月8日  | 年6月24日 星期四 2021  | NA                    | 2162           |      | -68 days      |            | 76%   |    |       |       |       |       |       |       |
| 1789 | CS2-22100   | SW2      |                  | Process Pipe DN1400 DI sewage pipe of CHK CH6-43.5, CHL CH0-31, DN300 CHN CH54-79, 2x DN250 CHSS1, CHSS2 (CH80-100), SAS gravity system and watermains   | 732 days   | 2021年6月24日  | 2023年12月8日  | 年6月24日 星期四 2021  | NA                    |                |      | -68 days      |            | 70%   |    |       |       |       |       |       |       |
| 1    |             |          |                  |  |            |             |             |                  |                       |                |      |               |            |       |    |       |       |       |       |       |       |

| 識別碼  | Activity ID    | Key Date | NCE/(EW/PMI)/(CE) | Task Name  | 工期          | 開始時間        | 完成時間       | 實際開始時間           | 實際完成時間          | 前置任務              | 後續任務                | 總寬限期          | Risk Allowance | 完成百分比 | Gantt Chart Timeline (2019-2025)                |   |  |  |  |  |  |  |  |  |  |  |  |
|------|----------------|----------|-------------------|--|-------------|-------------|------------|------------------|-----------------|-------------------|---------------------|---------------|----------------|-------|---|---|--|--|--|--|--|--|--|--|--|--|--|
| 1862 | CS2-25100a     | SW2      |                   | Workfront G6a: Process Pipe CHN, CHPSW-1, CHSS1, CHSS2       | 700 days    | 2021年7月27日  | 2023年12月2日 | 年7月27日 星期二 2021  |                 | NA 1884           | 1924                | -351.33 da... |                | 5%    | [Gantt bars for 1862: 2021-07-27 to 2023-12-02] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1873 | CS2-25100b     | SW2      |                   | Workfront G6b: Process Pipe CHN, CHPSW-1, CHSS1, CHSS2       | 491 days    | 2022年1月5日   | 2023年9月1日  | 年1月5日 星期三 2022   |                 | NA 1768SS+36 days |                     | -105 days     |                | 38%   | [Gantt bars for 1873: 2022-01-05 to 2023-09-01] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1888 | CS2-26000      | SW2      |                   | Sewerage and utilities in Workfront H1                       | 178 days    | 2022年4月1日   | 2022年11月7日 | 年4月1日 星期五 2022   | 年11月7日 星期一 2022 |                   |                     | 0 days        |                | 100%  | [Gantt bars for 1888: 2022-04-01 to 2022-11-07] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1889 | CS2-26100      | SW2      |                   | Process Pipe CHSS1, CHSS2 CH181-254                          | 178 days    | 2022年4月1日   | 2022年11月7日 | 年4月1日 星期五 2022   | 年11月7日 星期一 2022 | 1834SS+21 days    |                     | 0 days        |                | 100%  | [Gantt bars for 1889: 2022-04-01 to 2022-11-07] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1900 | CS2-27000      | SW2      |                   | Sewerage and utilities in Workfront I1                       | 370 days    | 2020年7月8日   | 2021年10月2日 | 年7月8日 星期三 2020   | 年10月2日 星期六 2021 |                   |                     | 0 days        |                | 100%  | [Gantt bars for 1900: 2020-07-08 to 2021-10-02] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1901 | CS2-27100      | SW2      |                   | Process Pipe CHS CH0-72, CHR CH 57-132                       | 370 days    | 2020年7月8日   | 2021年10月2日 | 年7月8日 星期三 2020   | 年10月2日 星期六 2021 |                   |                     | 0 days        |                | 100%  | [Gantt bars for 1901: 2020-07-08 to 2021-10-02] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1912 | CS2-28000      | SW2      |                   | Sewerage and utilities in Workfront I2                       | 1072 days   | 2020年7月8日   | 2024年2月16日 | 年7月8日 星期三 2020   |                 | NA                |                     | -351.33 da... |                | 40%   | [Gantt bars for 1912: 2020-07-08 to 2024-02-16] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1913 | CS2-28100      | SW2      |                   | Process Pipe CHR CH0-26                                      | 963 days    | 2020年7月8日   | 2023年10月4日 | 年7月8日 星期三 2020   |                 | NA                |                     | -242.33 da... |                | 55%   | [Gantt bars for 1913: 2020-07-08 to 2023-10-04] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1929 | CS2-29000      | SW2      |                   | Sewerage and utilities in Workfront I3                       | 581 days    | 2021年7月21日  | 2023年7月7日  | 年7月21日 星期三 2021  |                 | NA                | 2198                | 0 days        |                | 97%   | [Gantt bars for 1929: 2021-07-21 to 2023-07-07] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1930 | CS2-29100      | SW2      | 294,286,...       | Construction of manhole MHFB51A, MHFB51, MHFB52, PSW3        | 509 days    | 2021年7月21日  | 2023年4月6日  | 年7月21日 星期三 2021  |                 | NA                |                     | 0 days        |                | 97%   | [Gantt bars for 1930: 2021-07-21 to 2023-04-06] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1967 | CS2-30000      | SW2      |                   | Sewerage and utilities in Workfront I4                       | 722.8 days  | 2021年6月5日   | 2023年11月9日 | 年6月5日 星期六 2021   |                 | NA                | 2187,1208,2209,2211 | 0 days        |                | 72%   | [Gantt bars for 1967: 2021-06-05 to 2023-11-09] |   |  |  |  |  |  |  |  |  |  |  |  |
| 1970 | CS2-30100      | SW2      | 230,238,...       | Construction of Process Pipes CHPSW3; CHDO1, chemical trench | 651 days    | 2021年6月5日   | 2023年8月15日 | 年6月5日 星期六 2021   |                 | NA                |                     | -3 days       |                | 61%   | [Gantt bars for 1970: 2021-06-05 to 2023-08-15] |   |  |  |  |  |  |  |  |  |  |  |  |
| 2005 | CS3-0000       | *        |                   | Remaining drainage and utilities (Section 3)                 | 842.8 days  | 2021年7月27日  | 2024年5月30日 | 年7月27日 星期二 2021  |                 | NA                | 2222,58FF+2.33 day  | 2.67 days     |                | 28%   | [Gantt bars for 2005: 2021-07-27 to 2024-05-30] |   |  |  |  |  |  |  |  |  |  |  |  |
| 2220 | CS3CK-PMI-496g | SW3      | 496               | ABWF works + BS works  | 90 days     | 2024年4月10日  | 2024年8月19日 |                  | NA              | NA 2219           | 58FF+2.33 days      | 55.37 days    |                | 0%    | [Gantt bars for 2220: 2024-04-10 to 2024-08-19] |   |  |  |  |  |  |  |  |  |  |  |  |
| 2221 | CRW-0000       | *        |                   | Road Works (Section 3)                                       | 130 days    | 2024年5月31日  | 2024年11月4日 |                  | NA              | NA                | 58FF+2.33 days      | 2.67 days     |                | 0%    | [Gantt bars for 2221: 2024-05-31 to 2024-11-04] |   |  |  |  |  |  |  |  |  |  |  |  |
| 2232 | CRW-2000       | SW3      |                   | Footpath Road Pavement                                       | 60 days     | 2024年8月23日  | 2024年11月4日 |                  | NA              | NA 2231SS+5 days  | 58FF+2.33 days      | 2.67 days     |                | 0%    | [Gantt bars for 2232: 2024-08-23 to 2024-11-04] |   |  |  |  |  |  |  |  |  |  |  |  |
| 2233 | CRW-2100       | SW3      |                   | Signages   | 20 days     | 2024年8月12日  | 2024年9月3日  |                  | NA              | NA 2230SS         | 58FF+2.33 days      | 52.67 days    |                | 0%    | [Gantt bars for 2233: 2024-08-12 to 2024-09-03] |   |  |  |  |  |  |  |  |  |  |  |  |
| 2236 | CLW-0000       | *        |                   | Landscaping Works (Section 3)                                | 872.47 days | 2022年12月15日 | 2025年11月7日 | 年12月15日 星期四 2022 |                 | NA 16             |                     | 1.33 days     |                | 0%    | [Gantt bars for 2236: 2022-12-15 to 2025-11-07] |   |  |  |  |  |  |  |  |  |  |  |  |
| 2237 | CLW-1000       | SW3      |                   | Irrigation System  | 120 days    | 2022年12月15日 | 2023年5月16日 | 年12月15日 星期四 2022 |                 | NA                | 2238,58FF+2.33 day  | 0 days        |                | 0%    | [Gantt bars for 2237: 2022-12-15 to 2023-05-16] |   |  |  |  |  |  |  |  |  |  |  |  |
| 2238 | CLW-2000       | SW3      |                   | Hard Landscaping Works                                       | 214 days    | 2023年5月20日  | 2024年2月9日  |                  | NA              | NA 2237           | 58FF+2.33 days      | 2236          | 0 days         | 5     | 0%  | [Gantt bars for 2238: 2023-05-20 to 2024-02-09] |  |  |  |  |  |  |  |  |  |  |  |
| 2239 | CLW-3000       | SW3      |                   | Soft Landscaping Works                                       | 214 days    | 2024年2月19日  | 2024年11月7日 |                  | NA              | NA 2238FS+10 days | 2240,58FF+2.33 day  | 0 days        | 5              | 0%    | [Gantt bars for 2239: 2024-02-19 to 2024-11-07] |   |  |  |  |  |  |  |  |  |  |  |  |
| 2240 | CLW-4000       | DLP      |                   | Establishment Works (365 days)                               | 365 days    | 2024年11月7日  | 2025年11月7日 |                  | NA              | NA 2239,217       | 60FF                | 2.33 days     | 5              | 0%    | [Gantt bars for 2240: 2024-11-07 to 2025-11-07] |   |  |  |  |  |  |  |  |  |  |  |  |









































































































































| Item   | Major Activities & Submission in coming 3 months                  | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action   | Remarks / Status   |
|--|---|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|----------|--|
|  |   | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |          |  |
| <b>Drawing Submission for Key Dates</b>  |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
| KD1A: Submission of civil and dimensional requirement drawing, electrical schematic drawings, etc. from formation level up to +8mPD in accordance with the contract requirement of Contract No. DC/2018/07 to carry out civil works construction | KD1A: Submission of Civil Requirement Drawing (Final)             | 28/8/2020                          | 18/9/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             | no.                     | 26             | 26                 | 100%              |          |  |
|  | KD1A: Submission of Electrical Schematic Drawing (Final)          | 15/7/2020                          | 15/7/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             | no.                     | 11             | 11                 | 100%              |          |  |
|  | KD1A: 6 November 2020   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
| KD1B: Submission of remaining civil and dimensional requirement drawings, electrical schematic drawing, etc. in accordance with the contract requirement of Contract No. DC/2018/07 to carry out civil works construction                        | KD1B: Submission of Civil Requirement Drawing (First Draft)       | 30/9/2020                          | 28/9/2020                              | 30/12/2020                   | 31/3/2021                        | Task Completed                             | no.                     | 47             | 47                 | 100%              |          |  |
|  | KD1B: Submission of Civil Requirement Drawing (Final)             | 6/11/2020                          | 5/11/2020                              | 4/6/2021                     | 4/6/2021                         | Task Completed                             | no.                     | 47             | 47                 | 100%              |          | All the CWR Drawings were submitted.   |
|  | KD1B: 4 June 2021   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
| KD3A: 04SC010 - Dismantle & Removal of Emergency Generators in existing Power House  | Submission of subletting package for acceptance (C9)              | 1/3/2020                           | 24/2/2020                              | 14/3/2020                    | 22/4/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Bestwise resubmitted on 22 April 2020  |
|  | Acceptance of subletting package (C9)                             | 14/3/2020                          | 6/5/2020                               | 1/4/2020                     | 5/5/2020                         | Task Completed                             |                         |                |                    | 100%              | -        | AECOM accepted subletting package on 5 May 2020  |
|  | Tender invitation (C9)  | 1/4/2020                           | 15/5/2020                              | 15/4/2020                    | 22/5/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Invitation to tender was commenced on 12 May 2020 and tender returned on 22 May 2020   |
|  | Tender award (C9)   | 15/4/2020                          | 22/5/2020                              | 29/4/2020                    | 26/5/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Bestwise submitted tender report on 26 May 2020  |
|  | Acceptance of tender award (C9)                                   | -                                  | -                                      | -                            | 6/6/2020                         | Task Completed                             |                         |                |                    | 100%              | -        | AECOM accepted tender report on 2 June 2020, Letter of Acceptance was issued on 6 June   |
|  | Dismantle of existing BS equipment                                |                                    | 15/6/2020                              |                              | 25/7/2020                        | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | Removal of emergency generators                                   | 1/6/2020                           | 15/6/2020                              | 30/6/2020                    | 25/7/2020                        | Task Completed                             |                         |                |                    | 100%              |          |  |
| KD3A: 04SC010 - Dismantle & Removal of Emergency Generators in existing Power House  | KD3A: Testing and Commissioning                                   | 1/7/2020                           | 3/7/2020                               | 29/7/2020                    | 29/7/2020                        | Task Completed                             |                         |                |                    | 100%              |          | First test was conducted on 3 July 2020. Remaining test would be subjected to completion of civil works.<br>KD3A - 29 July 2020.<br>Joint Site Inspection was conducted on 24 July 2020 and Notice of completion of work was submitted on 28 July 2020   |
|  |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
|  | KD3A: 29 July 2020  |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
| KD3B: 6B.2.15 Operation Restoration of Existing Primary Sedimentation Tank (PST) No. 4 and 6   | Submission of onsite survey plan on E&M aspects for               | 1/3/2020                           | 25/3/2020                              | 30/3/2020                    | 27/4/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Bestwise resubmitted onsite survey plan on 27 April 2020   |
|  | Acceptance of submission of onsite survey plan                    | 1/3/2020                           | 25/3/2020                              | 30/3/2020                    | 22/5/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | AECOM accepted the onsite survey plan on 22 May 2020. Onsite coordination with ST1   |
|  | KD3B: Submission of onsite survey report                          | 11/7/2020                          | 20/7/2020                              | 16/7/2020                    | 30/7/2021                        | Task Completed                             |                         |                |                    | 100%              | Bestwise | - Onsite survey conducted from 20 July 2020 to 22 July 2020. Bestwise submitted survey report on 5 August 2020. AECOM commented on 19 Aug 2020. Bestwise to resubmit upon conducting the remaining onsite survey. (Done)<br>- Bestwise revised survey plan for remaining onsite checking of PST No. 6 on 1 Sep 2020. After discussion with plant operator, the remaining survey would be conducted after the dismantling work of PSTs. Formal survey record for PST No.4 was submitted on 24 May 2021.<br>- Remaining survey (level of bridge & scraper) for PST 6 completed.<br>- Formal survey report shall be submitted on 30 Jul 2021. |
|  | KD3B: Acceptance of onsite survey report                          | 17/7/2020                          | 6/8/2020                               | 23/7/2020                    | 6/8/2021                         | Task Completed                             |                         |                |                    | -                 |          | Acceptance for the center point, vertical and horizontal alignment of ductfoot installation of PST No.4 shall subject to joint site meeting conducted on 2 June 2021. Refer to E-RISC no. 000014A & 000016 result for details.   |
|  | KD3B: Preparation of procurement package (C11)                    | 2/12/2019                          | 1/8/2020                               | 13/4/2020                    | 7/8/2020                         | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | KD3B: Tender invitation - Clarifier (C11)                         | 2/12/2019                          | 14/8/2020                              | 13/4/2020                    | 26/8/2020                        | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | KD3B: Tender Award - Clarifier (C11)                              | 2/12/2019                          | 26/8/2020                              | 13/4/2020                    | 25/9/2020                        | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | KD3B: Acceptance of tender award (C11)                            | 2/12/2019                          | 11/9/2020                              | 13/4/2020                    | 18/9/2020                        | Task Completed                             |                         |                |                    | -                 |          |  |
|  | KD3B: Tender invitation - DI Pipe (C11)                           | 2/12/2019                          | 13/1/2021                              | 13/4/2020                    | 19/1/2021                        | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | KD3B: Tender Award - DI Pipe (C11)                                | 2/12/2019                          | 21/1/2021                              | 13/4/2020                    | 23/1/2021                        | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | KD3B: Tender invitation - LCP (C11)                               | 2/12/2019                          | 3/2/2021                               | 13/4/2020                    | 5/2/2021                         | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | KD3B: Tender Award - LCP (C11)                                    | 2/12/2019                          | 6/2/2021                               | 13/4/2020                    | 8/2/2021                         | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | KD3B: Preparation of subletting package for dismantling work (C9) | 2/12/2019                          | 21/9/2020                              | 13/4/2020                    | 21/10/2020                       | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | KD3B: Tender invitation for dismantling work (C9)                 | 2/12/2019                          | 12/11/2020                             | 13/4/2020                    | 19/11/2020                       | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | KD3B: Tender Award for dismantling work (C9)                      | 2/12/2019                          | 20/11/2020                             | 13/4/2020                    | 22/11/2020                       | Task Completed                             |                         |                |                    | 100%              |          |  |
| KD3B: Acceptance of tender award for dismantling work (C9)   | 2/12/2019   | 23/11/2020                         | 13/4/2020                              | 1/12/2020                    | Task Completed                   |  |                         |                | 100%               |                   |          |  |

| Item | Major Activities & Submission in coming 3 months   | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action | Remarks / Status  |
|------|--|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|--------|---|
|      |  | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |        |   |
|      | KD3B: Preparation and Acceptance of subletting package for installation work (C9)                | 2/12/2019                          | 15/12/2020                             | 13/4/2020                    | 1/3/2021                         | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Tender invitation for installation work (C9)   | 2/12/2019                          | 3/3/2021                               | 13/4/2020                    | 10/3/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Tender Award for installation work (C9)  | 2/12/2019                          | 12/3/2021                              | 13/4/2020                    | 15/3/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Acceptance of tender award for installation work (C9)                                      | 2/12/2019                          | 15/3/2021                              | 13/4/2020                    | 19/3/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | Submission and Acceptance of Drawing Submission  | 14/4/2020                          | 5/8/2020                               | 10/9/2020                    | 11/1/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | Submission and Acceptance of P&M Submission  | 14/4/2020                          | 5/8/2020                               | 10/9/2020                    | 30/6/2021                        | Task Completed                             |                         |                |                    |                   |        | Formal resubmission of P&M for Rotating Bridge Scraper P&M-0024 (Rev.1) was submitted to AECOM on 24 June 2021 and is accepted by AECOM. P&M submission for Local Control Panel Rev.3 was submitted on 20 Mar 2021 and AECOM accepted on 26 Mar 2021.   |
|      | Submission and Acceptance of FAT Plan  | 1/12/2020                          | 27/1/2021                              | 15/12/2020                   | 16/2/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | Submission and Acceptance of SAT Plan  | 1/3/2021                           | 1/3/2021                               | 1/4/2021                     | 5/5/2021                         | Task Completed                             |                         |                |                    | 100%              |        | Bestwise submitted on 13 Apr 2021. AECOM accepted with comments on 5 May 2021.  |
|      | Submission and Acceptance of Design Submission (Support to DN700 Feed Pipe)                      | N/A                                | 22/2/2021                              | N/A                          | 13/5/2021                        | Task Completed                             |                         |                |                    |                   |        | Advanced Calculation was provided on 17 Mar 2021 and revised on 18 Mar 2021. Bestwise proposed to use the existing support. Calculation was provided on 1 Apr 2021 via email. Dimension of support column was checked again on 14 Apr 2021. Proposal submitted on 30 Apr 2021. AECOM accepted with comments on 13 May 2021.   |
|      | Submission and Acceptance of Design Submission (Stainless steel support to FRP Cover of Effluent | N/A                                | 24/2/2021                              | N/A                          | 19/4/2021                        | Task Completed                             |                         |                |                    | 100%              |        | Advanced Calculation was provided on 17 Mar 2021 and revised on 18 Mar 2021. Bestwise formal submitted on 26 Mar 2021. AECOM accepted with comment on 19 Apr 2021.  |
|      | KD3B: Dismantle and Removal of E&M Equipment at PST No. 6  | 9/2/2021                           | 21/12/2020                             | 19/2/2021                    | 15/1/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | Flow Diversion and drain out PST No.4  | N/A                                | 25/1/2021                              | N/A                          | 26/3/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Dismantle and Removal of E&M Equipment at PST No. 4  | 9/2/2021                           | 5/3/2021                               | 19/2/2021                    | 1/4/2021                         | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Material Manufacturing (Clarifier)   | 12/9/2020                          | 16/12/2020                             | 12/12/2020                   | 20/2/2021                        | Task Completed                             |                         |                |                    | 100%              |        | The clarifier would be manufactured in 2 batches (rotating bridge related and FRP launder cover). Manufacturing instruction was issued on 16 Dec 2020. Jash suggested 1st batch of material (clarifier) would be ready for shipping on 20 Feb 2021 and 2nd batch of material (FRP Launder Cover) would be ready for shipping on 13 Mar 2021. (To be confirmed by Jash by providing shipment booking, but supplier cannot provide updated information at this moment due to second surge of COVID-19 in india) |
|      | KD3B: FAT of the Clarifier   | N/A                                | 24/2/2021                              | N/A                          | 1/3/2021                         | Task Completed                             |                         |                |                    | 100%              |        | FAT Report submitted on 24 Feb 2021 and AECOM accepted subject to comment on 1 Mar 2021   |
|      | KD3B: Material Delivery (Clarifier)  | 13/12/2020                         | 27/2/2021                              | 18/1/2021                    | 6/4/2021                         | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Material Deliver to Site (Clarifier)   | N/A                                | 6/4/2021                               | N/A                          | 8/4/2021                         | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Material Manufacturing (DI pipes and fittings)   | 11/9/2020                          | 26/1/2021                              | 18/1/2021                    | 15/3/2021                        | Task Completed                             |                         |                |                    | 100%              |        | Extracted from C9 package to C11 package to suit the installation programme   |
|      | KD3B: Material Delivery (DI pipes and fittings)  | 11/9/2020                          | 16/3/2021                              | 18/1/2021                    | 24/3/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Material Delivery (FRP Cover)  | N/A                                | 26/3/2021                              | N/A                          | 21/6/2021                        | Task Completed                             |                         |                |                    | 100%              |        | All the FRP covers were delivered to site.  |
|      | KD3B: Material Manufacturing (LCP)   | 11/9/2020                          | 4/3/2021                               | 18/1/2021                    | 16/4/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Material Delivery (LCP)  | 11/9/2020                          | 17/4/2021                              | 18/1/2021                    | 30/4/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Retrofitting Concrete Structure of PST No. 4   | N/A                                | 2/4/2021                               | N/A                          | 22/4/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Installation of E&M Equipment at PST No. 4   | 27/2/2021                          | 5/4/2021                               | 10/5/2021                    | 17/5/2021                        | Task Completed                             |                         |                |                    |                   |        |   |
|      | KD3B: Testing and Commissioning for PST No. 4  | 11/5/2021                          | 19/4/2021                              | 9/6/2021                     | 26/7/2021                        | Task Completed                             |                         |                |                    |                   |        | Wet test for PST 4 completed on 26 July 2021.   |
|      | Flow Diversion from PST No.6 to Temporary Filtrate Equalization Tank                             | N/A                                | 19/5/2021                              | N/A                          | 20/5/2021                        | Task Completed                             |                         |                |                    | 100%              |        | Filtrate feeding to TFES was resumed on 19/5/2021 with fine-tuned control.  |
|      | Removal of Accumulated Sludge Inside PST No. 6   | N/A                                | 19/5/2021                              | N/A                          | 30/5/2021                        | Task Completed                             |                         |                |                    | 100%              |        | NCE-0229, this includes removal of floating scum/ sludge and clearance of blockage of drain pipe  |
|      | KD3B: Retrofitting Concrete Structure of PST No. 6   | N/A                                | 28/5/2021                              | N/A                          | 24/6/2021                        | Task Completed                             |                         |                |                    | 100%              |        |   |
|      | KD3B: Mechanical Installation of E&M Equipment at PST No. 6                                      | 27/2/2021                          | 31/5/2021                              | 10/5/2021                    | 21/7/2021                        | Task Completed                             |                         |                |                    | 100%              |        | This includes PST Influent feed pipe, center bearing & slip ring assembly, motor & gearbox assembly, rotating bridge sludge & scum scraper assembly, circular baffle diffuser box, v-notched weir plate, scum baffle plate, scum collection box and FRP cover.  |
|      | KD3B: Electrical Installation of E&M Equipment at PST No. 6                                      | 27/2/2021                          | 9/6/2021                               | 10/5/2021                    | 21/7/2021                        | Task Completed                             |                         |                |                    | 100%              |        | This includes installation of LCP, cable laying & terminations.   |

| Item   | Major Activities & Submission in coming 3 months  | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action   | Remarks / Status   |
|--|---|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|----------|--|
|  |   | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |          |  |
|  | KD3B: Testing and Commissioning for PST No. 6   | 11/5/2021                          | 22/6/2021                              | 9/6/2021                     | 20/8/2021                        | Task Completed                             |                         |                |                    | 100%              |          | Wet test (1st) completed on 20 Aug 2021 and wet test (2nd) completed on 3 Sep 2021.  |
| KD3B: 6B.2.15 Operation Restoration of Existing Primary Sedimentation Tank (PST) No. 4 and 6                           | KD3B: System Commissioning for PST No. 4 & 6  | N/A                                | 22/6/2021                              | N/A                          | 3/9/2021                         | Task Completed                             |                         |                |                    | 100%              |          | Wet test (2nd) for PST#6 completed on 3 Sep 2021 and pre-handover inspection arranged on 30 Aug 2021. Defect list (final) received on 17 Sep 2021 and defect rectification was completed. Site training/ demonstration shall be conducted by end Feb and PMI modification work shall be completed by end March.  |
|  | KD3B: 9 June 2021   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
| <b>Section 1 of Works (outstanding works list)</b>   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
| 6B.2.12 Provision of New Replacement Filter Plates   | Submission of onsite survey plan for acceptance   | 1/3/2020                           | 25/3/2020                              | 30/3/2020                    | 21/4/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Bestwise resubmitted onsite survey plan on 21 April 2020   |
|  | Acceptance of submission of onsite survey plan  | 1/3/2020                           | 25/3/2020                              | 30/3/2020                    | 12/5/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Survey plan acceptance received on 12 May 2020. Onsite discussion with ST1 was   |
|  | Submission of onsite survey report  | 21/5/2020                          | 21/5/2020                              | 29/5/2020                    | 29/5/2020                        | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | Acceptance of onsite survey report  | 30/5/2020                          | 30/5/2020                              | 15/6/2020                    | 15/6/2020                        | Task Completed                             |                         |                |                    | -                 |          |  |
|  | Preparation of procurement package (C11)  | 22/6/2020                          | 22/6/2020                              | 6/7/2020                     | 14/7/2020                        | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | Tender invitation (C11)   | 15/7/2020                          | 15/7/2020                              | 22/7/2020                    | 24/7/2020                        | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | Tender Award (C11)  | 23/7/2020                          | 25/7/2020                              | 29/7/2020                    | 31/7/2020                        | Task Completed                             |                         |                |                    | 100%              |          | Revised survey report (second draft) was sent to AECOM on 21 Oct 2020. Technical   |
|  | Material Submission   | 21/8/2020                          | 21/8/2020                              | 28/8/2020                    | 7/12/2020                        | Task Completed                             |                         |                |                    | 100%              |          | Material submission (Rev.1) resubmitted on 7 Dec 2020. AECOM accepted subject to comments on 24 Dec 2020. Material submission (Rev. 2) resubmitted on 12 Jan 2021. AECOM accepted subject to comment on 22 Jan 2021.   |
| 6B.2.12 Provision of New Replacement Filter Plates for Existing Membrane Filter Presses at Existing Sludge Press House | Material Delivery   | 1/12/2020                          | 1/12/2020                              | 8/8/2021                     | 8/8/2021                         | Task Completed                             |                         |                |                    | -                 |          | "Filter Press Plates and Cloths" were handed over to DSD.  |
|  |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
| 6B.2.12 Provision of Membrane Filter Press System at Existing Sludge Press House                                       | Submission of onsite survey plan for acceptance   | 1/3/2020                           | 25/3/2020                              | 30/3/2020                    | Task to be deleted               | Task to be deleted                         |                         |                |                    | -                 | -        | PPMI No.5 was issued by PM on 24 April 2020. Bestwise is requested to submit quotation on delete the provision of one (1) no. of membrane filter press system in pursuant to Particular Specification Clause 6B.2.12.  |
|  |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
|  |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
| 6B.2.16 Temporary Filtrate Equalisation System (Sub-programme was provided by Bestwise)                                | Submission of onsite survey plan on E&M aspects for acceptance                                      | 1/3/2020                           | 1/4/2020                               | 30/3/2020                    | 7/5/2020                         | Task Completed                             |                         |                |                    | 100%              | -        | Bestwise resubmitted onsite survey plan on 7 May 2020  |
|  | Acceptance of submission of onsite survey plan  | 1/3/2020                           | 1/4/2020                               | 30/3/2020                    | 23/5/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | AECOM accepted the onsite survey plan on 23 May 2020   |
| 6B.2.16 Temporary Filtrate Equalisation System (Sub-programme was provided by Bestwise)                                | Submission and Acceptance of ELS Design for Lifting Well  | 15/06/2020 -> 17/08/2020*          | 2/9/2020                               | 30/07/2020 -> 30/11/2020*    | 9/2/2021                         | Task Completed                             |                         |                |                    | 100%              | Bestwise | - * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020.<br>- Re-design work was proceeded and the planned start date was revised to 17 Aug 2020. Bestwise submitted Rev.0 on 21 Oct 2020 and resubmitted Rev.2 on 23 Jan 2021.<br>- AECOM provide consent for the ELS temporary works on 9 Feb 2021. AECOM accepted on 9 Feb 2021. |
|  | Submission and Acceptance of Design for Filtrate Lifting Well Construction                          | 15/06/2020 -> 17/08/2020*          | 2/9/2020                               | 30/07/2020 -> 30/11/2020*    | 15/1/2021                        | Task Completed                             |                         |                |                    | 100%              |          | * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020.<br>- Re-design work was proceeded and the planned start date was revised to 17 Aug 2020. AECOM commented on 21 Dec 2020. Bestwise submitted Rev.0 on 2 Nov 2020 and Rev.1 on 8 Jan 2021.   |
|  | Submission and Acceptance of Design of FRP Filtrate Equalization Tank                               | 15/06/2020 -> 07/09/2020**         | 2/9/2020                               | 30/07/2020 -> 22/10/2020*    | 15/1/2021                        | Task Completed                             |                         |                |                    | 100%              |          | ** = Change of material of temporary filtrate equalization tank from concrete to FRP on 07 Sep 2020.<br>- Re-design work was proceeded and the planned start date was revised to 17 Aug 2020.<br>- Bestwise submitted Rev.0 on 08 Jan 2020.  |
|  | Submission and Acceptance of Design of footing for FRP Filtrate Equalization Tank                   | 15/06/2020 -> 07/09/2020**         | 2/9/2020                               | 30/07/2020 -> 22/10/2020*    | 19/2/2021                        | Task Completed                             |                         |                |                    | 100%              |          | ** = Change of material of temporary filtrate equalization tank from concrete to FRP on 07 Sep 2020.<br>- Re-design work was proceeded and the planned start date was revised to 17 Aug 2020.<br>- Design of Footing was submitted on 8 Feb 2021.  |
|  | Submission and Acceptance of Design of Formwork & Flasework Design for Construction of Lifting Well | 15/06/2020 -> 17/08/2020*          | 2/9/2020                               | 30/07/2020 -> 30/11/2020*    | 15/1/2021                        | Task Completed                             |                         |                |                    | 100%              |          | - * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020.<br>- Bestwise submitted Rev.0 on 12 Jan 2020.  |

| Item   | Major Activities & Submission in coming 3 months   | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action   | Remarks / Status  |
|--|--|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|--|---|
|  |  | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |  |   |
|  | Submission and Acceptance of Contractor's Design for Temporary Filtrate Equalisation System (E&M Works) (CDS010-2) | 01/06/2020 -> 7/9/2020**           | 5/7/2020                               | 30/07/2020 -> 30/11/2020*    | 30/7/2021                        | Task Completed                             |                         |                |                    | -                 | Bestwise   | ** = Change of material of temporary filtrate equalization tank from concrete to FRP on 07 Sep 2020.<br>- Bestwise submitted (CDS 0010 Rev.0) on 6 August 2020, AECOM commented on 27 Aug 2020. Bestwise to resubmit (Separate submissions P&M0049, DWG0038, CDS0026, P&M0008, P&M0004, CDS0037, CDS0027, DWG0040 were submitted)<br>- Control philosophy (CDS0027 Rev.0) was submitted on 22 Dec 2020. AECOM commented on 13 Jan 2021, Bestwise resubmitted on 27 May 2021 formally, AECOM accepted with comments on 4 Jun 2021. |
|  | Drawing Submission   | 01/06/2020 -> 17/08/2020*          | 29/9/2020                              | 30/07/2020 -> 30/11/2020*    | 5/3/2021                         | Task Completed                             |                         |                |                    | 100%              | Bestwise   | - * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020.<br>- Bestwise submitted (rev.0) on 29 Oct 2020 and resubmitted (rev.2) on 25 Jan 2021, AECOM accepted on 5 Feb 2021.  |
|  | Material Submission  | 01/06/2020 -> 17/08/2020*          | 29/11/2020                             | 30/07/2020 -> 30/11/2020*    | 25/2/2021                        | Task Completed                             |                         |                |                    | 100%              | Bestwise   | ** = Change of material of temporary filtrate equalization tank from concrete to FRP on 07 Sep 2020.<br>- P&M submission of temporary filtrate equalization tank (P&M 0030 Rev.1) on 29 Jan 2021. AECOM accepted subject to comments on 25 Feb 2021.  |
| Subletting Package for Temporary Filtrate Equalization System                      | Tender invitation (C11) (EQT-002 & EQT-004)  | 17/4/2020                          | 17/4/2020                              | 7/5/2020                     | 7/5/2020                         | Task Completed                             |                         |                |                    | 100%              |  |   |
|  | Tender award (C11) (EQT-002 & EQT-004)   | 14/4/2020                          | 24/4/2020                              | 13/5/2020                    | 13/5/2020                        | Task Completed                             |                         |                |                    | 100%              | Bestwise   | Bestwise submitted tender report on 29 April 2020 for filtrate pumps, AECOM commented on 29 May 2020, Bestwise to resubmit.<br>Bestwise submitted tender report of instrument on 13 May 2020, AECOM noted on 26 May   |
|  | Acceptance of tender award (C11) (EQT-002 & EQT-004)   | 25/4/2020                          | 25/4/2020                              | 21/5/2020                    | 21/5/2020                        | Task Completed                             |                         |                |                    | 100%              | Bestwise   |   |
|  | Material Submission  | 20/07/2020 ->                      | 16/10/2020                             | 20/08/2020 ->                | 5/2/2021                         | Task Completed                             |                         |                |                    | -                 | Bestwise   | ** = Change of material of temporary filtrate equalization tank from concrete to FRP on 18  |
|  | Submission of subletting package for acceptance (C9)   | 1/3/2020                           | 13/7/2020                              | 14/3/2020                    | 13/7/2020                        | Task Completed                             |                         |                |                    | 100%              |  |   |
|  | Acceptance of subletting package (C9)  | 15/3/2020                          | 14/7/2020                              | 28/3/2020                    | 14/7/2020                        | Task Completed                             |                         |                |                    | 100%              |  |   |
|  | Tender invitation (C9)   | 29/3/2020                          | 15/7/2020                              | 11/4/2020                    | 22/7/2020                        | Task Completed                             |                         |                |                    | 100%              |  |   |
|  | Tender award (C9)  | 12/4/2020                          | 23/7/2020                              | 25/4/2020                    | 13/8/2020                        | Task Completed                             |                         |                |                    | 100%              |  |   |
|  | Acceptance of tender award for civil construction work (C9)  | 26/04/2020                         | 14/8/2020                              | 5/5/2020                     | 2/9/2020                         | Task Completed                             |                         |                |                    | 100%              |  |   |
|  | Preparation of subletting package for mech work (C9)   | 01/08/2020 -> 01/12/2020*          | 25/1/2021                              | 08/08/20 -> 08/12/2020*      | 1/3/2021                         | Task Completed                             |                         |                |                    | 100%              |  | * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020.<br>Subletting package would be submitted on 25 Feb 2021 and AECOM accepted on 1 Mar   |
|  | Tender invitation for mech work (C9)   | 08/08/20 ->                        | 2/3/2021                               | 15/08/2020 ->                | 9/3/2021                         | Task Completed                             |                         |                |                    | 100%              |  | Tender invitation was conducted on 2 Mar 2021 and returned on 9 Mar 2021  |
|  | Tender Award for mech work (C9)  | 15/08/2020 ->                      | 10/3/2021                              | 22/08/2020 ->                | 15/3/2021                        | Task Completed                             |                         |                |                    | 100%              |  | Tender report was submitted on 15 Mar 2021  |
|  | Acceptance of tender award for mech work (C9)  | 22/08/2020 ->                      | 15/3/2021                              | 29/08/2020 ->                | 19/3/2021                        | Task Completed                             |                         |                |                    | 100%              |  | Tender award on 19 Mar 2021.  |
|  | Preparation of subletting package for elect work (C9)  | 01/08/2020 -> 01/12/2020*          | 2/2/2021                               | 08/08/20 -> 08/12/2020*      | 1/3/2021                         | Task Completed                             |                         |                |                    | 100%              |  | * = PMI014 - Revised Location for Construction of Temporary Filtrate Equalization System received on 17 Aug 2020.<br>Subletting package resubmitted on 26 Feb 2021 and AECOM accepted on 1 Mar 2021..   |
| Tender invitation for elect work (C9)  | 01/08/2020 ->  | 2/3/2021                           | 15/08/2020 ->                          | 9/3/2021                     | Task Completed                   |  |                         |                | 100%               |                   | Tender invitation was conducted on 2 Mar 2021 and returned on 9 Mar 2021 |   |
| Tender Award for elect work (C9)   | 08/08/20 ->  | 10/3/2021                          | 22/08/2020 ->                          | 15/3/2021                    | Task Completed                   |  |                         |                | 100%               |                   | Tender report was submitted on 15 Mar 2021                               |   |
| Acceptance of tender award for elect work (C9)                                     | 15/08/2020 -> 15/12/2020*  | 15/3/2021                          | 29/08/2020 -> 29/12/2020*              | 19/3/2021                    | Task Completed                   |  |                         |                | 100%               |                   | Tender award on 19 Mar 2021.   |   |
| Construction of Temporary Filtrate Equalisation System                             | Construction of minor civil works under PMI 014  | 22/08/2020 -> 22/12/2020*          | 5/10/2020                              | 15/10/2020                   | 31/3/2021                        | Task Completed                             |                         |                |                    | 100%              | Bestwise   | Utilities survey report of lifting well and EQ tank were submitted on 23 Sept 2020 and 29 Sept 2020. AECOM commented lifting well on 29 Sept 2020.  |
|  | RC Structure Works of lifting well   | 7/11/2020                          | 12/1/2021                              | 30/12/2020                   | 25/2/2021                        | Task Completed                             |                         |                |                    | 100%              |  |   |
|  | Construction of concrete plinth for filtrate EQ tank   | 23/1/2021                          | 8/2/2021                               | 1/2/2021                     | 26/2/2021                        | Task Completed                             |                         |                |                    | 100%              |  |   |
|  | Offsite fabrication and delivery of filtrate EQ tank   | 31/10/2020                         | 16/1/2021                              | 2/2/2021                     | 4/3/2021                         | Task Completed                             |                         |                |                    | 100%              |  | First batch of filtrate EQ tank panel was delivered on 4 Mar 2021.  |
|  | Onsite assembly of filtrate EQ tank  | 2/2/2021                           | 1/3/2021                               | 12/3/2021                    | 16/4/2021                        | Task Completed                             |                         |                |                    | 100%              |  |   |
| 6B.2.16 Temporary Filtrate Equalisation System                                     | Mechanical Installation  | 17/3/2021                          | 30/3/2021                              | 12/4/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    | -                 |  |   |
|  | Electrical Installation  | 13/3/2021                          | 29/3/2021                              | 15/4/2021                    | 10/12/2021                       | Task Completed                             |                         |                |                    | -                 |  | PLC programme for water spray system (stage 1) is on-going, motorized gate valve for stage 2 under PMI is being fabricated and the delivery lead time is by end November.   |
|  | Testing and Commissioning  | 15/4/2021                          | 22/4/2021                              | 1/5/2021                     | 30/11/2022                       | Completed                                  |                         |                |                    | -                 |  | Defect rectification for BCM comments was partially completed and Site Acceptance Test (72 hours) was completed.  |
|  |  |                                    |  |                              |                                  |  |                         |                |                    |                   |  |   |
| 6B.1.17 Overall plant treatment process review by the Treatment Process Specialist | Submission of Treatment Process Specialist's review report   | 1/6/2020                           | 1/6/2020                               | 30/6/2020                    | 2/7/2020                         | Task Completed                             |                         |                |                    | -                 | Bestwise   | Preliminary Draft submitted, meeting completed on 15 May 2020 with SRE and TPS. Initial process design evaluation was submitted on 20 May 2020. Design calculation submitted on   |
|  | Acceptance of submission for further design  | 14/6/2020                          | 3/7/2020                               | 30/6/2020                    | 17/7/2020                        | Task Completed                             |                         |                |                    | -                 |  |   |

Contract No. DE/2018/04  
 Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1  
 - E&M Works for Sewage Treatment Facilities  
 3 Month Rolling Programme (From 01/12/2023 to 01/02/2024)

Updated on: **20-Jan-24**

| Item   | Major Activities & Submission in coming 3 months   | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action   | Remarks / Status   |
|--|--|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|----------|--|
|  |  | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |          |  |
| 6B Overall plant process equipment sizing review | Submission of Contractor's Design Calculation for Acceptance of submission for further detail design | 1/6/2020<br>14/6/2020              | 1/6/2020<br>3/7/2020                   | 30/6/2020<br>30/6/2020       | 2/7/2020<br>17/7/2020            | Task Completed<br>Task Completed           |                         |                |                    | -<br>-            | Bestwise | Preliminary Draft submitted, meeting completed on 15 May 2020 with SRE and TPS. Initial  |
| 6B.2.1 Inlet Works                               | Submission of Contractor's Design for Inlet Works No. 1  | 6/9/2020                           | 16/11/2020                             | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    | -                 | Bestwise | All finalized design calculations for Inlet Works no.1 shall be submitted by 20 Jan 2023.  |
|  | Submission of P&M Submission   | 6/9/2020                           | 7/9/2020                               | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          | P&M0022 - Inlet Pumps (status: B)<br>P&M0003 - Coarse Screens & Fine Screens (status: B)<br>P&M0085 - Grit Traps (status: B)<br>P&M0084 - Screw Compactor (status: B)<br>P&M0042 - Screw Conveyors for Coarse Screens and Fine Screens (status: B)<br>All P&M for Inlet Works no.1 shall be submitted by 20 Jan 2023.  |
|  | Submission of P&ID Drawing   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 29/12/2020                       | Task Completed                             |                         |                |                    |                   |          | PID (rev.B) submitted on 13 Nov 2020. AECOM accepted subject to comments on 29 Dec 2020.   |
|  | Submission of GA Drawing   | 6/9/2020                           | 5/1/2021                               | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          | E&M GA submission DWG0082 resubmitted on 9 July 2021. AECOM commented on 19 Feb 2021. Bestwise reviewed GA in BIM with AECOM on 12 Jan 2022. Electrical GA DWG0095 resubmitted on 3 July 2021. AECOM commented on 21 Apr 2021. Bestwise reviewed GA in BIM with AECOM on 12 Jan 2022. All finalized drawings for Inlet Works no.1 shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 5, 12, 19/5/2022. |
|  | Submission of Electrical Drawing   | 6/9/2020                           | 15/1/2021                              | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          | Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. All finalized drawings for Inlet Works no.1 shall be submitted by 20 Jan 2023.   |
|  | Acceptance of submission   | 15/5/2021                          | 15/5/2021                              | 29/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    | -                 |          |  |
|  | Submission of detailed design for electrical installation for Inlet Works No. 1 (CDS021)             | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |  |
|  | Submission of detailed design for LV Switchboards for Inlet Works No. 1 (CDS025-1)                   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |  |
|  | Submission of detailed design for electrical installation BS for Inlet Works No. 1 (CDS034-1)        | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |  |
|  | Submission of civil work requirements for Inlet Works No. 1 up to +8.0 mPD (CDS080-1)                | 1/9/2020                           | 1/9/2020                               | 30/10/2020                   | 30/10/2020                       | Task Completed                             |                         |                |                    |                   |          |  |
|  | KD1A: Submission of civil requirement drawing for Inlet Works No. 1 up to +8.0 mPD (First Draft)     | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 17/9/2020                        | Task Completed                             | no.                     | 3              | 3                  | 100%              |          | 1st draft of drawing submitted on 17 September 2020  |
|  | KD1A: Submission of civil requirement drawing for Inlet Works No. 1 up to +8.0 mPD (Final)           | 28/8/2020                          | 18/9/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             | no.                     | 3              | 3                  | 100%              | Bestwise | Bestwise resubmitted (rev.A) on 27 Oct 2020.   |
|  | KD1A: Submission of electrical schematic drawings for Inlet Works No. 1 (First Draft)                | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 30/9/2020                        | Task Completed                             | no.                     | 2              | 2                  | 100%              |          | 1st draft of drawing submitted on 30 September 2020  |
|  | KD1A: Submission of electrical schematic drawings for Inlet Works No. 1 (Final)                      | 7/9/2020                           | 1/10/2020                              | 5/11/2020                    | 20/10/2020                       | Task Completed                             | no.                     | 2              | 2                  | 100%              | Bestwise | Bestwise submitted on 20 Oct 2020  |
|  | KD1A: 6 November 2020  |                                    |  |                              |                                  |  |                         |                |                    |                   |          | Notice of completion works was submitted on 17 Nov 2020  |
| 6B.2.2 Primary Sedimentation Tank No. 1-4        | Submission of Contractor's Design for Primary Sedimentation Tanks No. 1-4                            | 6/9/2020                           | 28/12/2020                             | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    | -                 | Bestwise | PFD (rev.B) under DWG0004 submitted on 22 June 2021. Finalized design calculations for PST shall be submitted by 20 Jan 2023.  |
|  | Submission of P&M Submission   | 6/9/2020                           | 26/11/2020                             | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          | P&M0058 - Lamella Plate Settler (status: B)<br>P&M0097 - Scum Skimmer and Scum Collection Pipe (status: B)<br>P&M0086 - Sludge Bottom Scraper (status: B)<br>P&M0051 - Drain Pump (status: B)<br>P&M0044 - Primary Sludge Pump (status: B)<br>Finalized material submissions for PST shall be submitted by 20 Jan 2023.  |
|  | Submission of P&ID Drawing   | 6/9/2020                           | 2/10/2020                              | 14/5/2021                    | 24/6/2021                        | Task Completed                             |                         |                |                    |                   |          | PID under DWG0037 (rev.1) submitted on 24 June 2021 and is accepted by AECOM.  |

| Item                                      | Major Activities & Submission in coming 3 months  | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action   | Remarks / Status  |   |
|---|---|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|----------|---|---|
|   |   | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |          |   |   |
|   | Submission of GA Drawing  | 6/9/2020                           | 3/2/2021                               | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          | Mechanical GA was submitted on 19 Jun 2021. Electrical GA under DWG0103 (rev.1) was submitted on 6 Jul 2021 and is accepted by AECOM. Finalized drawings for PST shall be submitted by 30 Aug 2022. |   |
|   | Submission of Electrical Drawing  | 6/9/2020                           | 15/1/2021                              | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          | Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. Finalized drawings for PST shall be submitted by 20 Jan 2023.   |   |
|   | Acceptance of submission  | 15/5/2021                          | 2/4/2021                               | 29/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    | -                 |          | Refer to outstanding list under "Certificate of completion no.1 - section 1 of the works".  |   |
|   | Submission of detailed design for electrical installation   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |   |
|   | Submission of detailed design for LV Switchboards for Primary Sedimentation Tanks (CDS025-2)            | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |   |
|   | Submission of detailed design for electrical installation   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |   |
|   | Submission of civil work requirements for Primary Sedimentation Tanks up to +8.0 mPD (CDS080-2)         | 1/9/2020                           | 1/9/2020                               | 30/10/2020                   | 30/10/2020                       | Task Completed                             |                         |                |                    |                   |          |   |   |
|   | KD1A: Submission of civil requirement drawing for Primary Sedimentation Tanks No. 1-4 up to +8.0 mPD    | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 30/9/2020                        | Task Completed                             | no.                     | 4              | 4                  | 100%              |          | 1st part of drafted drawing (2 nos.) was submitted on 23 Sept 2020. Remaining drawings (2 nos.) were submitted on 30 Sept 2020.   |   |
|   | KD1A: Submission of civil requirement drawing for Primary Sedimentation Tanks No. 1-4 up to +8.0 mPD    | 28/8/2020                          | 1/10/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             | no.                     | 4              | 4                  | 100%              | Bestwise | Bestwise resubmitted (Rev.A) on 27 Oct & 13 Nov 2020.   |   |
|   | KD1A: Submission of electrical schematic drawings for Primary Sedimentation Tanks No. 1-4 (First Draft) | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 30/9/2020                        | Task Completed                             | no.                     | 1              | 1                  | 100%              |          | 1st draft of drawing submitted on 30 September 2020   |   |
|   | KD1A: Submission of electrical schematic drawings for Primary Sedimentation Tanks No. 1-4 (Final)       | 7/9/2020                           | 1/10/2020                              | 5/11/2020                    | 20/10/2020                       | Task Completed                             | no.                     | 1              | 1                  | 100%              | Bestwise | Bestwise submitted on 20 Oct 2020   |   |
|   | KD1A: 6 November 2020   |                                    |  |                              |                                  |  |                         |                |                    |                   |          | Notice of completion works was submitted on 17 Nov 2020   |   |
|   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |   |   |
| 6B.2.3 Chemical Storage and Dosing System | Submission of Contractor's Design for Chemical Dosing System (CDS006)                                   | 6/9/2020                           | 7/1/2021                               | 14/5/2021                    | 29/10/2021                       | Task Completed                             |                         |                |                    |                   | -        | Bestwise  | Design calculation (rev.0) of CHS1 and TCHS submitted on 2 Sep 2020 and 28 Aug 2020, AECOM commented on 24 Sep and 6 Oct 2020, Bestwise submitted CDS0060 on 15 Jul 2021 and CDS0044 on 19 Jul 2021. Finalized design calculation for chemical systems was submitted on 29 Oct 2021.  |
|   | Submission of P&M Submission  | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 30/10/2021                       | Task Completed                             |                         |                |                    |                   |          |   | Finalized material submissions for chemical system was submitted on 30 Oct 2021.  |
|   | Submission of P&ID Drawing  | 6/9/2020                           | 11/12/2020                             | 14/5/2021                    | 29/6/2021                        | Task Completed                             |                         |                |                    |                   |          |   | PID resubmitted under DWG0053 (rev.1) on 28 Jun 2021, DWG0057 (rev.1) on 29 Jun 2021 and DWG0058 (rev.1) on 29 Jun 2021.  |
|   | Submission of GA Drawing  | 6/9/2020                           | 8/2/2021                               | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          |   | Electrical GA drawings for CS1 under DWG0096 submitted on 10 April 2021. AECOM accepted subject to comments on 17 Apr 2021. Mechanical GA drawings for CS1 submitted on 1 April 2021. AECOM commented on 24 April 2021. Bestwise resubmitted DWG0093 (rev.1) on 30 Jun 2021 and is accepted by AECOM. Mechanical GA for Temp CS submitted on 12 Jun 2021. All finalized drawings for chemical systems shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 17, 21, 28/4/2022. |
|   | Submission of Electrical Drawing  | 6/9/2020                           | 15/1/2021                              | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          |   | Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit. All finalized drawings for chemical system shall be submitted by 20 Jan 2023.   |
|   | Acceptance of submission  | 15/5/2021                          | 15/5/2021                              | 29/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   | -        |   |   |
|   | Submission of detailed design for electrical installations  | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |   |
|   | Submission of detailed design for electrical installations  | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |   |
|   | Submission of detailed design for electrical installations  | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |   |
|   | Submission of detailed design for electrical installation   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |   |
|   | KD1A: Submission of civil requirement drawing for   | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 16/9/2020                        | Task Completed                             | no.                     | 2              | 2                  | 100%              |          |   | 1st draft of drawing submitted on 15 September for CHS1 and 16 September 2020 for   |
|   | KD1A: Submission of civil requirement drawing for   | 7/9/2020                           | 17/9/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             | no.                     | 2              | 2                  | 100%              |          |   | Bestwise resubmitted (Rev.A) on 5 Nov 2020.   |
|   | KD1A: Submission of electrical schematic drawings for   | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 15/9/2020                        | Task Completed                             |                         |                |                    |                   | -        |   | 1st draft of drawing to be submitted by 16 September 2020   |
|   | KD1A: Submission of electrical schematic drawings for Chemical System No. 1 and No. 2 (Final)           | 7/9/2020                           | 16/9/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             |                         |                |                    |                   |          |   |   |
|   | KD1A: Submission of civil requirement drawing for Temporary Chemical System up to +8.0 mPD (First       | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 15/9/2020                        | Task Completed                             | no.                     | 1              | 1                  | 100%              |          |   | 1st draft of drawing submitted on 15 September 2020   |

| Item   | Major Activities & Submission in coming 3 months   | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action   | Remarks / Status  |
|--|--|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|----------|---|
|  |  | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |          |   |
|  | KD1A: Submission of civil requirement drawing for Temporary Chemical System up to +8.0 mPD (Final) | 7/9/2020                           | 16/9/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             | no.                     | 1              | 1                  | 100%              |          | Bestwise resubmitted (Rev.A) on 5 Nov 2020.   |
|  | KD1A: Submission of electrical schematic drawings for Temporary Chemical System (First Draft)      | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 15/9/2020                        | Task Completed                             |                         |                |                    | -                 |          | 1st draft of drawing to be submitted by 16 September 2020   |
|  | KD1A: Submission of electrical schematic drawings for KD1A: 6 November 2020                        | 7/9/2020                           | 16/9/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             |                         |                |                    |                   |          | Notice of completion works was submitted on 17 Nov 2020   |
|  |  |                                    |  |                              |                                  |  |                         |                |                    |                   |          |   |
| 6B.2.4 Membrane Bioreactor (MBR) System - Bio Reactor 2A and 2B                        | Submission of Contractor's Design for Bioreactor 2A and 2B (CDS004)                                | 6/9/2020                           | 12/1/2021                              | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    | -                 | Bestwise | PFD (rev.1) submitted on 3 Nov 2020. AECOM accepted on 7 Dec 2020 subject to comment.<br>MBR system process and design calculation (rev.2) submitted on 6 Nov 2020. AECOM accepted on 17 Nov 2020 subject to comments.<br>Electrical CDS submitted on 23 Jun 2021.<br>Finalized design calculations shall be submitted by 20 Jan 2023.  |
|  | Submission of P&M Submission   | 6/9/2020                           | 26/11/2020                             | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          | P&M0060 - Pre-treatment Fine Screen (status: B)<br>P&M0053 - MLR Pump (status: B)<br>P&M0118 - Scum Skimmer & Scum Pump (status: C)<br>P&M0088 - Fine Bubble Air Diffuser (status: B)<br>P&M0xxx - Wash Compactor (status: B)<br>P&M0041 - Submersible Mixer (status: B)<br>Finalized material submission shall be submitted by 20 Jan 2023.  |
|  | Submission of P&ID Drawing   | 6/9/2020                           | 2/11/2020                              | 14/5/2021                    | 2/7/2021                         | Task Completed                             |                         |                |                    |                   |          | PID (Rev.1) under DWG0042 resubmitted on 6 July 2021.   |
|  | Submission of GA Drawing   | 6/9/2020                           | 17/2/2021                              | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          | Mechanical GA under DWG0132 submitted on 26 Jun 2021 and is accepted by AECOM.<br>Electrical GA submitted on 23 Jun 2021.<br>Finalized drawing shall be submitted by 30 June 2022.<br>BIM GA review meeting is scheduled on 1, 8, 15/6/2022.  |
|  | Submission of Electrical Drawing   | 6/9/2020                           | 15/1/2021                              | 14/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   |          | Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit.<br>Finalized drawing shall be submitted by 20 Jan 2023.   |
|  | Acceptance of submission   | 15/5/2021                          | 15/5/2021                              | 29/5/2021                    | 31/12/2023                       | 102%                                       |                         |                |                    |                   | -        |   |
|  | Submission of detailed design for electrical installation  | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |
|  | Submission of detailed design for LV Switchboards for BR 2A and 2B (CDS025-3)                      | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |
|  | Submission of detailed design for electrical installation  | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |
|  | Submission of civil work requirements for BR 2A and 2B up to +8.0 mPD (CDS080-3)                   | 1/9/2020                           | 1/9/2020                               | 30/10/2020                   | 30/10/2020                       | Task Completed                             |                         |                |                    |                   |          |   |
|  | KD1A: Submission of civil requirement drawing for BR 2A and 2B up to +8.0 mPD (First Draft)        | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 30/9/2020                        | Task Completed                             | no.                     | 2              | 2                  | 100%              |          | 1st draft of drawing submitted on 30 September 2020   |
|  | KD1A: Submission of civil requirement drawing for BR 2A and 2B up to +8.0 mPD (Final)              | 28/8/2020                          | 1/10/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             | no.                     | 2              | 2                  | 100%              | Bestwise | AECOM commented on 23 Oct 2020, Bestwise resubmitted on 5 Nov 2020.   |
|  | KD1A: Submission of electrical schematic drawings for BR 2A and 2B (First Draft)                   | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 30/9/2020                        | Task Completed                             |                         |                |                    | -                 |          | 1st draft of drawing was sent to AECOM via email on 15 September 2020   |
|  | KD1A: Submission of electrical schematic drawings for KD1A: 6 November 2020                        | 7/9/2020                           | 1/10/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             |                         |                |                    |                   |          | Notice of completion works was submitted on 17 Nov 2020   |
|  |  |                                    |  |                              |                                  |  |                         |                |                    |                   |          |   |
| 6B.2.4 Membrane Bioreactor (MBR) System - Membrane Filtration System No. 2 (MFB No. 2) | Submission of Contractor's Design for Membrane Filtration System (CDS005)                          | 6/9/2020                           | 11/1/2021                              | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    | -                 | Bestwise | PFD (rev.1) submitted on 3 Nov 2020. AECOM accepted on 10 Dec 2020 subject to comment.<br>MBR system process and design calculation (rev.2) submitted on 6 Nov 2020. AECOM accepted on 17 Nov 2020 subject to comments.<br>Finalized design calculations shall be submitted by 30 Aug 2022.   |
|  | Submission of P&M Submission   | 6/9/2020                           | 19/11/2020                             | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          | P&M0072 - Membrane Module (status: B)<br>P&M0069 - Permeate Pump (status: B)<br>P&M0047 - RAS Pump (status: B)<br>P&M0050 - Drain Pump (status: B)<br>P&M0074 - Air Scour Blower (status: C)<br>P&M0073 - Aeration Blower (status: C)<br>P&M0093 - Air Compressor (status: B)<br>P&M0091 - Chemical Pump (status: B)<br>P&M0xxx - Chemical Tank (to be submitted)<br>Finalized material submission shall be submitted by 20 Jan 2023. |
|  | Submission of P&ID Drawing   | 6/9/2020                           | 30/10/2020                             | 14/5/2021                    | 2/7/2021                         | Task Completed                             |                         |                |                    |                   |          | DWG0049 (Rev.1) was resubmitted on 2 Jul 2021.  |
|  | Submission of GA Drawing   | 31/3/2021                          | 18/2/2021                              | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          | DWG0121 (rev.1) was resubmitted to AECOM on 17 Jul 2021<br>Finalized drawings shall be submitted by 30 June 2022.<br>BIM GA review meeting is scheduled on 19, 26/5/2022 and 2/6/2022 (Lower part)<br>BIM GA review meeting is scheduled on 16, 23, 30/6/2022 (Upper part)  |

| Item   | Major Activities & Submission in coming 3 months  | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action   | Remarks / Status   |
|--|---|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|----------|--|
|  |   | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |          |  |
|  | Submission of Electrical Drawing  | 15/4/2021                          | 15/1/2021                              | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          | Electrical SLD submitted on 5 Feb 2021. AECOM commented on 20 Feb 2021. Bestwise to resubmit.<br>Electrical GA under DWG0079 (rev.1) was resubmitted on 8 Jul 2021.<br>Finalized drawings shall be submitted by 20 Jan 2023. |
|  | Acceptance of submission  | 15/5/2021                          | 15/5/2021                              | 29/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    | -                 |          |  |
|  | Submission of detailed design for electrical installation   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |  |
|  | Submission of detailed design for LV Switchboards for   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |  |
|  | Submission of detailed design for electrical installation BS for MFB (CDS034-4)                                 | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |  |
|  | Submission of civil work requirements for MFB up to   | 1/9/2020                           | 1/9/2020                               | 30/9/2020                    | 30/9/2020                        | Task Completed                             |                         |                |                    |                   |          |  |
|  | KD1A: Submission of civil requirement drawing for   | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 30/9/2020                        | Task Completed                             | no.                     | 7              | 7                  | 100%              |          | 1st draft of drawing submitted on 30 September   |
|  | KD1A: Submission of civil requirement drawing for MFB No. 2 up to +8.0 mPD (Final)                              | 28/8/2020                          | 1/10/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             | no.                     | 7              | 7                  | 100%              | Bestwise | Bestwise resubmitted (Rev.1) on 5 Nov 2020.  |
|  | KD1A: Submission of electrical schematic drawings for   | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 30/9/2020                        | Task Completed                             | no.                     | 3              | 3                  | 100%              |          | 1st draft of drawing submitted on 30 September 2020  |
|  | KD1A: Submission of electrical schematic drawings for MFB No. 2 (Final)   | 7/9/2020                           | 1/10/2020                              | 5/11/2020                    | 20/10/2020                       | Task Completed                             | no.                     | 3              | 3                  | 100%              | Bestwise | Bestwise submitted (Rev.1) on 20 Oct 2020  |
|  | KD1A: 6 November 2020   |                                    |  |                              |                                  |  |                         |                |                    |                   |          | Notice of completion works was submitted on 17 Nov 2020  |
|  |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |  |
| 6B.2.6 Deodorisation System (EQT-001 - Deodorization Unit) | Tender invitation (C11)   | 17/4/2020                          | 17/4/2020                              | 24/4/2020                    | 24/4/2020                        | Task Completed                             |                         |                |                    | 100%              |          |  |
| 6B.2.6 Deodorisation System (EQT-001 - Deodorization Unit) | Tender award (C11)  | 25/4/2020                          | 25/4/2020                              | 12/5/2020                    | 12/5/2020                        | Task Completed                             |                         |                |                    | 100%              | Bestwise | Bestwise submitted tender report on 13 May 2020. AECOM commented on 23 July 2020, Bestwise to resubmit.  |
|  | Acceptance of tender award (C11)  | 13/5/2020                          | 13/5/2020                              | 21/5/2020                    | 21/5/2020                        | Task Completed                             |                         |                |                    | 100%              |          |  |
|  | Submission of Contractor's Design for Deodorisation System , DOU No. 1 (CDS0019 & CDS0045 )                     | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 31/12/2021                       | Task Completed                             |                         |                |                    | -                 |          | Design Calculation (Rev.0) was submitted on 24 Nov 2020. AECOM commented on 6 Jan 2021, Bestwise to resubmit. Bestwise submitted CDS0045 on 3 June 2021. Finalized design was completed.                                     |
|  | Submission of P&ID Drawing of DOU No. 1   | 6/9/2020                           | 5/8/2020                               | 14/5/2021                    | 2/7/2021                         | Task Completed                             |                         |                |                    | -                 | Bestwise | Bestwise resubmitted rev.3 on 29 Mar 2021. AECOM accepted subject to comments on 13 Apr 2021.  |
|  | Submission of GA Drawing of DOU No. 1   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          | GA submitted on 21 Jun 2021<br>Finalized drawings shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 11, 18, 25/5/2022.  |
|  | Submission of Electrical Drawing of DOU No. 1   | 21/3/2021                          | 30/1/2021                              | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          | Control wiring diagrams was resubmitted on 1 April 2021. AECOM commented on 23 Apr 2021. Bestwise to resubmit.<br>Finalized drawings shall be submitted by 20 Jan 2023.  |
|  | Acceptance of submission  | 15/5/2021                          | 15/5/2021                              | 29/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    | -                 |          |  |
|  | KD1A: Submission of civil requirement drawing for Deodorisation System , DOU No. 1 up to +8.0 mPD (First Draft) | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 28/9/2020                        | Task Completed                             | no.                     | 1              | 1                  | 100%              |          | 1st draft of drawing was submitted on 28 September 2020  |
|  | KD1A: Submission of civil requirement drawing for Deodorisation System , DOU No. 1 up to +8.0 mPD (Final)       | 28/8/2020                          | 29/9/2020                              | 2/11/2020                    | 5/11/2020                        | Task Completed                             | no.                     | 1              | 1                  | 100%              | Bestwise | Bestwise resubmitted (rev.1) on 5 Nov 2020.  |
|  | Submission of Contractor's Design for Deodorisation System , DOU No. 2A (CDS0019 & CDS0048)                     | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 10/12/2021                       | Task Completed                             |                         |                |                    | -                 |          | CDS0019: Design Calculation for Deodorisation System (status: B)<br>CDS0048: Design Calculation on DOU2A - air extraction fan (status: B)  |
|  | Submission of P&ID Drawing of DOU No. 2A  | 6/9/2020                           | 5/8/2020                               | 14/5/2021                    | 2/7/2021                         | Task Completed                             |                         |                |                    | -                 | Bestwise | Bestwise resubmitted rev.3 on 29 Mar 2021. AECOM accepted subject to comments on 13 Apr 2021.  |
|  | Submission of GA Drawing of DOU No. 2A  | 6/9/2020                           | 3/8/2020                               | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    | -                 | Bestwise | Bestwise submitted (rev.1) on 30 Nov 2020. AECOM commented on 16 Dec 2020. Bestwise to resubmit.<br>Finalized drawings shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 1, 8, 15/6/2022.         |
|  | Submission of Electrical Drawing of DOU No. 2A  | 21/3/2021                          | 26/1/2021                              | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          | Bestwise submitted (rev.0) on 26 Jan 2021, AECOM commented on 4 Feb 2021. Bestwise to resubmit.<br>Finalized drawing shall be submitted by 20 Jan 2023.  |
|  | Acceptance of submission  | 15/5/2021                          | 15/5/2021                              | 29/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    | -                 |          |  |
|  | Submission of Contractor's Design for Deodorisation System , DOU No. 3A (CDS0019 & CDS0055)                     | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 10/12/2021                       | Task Completed                             |                         |                |                    | -                 |          | CDS0019: Design Calculation for Deodorisation System (status: B)<br>CDS0055: Design Calculation on DOU3A - air extraction fan (status: B)  |
|  | Submission of P&ID Drawing of DOU No. 3A  | 6/9/2020                           | 5/8/2020                               | 14/5/2021                    | 2/7/2021                         | Task Completed                             |                         |                |                    | -                 | Bestwise | Bestwise resubmitted rev.3 on 29 Mar 2021. AECOM accepted subject to comments on 13 Apr 2021.  |



| Item  | Major Activities & Submission in coming 3 months  | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action   | Remarks / Status  |
|---|---|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|----------|---|
|   |   | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |          |   |
|   | Submission of GA Drawing of DOU No. 3A  | 6/9/2020                           | 8/7/2020                               | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   | Bestwise | Bestwise submitted (rev.1) on 28 Oct 2020. AECOM commented on 16 Dec 2020. Bestwise resubmitted on 24 June 2021. Finalized drawings shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 27/4/2022, 4, 11/5/2022.   |
|   | Submission of Electrical Drawing of DOU No. 3A  | 21/3/2021                          | 26/2/2021                              | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          | Bestwise submitted on 17 Apr 2021. AECOM commented on 27 Apr 2021. Bestwise to resubmit. GA submitted on 24 Jun 2021. Finalized drawing shall be submitted by 20 Jan 2023.  |
|   | Acceptance of submission  | 15/5/2021                          | 15/5/2021                              | 29/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          |   |
|   | KD1A: Submission of civil requirement drawing for Deodorisation System , DOU No. 3A up to +8.0 mPD  | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 28/9/2020                        | Task Completed                             | no.                     | 1              | 1                  | 100%              |          | 1st draft of drawing was submitted on 28 September 2020   |
|   | KD1A: Submission of civil requirement drawing for Submission of Contractor's Design for Deodorisation System , DOU No. 3B (CDS0019 & CDS0049) | 28/8/2020                          | 29/9/2020                              | 2/11/2020                    | 5/11/2020                        | Task Completed                             | no.                     | 1              | 1                  | 100%              | Bestwise | Bestwise resubmitted (rev.1) on 5 Nov 2020.   |
|   | Submission of P&ID Drawing of DOU No. 3B  | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 10/12/2021                       | Task Completed                             |                         |                |                    |                   |          | CDS0019: Design Calculation for Deodorisation System (status: B)<br>CDS0049: Design Calculation on DOU3B - air extraction fan (status: B)   |
|   | Submission of P&ID Drawing of DOU No. 3B  | 6/9/2020                           | 5/8/2020                               | 14/5/2021                    | 2/7/2021                         | Task Completed                             |                         |                |                    |                   | Bestwise | Bestwise resubmitted rev.3 on 29 Mar 2021. AECOM accepted subject to comments on 13 Apr 2021.   |
|   | Submission of GA Drawing of DOU No. 3B  | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          | Bestwise submitted DWG0081 (rev.0) on 5 Feb 2021. AECOM commented on 12 Mar 2021. Bestwise to resubmit. Finalized drawings shall be submitted by 30 June 2022 and BIM GA review meeting is scheduled on 16, 23, 30/6/2022.  |
|   | Submission of Electrical Drawing of DOU No. 3B  | 21/3/2021                          | 22/2/2021                              | 14/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          | GA submitted on 24 Jun 2021. Finalized drawing shall be submitted by 20 Jan 2023.   |
|   | Acceptance of submission  | 15/5/2021                          | 15/5/2021                              | 29/5/2021                    | 31/1/2024                        | 99%  |                         |                |                    |                   |          |   |
|   | Submission of detailed design for electrical installation   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |
|   | Submission of detailed design for LV Switchboards for   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |
|   | Submission of detailed design for electrical installation   | 6/9/2020                           | 6/9/2020                               | 14/5/2021                    | 14/5/2021                        | Task Completed                             |                         |                |                    |                   |          |   |
|   | Submission of civil work requirements for MFB up to   | 1/9/2020                           | 1/9/2020                               | 30/9/2020                    | 30/9/2020                        | Task Completed                             |                         |                |                    |                   |          |   |
|   | Submission of civil requirement drawing for MFB up to   | 28/8/2020                          | 28/8/2020                              | 2/11/2020                    | 2/11/2020                        | Task Completed                             |                         |                |                    |                   |          |   |
|   | KD1A: Submission of electrical schematic drawings for   | 15/7/2020                          | 15/7/2020                              | 15/8/2020                    | 30/9/2020                        | Task Completed                             |                         |                |                    |                   |          | 1st draft of drawing to be submitted by 30 September 2020   |
|   | KD1A: Submission of electrical schematic drawings for   | 7/9/2020                           | 1/10/2020                              | 5/11/2020                    | 5/11/2020                        | Task Completed                             |                         |                |                    |                   |          |   |
|   | KD1A: 6 November 2020   |                                    |  |                              |                                  |  |                         |                |                    |                   |          | Notice of completion works was submitted on 17 Nov 2020   |
|   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |   |
|   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |   |
| 04SC008 - Design, Supply and Installation of detailed design for lifting appliances | Acceptance of tender award (C9)   | -                                  | -                                      | -                            | 6/7/2020                         | Task Completed                             |                         |                |                    | 100%              | -        | AECOM accepted tender report on 6 July 2020.  |
|   | Submission of detailed design for lifting appliances for Inlet Works No. 1 (CDS050-1)   | 6/9/2020                           | 5/12/2020                              | 6/9/2020                     | 31/1/2024                        | 99%  |                         |                |                    |                   |          | DWG 0055 (Rev.0) was submitted on 13 Mar 2021. AECOM commented on 20 Apr 2021. Bestwise to resubmit. Bestwise submitted P&M0025 on 15 June 2021. Finalized design shall be submitted by 20 Jan 2023.  |
|   | Submission of detailed design for lifting appliances for Primary Sedimentation Tanks (CDS050-2)   | 6/9/2020                           | 5/12/2020                              | 6/9/2020                     | 31/1/2024                        | 99%  |                         |                |                    |                   |          | DWG 0054 (Rev.0) was submitted on 18 Jan 2021. AECOM commented on 9 Mar 2021. Bestwise to resubmit. Finalized design shall be submitted by 20 Jan 2023.   |
|   | Submission of detailed design for lifting appliances for BR 2A and 2B (CDS050-3)  | 6/9/2020                           | 5/12/2020                              | 6/9/2020                     | 31/1/2024                        | 99%  |                         |                |                    |                   |          | DWG 0065 (Rev.0) was submitted on 18 Jan 2021. AECOM commented on 9 Mar 2021. Bestwise to resubmit. P&M-0026 (Rev.1) received status B. Finalized design calculation shall be submitted by 20 Jan 2023.   |
|   | Submission of detailed design for lifting appliances for MFB (CDS050-4)   | 6/9/2020                           | 5/12/2020                              | 6/9/2020                     | 31/1/2024                        | 99%  |                         |                |                    |                   |          | DWG 0066 (Rev.1) was submitted on 1 Mar 2021. AECOM commented on 5 Mar 2021. Bestwise to resubmit. P&M-0027 (Rev.1) received status B. Finalized design calculation shall be submitted by 20 Jan 2023.  |
|   | Submission of detailed design for lifting appliances for Temporary Filtration Tank (CDS050-5)   | 6/9/2020                           | 5/12/2020                              | 6/9/2020                     | 21/5/2021                        | Task Completed                             |                         |                |                    |                   |          | DWG 0051 (Rev.2) was resubmitted on 7 May 2021 and acceptance by AECOM subject to condition on 21 May 2021. Bestwise submitted P&M0021 on 21 June 2021.   |
| Building Services System  | Submission for MVAC system  | N/A                                | 10/12/2020                             | N/A                          | 31/1/2024                        | 99%  |                         |                |                    |                   |          | Design calculations and drawings for inlet works was submitted on 16 Dec 2020. AECOM commented on 15 Jan 2021 and 20 Jan 2021. Design calculations and drawings for PST was submitted on 30 Dec 2020. AECOM commented on 22 Jan 2021 and 26 Jan 2021. Design calculations and drawings for MFB2 was submitted on 29 Jan 2021. AECOM commented on 26 Mar 2021. Subletting package resubmitted by 18 Mar 2021. AECOM accepted on 19 Mar 2021. Finalized design shall be submitted by 20 Jan 2023. |



| Item   | Major Activities & Submission in coming 3 months                 | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action | Remarks / Status   |
|--|--|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|--------|--|
|  |  | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |        |  |
| Lightning Protection System for DOU3A (underground)  | Submission and Acceptance for Lightning Protection System Design | 6/12/2021                          | 6/12/2021                              | 31/1/2022                    | 31/1/2022                        | Task Completed                             |                         |                |                    |                   |        |  |
|  | Material Delivery  | 7/2/2022                           | 7/2/2022                               | 28/2/2022                    | 28/2/2022                        | Task Completed                             |                         |                |                    |                   |        |  |
|  | Installation Work  | 31/3/2022                          | 26/4/2022                              | 5/5/2022                     | 5/5/2022                         | Task Completed                             |                         |                |                    |                   |        |  |
|  | Testing & Commissioning  | 7/1/2023                           | 7/1/2023                               | 31/1/2023                    |                                  |  |                         |                |                    |                   |        |  |
| Lightning Protection System for Inlet Works (underground)  | Submission and Acceptance for Lightning Protection System Design | 20/12/2021                         | 20/12/2021                             | 31/1/2022                    | 31/1/2022                        | Task Completed                             |                         |                |                    |                   |        |  |
|  | Material Delivery  | 15/12/2022                         | 1/10/2022                              | 31/3/2022                    | 31/10/2022                       | Task Completed                             |                         |                |                    |                   |        |  |
|  | Installation Work  | 15/3/2022                          | 1/11/2022                              | 30/10/2022                   | 14/12/2022                       | Task Completed                             |                         |                |                    |                   |        |  |
|  | Testing & Commissioning  | 1/11/2022                          | 15/12/2022                             | 15/11/2022                   | 31/12/2022                       |  |                         |                |                    |                   |        |  |
| MFB No.2   | Rail Beam Installation at Basement 2                             | 12/5/2023                          | 22/5/2023                              | 11/7/2023                    |                                  |  |                         |                |                    |                   |        |  |
|  | MVAC Installation at Basement 2                                  | 8/5/2023                           | 8/5/2023                               | 7/7/2023                     |                                  |  |                         |                |                    |                   |        |  |
|  | Fire Services Installation at Basement 2                         | 8/5/2023                           | 8/5/2023                               | 7/7/2023                     |                                  |  |                         |                |                    |                   |        |  |
|  | Plumbing Services Installation at Basement 2                     | 8/5/2023                           | 8/5/2023                               | 7/7/2023                     |                                  |  |                         |                |                    |                   |        |  |
|  | Fire Services Installation at Basement 1                         | 18/11/2023                         |  |                              |                                  |  |                         |                |                    |                   |        |  |
|  | Rail Beam Installation at G/F                                    | 18/11/2023                         | 22/11/2023                             | 18/12/2023                   |                                  |  |                         |                |                    |                   |        |  |
|  | Rail Beam Installation at 1/F                                    | 8/1/2024                           |  | 7/2/2024                     |                                  |  |                         |                |                    |                   |        |  |
|  |  |                                    |  |                              |                                  |  |                         |                |                    |                   |        |  |
| <b>Section 3 of Works</b>  |  |                                    |  |                              |                                  |  |                         |                |                    |                   |        |  |
| 6B.2.12 Provision of New Replacement Filter Plates   | Submission of onsite survey plan for acceptance                  | 1/3/2020                           | 25/3/2020                              | 30/3/2020                    | 21/4/2020                        | Task Completed                             |                         |                |                    | 100%              | -      | Bestwise resubmitted onsite survey plan on 21 April 2020   |
|  | Acceptance of submission of onsite survey plan                   | 1/3/2020                           | 25/3/2020                              | 30/3/2020                    | 12/5/2020                        | Task Completed                             |                         |                |                    | 100%              | -      | Survey plan acceptance received on 12 May 2020. Onsite discussion with ST1 was   |
|  | Submission of onsite survey report                               | 21/5/2020                          | 21/5/2020                              | 29/5/2020                    | 29/5/2020                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|  | Acceptance of onsite survey report                               | 30/5/2020                          | 30/5/2020                              | 15/6/2020                    | 15/6/2020                        | Task Completed                             |                         |                |                    | -                 |        |  |
|  | Preparation of procurement package (C11)                         | 22/6/2020                          | 22/6/2020                              | 6/7/2020                     | 14/7/2020                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|  | Tender invitation (C11)  | 15/7/2020                          | 15/7/2020                              | 22/7/2020                    | 24/7/2020                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|  | Tender Award (C11)   | 23/7/2020                          | 25/7/2020                              | 29/7/2020                    | 31/7/2020                        | Task Completed                             |                         |                |                    | 100%              |        | Revised survey report (second draft) was sent to AECOM on 21 Oct 2020. Technical   |
| 6B.2.12 Provision of New Replacement Filter Plates for Existing Membrane Filter Presses at Existing Sludge Press House | Material Submission  | 21/8/2020                          | 21/8/2020                              | 28/8/2020                    | 7/12/2020                        | Task Completed                             |                         |                |                    | 100%              |        | Material submission (Rev.1) resubmitted on 7 Dec 2020. AECOM accepted subject to comments on 24 Dec 2020. Material submission (Rev. 2) resubmitted on 12 Jan 2021. AECOM accepted subject to comment on 22 Jan 2021. |
|  | Material Delivery  | 1/12/2020                          | 1/12/2020                              | 8/8/2021                     | 13/7/2021                        | Task Completed                             |                         |                |                    | -                 |        | Handed over to DSD.  |
|  | Completion Date of Section 3: 22 September 2021                  |                                    |  |                              |                                  |  |                         |                |                    |                   |        |  |
| <b>Subcontracting</b>  |  |                                    |  |                              |                                  |  |                         |                |                    |                   |        |  |
|  | Submission of subletting package for acceptance                  | 1/1/2020                           | 6/3/2020                               | 30/3/2020                    | 6/3/2020                         | Task Completed                             |                         |                |                    | 100%              | -      |  |
|  | Acceptance of subletting package                                 | 1/3/2020                           | 21/3/2020                              | 30/3/2020                    | 21/3/2020                        | Task Completed                             |                         |                |                    | 100%              | -      |  |
|  | Tender invitation  | 1/3/2020                           | 24/3/2020                              | 1/4/2020                     | 30/3/2020                        | Task Completed                             |                         |                |                    | 100%              | -      |  |
|  | Tender award   | 22/3/2020                          |  | 14/4/2020                    | 6/4/2020                         | Task Completed                             |                         |                |                    | 100%              | -      | Bestwise submitted tender report on 6 April 2020   |
|  | Acceptance of tender award                                       | -                                  | -                                      | -                            | 15/4/2020                        | Task Completed                             |                         |                |                    | 100%              |        | AECOM accepted tender report on 15 April 2020  |
| Construction of Contractor's site accommodation in WA1-C   | Design of MiC  | 15/4/2020                          | 16/4/2020                              | 1/6/2020                     | 15/8/2020                        | Task Completed                             |                         |                |                    | 100%              |        | Revised layout drawings received from AluHouse on 28 May 2020. Comments provided to AluHouse on 2 June 2020.   |

| Item  | Major Activities & Submission in coming 3 months                      | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action   | Remarks / Status  |
|---|---|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|----------|---|
|   |   | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |          |   |
|   | Submission of detailed design including foundation works, septic tank | 1/7/2020                           | 1/7/2020                               | 14/7/2020                    | 4/9/2020                         | Task Completed                             |                         |                |                    | 100%              |          | Design calculation of foundation work was submitted on 7 July 2020, comment received on 27 July 2020. Bestwise to resubmit.   |
|   | Site Clearance Work   | 15/7/2020                          | 20/7/2020                              | 31/7/2020                    | 15/8/2020                        | Task Completed                             |                         |                |                    | 100%              |          | Tender invitation commenced on 29 May 2020 and tenders received on 4 June 2020. Tender  |
|   | Off-site fabrication of Septic tank                                   | 15/7/2020                          | 20/7/2020                              | 31/7/2020                    | 31/7/2020                        | Task Completed                             |                         |                |                    | 100%              |          | Site clearance work started on 20 July 2020   |
|   | Submission of method statement with ICE certificate                   | 1/8/2020                           | 1/8/2020                               | 7/8/2020                     | 8/10/2020                        | Task Completed                             |                         |                |                    | 100%              |          | CV of ICE was submitted on 4 August 2020 and accepted on 25 August 2020   |
|   | Submission of design calculation with ICE certificate                 | 1/8/2020                           | 1/8/2020                               | 7/8/2020                     | 8/10/2020                        | Task Completed                             |                         |                |                    | 100%              |          | Design calculation of foundation work was submitted on 7 July 2020, comment received on   |
|   | Acceptance of method statement and design calculation                 | 8/8/2020                           | 9/10/2020                              | 14/8/2020                    | 16/10/2020                       | Task Completed                             |                         |                |                    | 100%              |          | Method Statement and Design Calculation was submitted on 8 Oct 2020.  |
|   | Submission of method statement with ICE certificate                   | 1/8/2020                           | 1/8/2020                               | 7/8/2020                     | 23/11/2020                       | Task Completed                             |                         |                |                    | 100%              |          |   |
|   | Submission of design calculation with ICE certificate                 | 1/8/2020                           | 1/8/2020                               | 7/8/2020                     | 23/11/2020                       | Task Completed                             |                         |                |                    | 100%              |          |   |
|   | Acceptance of method statement and design calculation                 | 8/8/2020                           | 24/11/2020                             | 14/8/2020                    | 27/11/2020                       | Task Completed                             |                         |                |                    | 100%              |          |   |
|   | Excavation work   | 17/8/2020                          | 21/10/2020                             | 18/8/2020                    | 21/10/2020                       | Task Completed                             |                         |                |                    | 100%              |          |   |
|   | Installation of septic tank   | 19/8/2020                          | 21/10/2020                             | 20/8/2020                    | 22/10/2020                       | Task Completed                             |                         |                |                    | 100%              |          |   |
|   | Construction of RC foundation   | 21/8/2020                          | 23/10/2020                             | 31/8/2020                    | 12/11/2020                       | Task Completed                             |                         |                |                    | 100%              |          |   |
|   | Off-site fabrication and delivery of MiC Office                       | 1/6/2020                           | 30/9/2020                              | 31/7/2020                    | 4/12/2020                        | Task Completed                             |                         |                |                    | 100%              |          |   |
|   | On-site installation of MiC Office                                    | 1/8/2020                           | 4/12/2020                              | 30/8/2020                    | 5/1/2021                         | Task Completed                             |                         |                |                    | 100%              |          |   |
|   | Installation of car park shelter                                      | 4/1/2021                           | 7/1/2021                               | 11/1/2021                    | 9/1/2021                         | Task Completed                             |                         |                |                    | 100%              |          | Subject to the completion of car park shelter of PM office and JEC office.  |
|   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |   |
| 04SC003 - Building Information Modeling (BIM)         | Submission of subletting package for acceptance (C9)                  | 1/3/2020                           | 25/3/2020                              | 14/3/2020                    | 25/3/2020                        | Task Completed                             |                         |                |                    | 100%              | -        |   |
|   | Acceptance of subletting package (C9)                                 | 14/3/2020                          | 2/4/2020                               | 30/3/2020                    | 2/4/2020                         | Task Completed                             |                         |                |                    | 100%              | -        |   |
|   | Tender invitation (C9)  | 1/4/2020                           | 1/4/2020                               | 8/4/2020                     | 9/4/2020                         | Task Completed                             |                         |                |                    | 100%              | -        |   |
|   | Tender award (C9)   | -                                  | -                                      | -                            | 15/4/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Bestwise submitted tender report on 15 April 2020   |
|   | Submission of subletting package for acceptance                       | 14/3/2020                          | 16/3/2020                              | 30/3/2020                    | 20/4/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Bestwise resubmitted on 20 April 2020   |
|   | Acceptance of subletting package                                      | 28/3/2020                          | 4/5/2020                               | 13/4/2020                    | 13/5/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | AECOM accepted subletting package on 13 May 2020  |
|   | Tender invitation   | 11/4/2020                          | 19/6/2020                              | 27/4/2020                    | 26/6/2020                        | Task Completed                             |                         |                |                    | -                 | -        | Invitation to tender was commenced on 19 June 2020 and tender returned on 26 June 2020  |
|   | Tender award  | 25/4/2020                          | 27/6/2020                              | 11/5/2020                    | 4/7/2020                         | Task Completed                             |                         |                |                    | -                 | -        | Bestwise submitted tender report on 30 June 2020  |
|   | Acceptance of tender award  | -                                  | -                                      | -                            | 18/7/2020                        |  |                         |                |                    | -                 | -        |   |
|   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |   |
| 04SC007 - Independent Beam Plus Consultant            | Submission of subletting package for acceptance                       | 1/3/2020                           | 30/3/2020                              | 14/3/2020                    | 30/3/2020                        | Task Completed                             |                         |                |                    | 100%              | -        |   |
|   | Acceptance of subletting package                                      | 14/3/2020                          | 3/4/2020                               | 30/3/2020                    | 3/4/2020                         | Task Completed                             |                         |                |                    | 100%              | -        |   |
|   | Tender invitation   | 30/3/2020                          | 30/3/2020                              | 9/4/2020                     | 9/4/2020                         | Task Completed                             |                         |                |                    | 100%              | -        |   |
|   | Tender award  | -                                  | -                                      | -                            | 15/4/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Bestwise submitted tender report on 15 April 2020   |
|   | Acceptance of tender award  | -                                  | -                                      | -                            | 17/4/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | AECOM accepted tender report on 17 April 2020   |
|   | Introduction meeting with IBPC, Cinotech                              | -                                  | -                                      | -                            | 28/4/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Meeting completed on 28 April 2020 followed by planning work progress   |
|   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |          |   |
| 04SC008 - Design, Supply and Installation of detailed | Submission of subletting package for acceptance (C9)                  | 1/4/2020                           | 17/3/2020                              | 14/4/2020                    | 17/3/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Bestwise submitted subletting package on 3 April 2020   |
|   | Acceptance of subletting package (C9)                                 | 14/4/2020                          | 17/4/2020                              | 30/4/2020                    | 28/4/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | AECOM accepted subletting package on 28 April 2020  |
|   | Tender invitation (C9)  | 30/4/2020                          | 6/5/2020                               | 14/5/2020                    | 28/5/2020                        | Task Completed                             |                         |                |                    | 100%              | -        | Invitation to tender was commenced on 6 May 2020 and tender returned on 28 May 2020   |
|   | Tender award (C9)   | 14/5/2020                          | 29/5/2020                              | 30/5/2020                    | 9/6/2020                         | Task Completed                             |                         |                |                    | 100%              | -        | Bestwise submitted tender report on 9 June 2020.  |
| Temporary Primary Sludge Thickener and its            | Submission of subletting package (C9) for acceptance                  | 15/05/2020 ->                      | 14/8/2020                              | 15/05/2020 -                 | 27/8/2020                        | Task Completed                             |                         |                |                    | 100%              | Bestwise | - *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020.  |
|   | Acceptance of subletting package (C9) (Mech)                          | 30/05/2020 ->                      | 15/8/2020                              | 15/06/2020->                 | 16/9/2020                        | Task Completed                             |                         |                |                    | 100%              |          | - *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.  |
|   | Tender invitation (C9) (Mech)   | 15/06/2020->                       | 9/9/2020                               | 22/06/2020->                 | 14/10/2020                       | Task Completed                             |                         |                |                    | 100%              |          | - *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - Tender invitation for FRP Tank was conducted on 9 Sep 2020, tender returned on 16 Sep 2020. - Tender invitation for mechanical installation was conducted on 29 Sept 2020, tender returned on 14 Oct 2020. |
|   | Tender award (C9) (Mech)  | 22/06/2020->                       | 17/9/2020                              | 29/06/2020->                 | 22/10/2020                       | Task Completed                             |                         |                |                    | 100%              |          | - *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - Tender report for FRP Tank was submitted on 24 Sep 2020 and accepted on 9 Oct 2020. - Tender report for mechanical installation submitted on 22 Oct 2020 and accepted on 16 Nov 2020.                      |
|   | Acceptance of tender award (C9) (Mech)                                | -                                  | -                                      | -                            | 16/11/2020                       | Task Completed                             |                         |                |                    | 100%              |          |   |
|   | Submission of subletting package (C9) for acceptance (Elect)          | 15/05/2020 ->                      | 9/12/2020                              | 15/05/2020 ->                | 28/1/2021                        | Task Completed                             |                         |                |                    | 100%              |          | - *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020. - Bestwise resubmitted subcontracting package of electrical installation on 28 Jan 2021  |
|   | Acceptance of subletting package (C9) (Elect)                         | 30/05/2020 ->                      | 29/1/2021                              | 15/06/2020->                 | 1/2/2021                         | Task Completed                             |                         |                |                    | 100%              |          | - *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.  |

| Item                                    | Major Activities & Submission in coming 3 months | Time                               |  |                              |                                  | Progress (E&M contract) | Action | Remarks / Status |  |      |                |                    |                   |  |  |  |  |  |  |
|---|--|------------------------------------|--|------------------------------|----------------------------------|-------------------------|--------|------------------|--|------|----------------|--------------------|-------------------|--|--|--|--|--|--|
|   |  | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date |                         |        |                  | % of time elapsed based on "updated date") | Unit | Total Quantity | Completed Quantity | Actual Progress % |  |  |  |  |  |  |
| Tender invitation (C9) (Elect)          |  | 15/06/2020->15/8/2020*             | 1/2/2021                               | 22/06/2020->22/8/2020*       | 11/2/2021                        | Task Completed          |        | 100%             |  |      |                |                    |                   |  |  |  |  |  | -*=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.<br>- Tender invitation commenced on 1 Feb 2021 and returned on 11 Feb 2021   |
| Tender award (C9) (Elect)               |  | 22/06/2020->22/8/2020*             | 11/2/2021                              | 29/06/2020->29/8/2020*       | 23/2/2021                        | Task Completed          |        | 100%             |  |      |                |                    |                   |  |  |  |  |  | -*=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.<br>- Tender report target submitted on 23 Feb 2021 and accepted on 24 Feb 2021   |
| Acceptance of tender award (C9) (Elect) |  | -                                  | -                                      | -                            | 26/2/2021                        | Task Completed          |        | 100%             |  |      |                |                    |                   |  |  |  |  |  | -*=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.  |
| Tender invitation (C11)                 |  | 30/04/2020->15/07/2020*            | 30/4/2020                              | 30/06/2020->15/09/2020*      | 18/11/2020                       | Task Completed          |        | 100%             |  |      |                |                    |                   |  |  |  |  |  | -*=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.<br>-Tender invitation of Primary Sludge Thickener commenced on 22 April 2020 and tender was received on 29 April 2020. Tender queries was requested on 5 May 2020 and received on 7 May 2020. Tender report was commented by PM and resubmitted on 22 May 2020. Accepted by AECOM on 12 Jun 2020.<br>- Tender Invitation of process pumps for the thickening system was commenced on 5 Jun 2020 and tenders were received on 10 June 2020. Tender report submitted to PM on 2 July 2020.<br>Tender Invitation of activated carbon filter was commenced on 22 Oct 2020 and to be returned on 2 Nov 2020. Tender report submitted on 5 Nov 2020 and accepted on 16 Nov 2020<br>- Tender Invitation of FRP platform was commenced on 13 Nov 2020 and to be returned on 20 Nov 2020. Tender report submitted on 30 Nov 2020 and accepted on 11 Jan 2020<br>- Tender Invitation of instrument was commenced on 18 Nov 2020 and to be returned on 25 Nov 2020. Tender report submitted on 30 Nov 2020<br>- Based on the control philosophy agreed on 23 Dec 2020, motorized and solenoid valves were selected. |
| Tender award (C11)                      |  | 15/05/2020->29/07/2020*            | 30/5/2020                              | 15/07/2020->                 | 30/11/2020                       | Task Completed          |        | 100%             |  |      |                |                    |                   |  |  |  |  |  | -*=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.  |
| Acceptance of tender award (C11)        |  | -                                  | -                                      | -                            | 18/9/2020                        |                         |        |                  |  |      |                |                    |                   |  |  |  |  |  |  |
| Design Submission                       |  | 03/07/2020 ->15/07/2020*           | 5/8/2020                               | 21/09/2020->02/10/2020*      | 10/5/2021                        | Task Completed          |        | 100%             |  |      |                |                    |                   |  |  |  |  |  | -*=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.<br>-Design submission of Process Pumps (Rev.3) resubmitted on 14 Apr 2021, AECOM accepted with comments on 7 May 2021.<br>-Design submission of electrical calculation (rev.2) was resubmitted on 29 Apr 2021. AECOM accepted with comments on 10 May 2021.<br>-Control Philosophy (Rev.2) resubmitted on 5 Mar 2021. AECOM accepted subject to comments on 26 Mar 2021.   |
| Plant and Material Submission           |  | 21/07/2020 ->30/07/2020*           | 21/7/2020                              | 31/08/2020 ->31/10/2020*     | 30/6/2021                        | Task Completed          |        |                  |  |      |                |                    |                   |  |  |  |  |  | -*=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.<br>- Plant and Material submission of primary sludge thickener was resubmitted on 1 Sep 2020 (Rev. 3) and AECOM accepted on 8 Sep 2020.<br>- Plant and Material submission P&M0002 (Rev.2) of process pumps was submitted on 5 August 2020 and AECOM commented on 26 Aug 2020, Bestwise to re-submitted to AECOM.<br>- Plant and Material submission (Rev.0) for valves was submitted on 16 Nov 2020. AECOM accepted on 14 Dec 2020 subject to comments<br>- Plant and Material submission (Rev.1) for DI pipes and fittings was resubmitted on 3 Dec 2020. AECOM accepted on 14 Dec 2020<br>- Plant and Material submission (Rev.0) for primary sludge equalization tank was submitted on 5 Feb 2021. AECOM accepted subject to comments on 25 Feb 2021.<br>- Plant and Material submission (Rev.0) for activated carbon filter was submitted on 28 Jan 2021. AECOM accepted subject to comments on 5 Feb 2021.<br>- Plant and Material submission (Rev. 1) for instruments was resubmitted on 13 Mar 2021. AECOM accepted subject to comments on 7 Apr 2021.   |
| Drawing Submission                      |  | 03/07/2020 ->30/07/2020*           | 3/8/2020                               | 21/09/2020 ->21/11/2020*     | 10/2/2021                        | Task Completed          |        | 100%             |  |      |                |                    |                   |  |  |  |  |  | -*=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.<br>- PFD, P&ID, Schematic GA (Rev.3) resubmitted on 22 Jan 2021 according to the finalized control philosophy. AECOM accepted subject to comment on 29 Jan 2021.<br>- Electrical drawing - Bestwise resubmitted electrical drawing (Rev.5) on 22 Mar 2021. AECOM accepted on 16 Apr 2021.  |

Contract No. DE/2018/04  
 Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1  
 - E&M Works for Sewage Treatment Facilities  
 3 Month Rolling Programme (From 01/12/2023 to 01/02/2024)

Updated on: **20-Jan-24**

| Item  | Major Activities & Submission in coming 3 months   | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action | Remarks / Status   |
|---|--|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|--------|--|
|   |  | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |        |  |
| Material Manufacturing  | Material Manufacturing   | 31/07/2020 -> 30/09/2020*          | 4/8/2020                               | 21/10/2020 -> 21/12/2020*    | 20/4/2021                        | Task Completed                             |                         |                |                    | 100%              |        | - *=Corresponding PMI No.009 and CE No.009 were issued by AECOM on 14 July 2020. CE was implemented on 15 July 2020.<br>- Manufacturing instruction of PS thickener was issued on 3 August 2020.<br>- Manufacturing instruction of process pumps was issued on 24 September 2020<br>- Electrical sub-contractor is awarded and manufacturing LCP |
|   | Material Delivery  | 05/09/2020 ->                      | 4/11/2020                              | 16/11/2020 -                 | 21/6/2021                        | Task Completed                             |                         |                |                    |                   |        |  |
|   | Mechanical Installation  | 01/10/2020 -> 01/12/2020*          | 2/2/2021                               | 15/11/2020 -> 15/01/2021*    | 17/5/2021                        | Task Completed                             |                         |                |                    | -                 |        |  |
|   | Offsite Fabrication and Delivery of FRP Tank   |                                    | 16/1/2021                              |                              | 7/4/2021                         | Task Completed                             |                         |                |                    | 100%              |        | First batch to be delivered on 23 Mar 2021   |
|   | Onsite Installation of FRP Tank  |                                    | 7/4/2021                               |                              | 30/7/2021                        | Task Completed                             |                         |                |                    |                   |        | Water filling to tank completed; Tank hydraulic test completed.  |
| Electrical Installation   | Electrical Installation  | 01/10/2020 -> 01/12/2020*          | 19/3/2021                              | 15/11/2020 -> 15/01/2021*    | 19/7/2021                        | Task Completed                             |                         |                |                    | -                 |        | Energize of all LCPs on 24 May 2021 and isolated prior to system commissioning.  |
|   | Testing and Commissioning  | 15/11/2020 -> 15/01/2021*          | 8/5/2021                               | 22/11/2020 -> 22/01/2021*    | 30/9/2022                        | Completed                                  |                         |                |                    | -                 |        | Improvement works under PMI are on-going and defect rectification for BCM comments was partially completed.<br>- Testing and Commissioning (3 x 24hrs) completed by End September.   |
| Temporary Primary Sludge Thickener and its accessories (Sub-programme was provided by Bestwise)   | Testing and Commissioning  | 15/11/2020 -> 15/01/2021*          | 8/5/2021                               | 22/11/2020 -> 22/01/2021*    | 30/9/2022                        | Completed                                  |                         |                |                    | -                 |        | Improvement works under PMI are on-going and defect rectification for BCM comments was partially completed.<br>- Testing and Commissioning (3 x 24hrs) completed by End September.   |
| Modification of Existing Emergency Generator Electrical Works   | Submission of subletting package (C9) for acceptance   | 15/10/2020                         | 15/10/2020                             | 31/10/2020                   | 11/12/2020                       | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Acceptance of subletting package (C9)  | 1/11/2020                          | 5/11/2020                              | 15/11/2020                   | 2/1/2021                         | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Tender invitation (C9)   | 16/11/2020                         | 26/1/2021                              | 30/11/2020                   | 5/2/2021                         | Task Completed                             |                         |                |                    | 100%              |        | Tender invitation commenced on 26 Jan 2021, and returned on 5 Feb 2021   |
|   | Tender award (C9)  | 30/11/2020                         | 18/2/2021                              | 7/12/2020                    | 18/2/2021                        | Task Completed                             |                         |                |                    | 100%              |        | Tender report was submitted on 18 Feb 2021 and accepted on 26 Feb 2021   |
|   | Acceptance of tender award (C9)  | 8/12/2020                          | 18/2/2021                              | 15/12/2020                   | 26/2/2021                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Design Submission  | 15/12/2020                         | 15/3/2021                              | 15/1/2021                    | 23/4/2021                        | Task Completed                             |                         |                |                    | 100%              |        | DWG-0100 was submitted on 23 Apr 2021. AECOM accepted with comments on 30 Apr  |
|   | Transportation of existing dismantled genset no. 2 (Genset No.2) to subcontractor (Click Ltd.)'s workshop  | 9/3/2021                           | 9/3/2021                               | 9/3/2021                     | 9/3/2021                         | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Drawing submission (Drawing of General Layout for Existing 600kVA Genset Container)  | 23/4/2021                          | 23/4/2021                              | 30/4/2021                    | 30/4/2021                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Drawing submission (Cable route ,general arrangement, etc)   | 14/5/2021                          | 28/5/2021                              | 21/5/2021                    | 5 July 2021                      | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Material submission P431 P&M-0087  | 21 May 2021                        | 19 June 2021                           | 28 May 2021                  | 12 July 2021                     | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Fabrication of container at PRC  | 21 June 2021                       | 21 June 2021                           | TBC                          | 12/8/2021                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Container deliver to HK  | TBC                                | 12/8/2021                              | 10/8/2021                    | 12/8/2021                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Off site modification work at HK factory   | TBC                                | 16/8/2021                              | 24/8/2021                    | 24/8/2021                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | FAT plan of modified Genset No.2 P431 MS-036   | 12/7/2021                          | 12/7/2021                              | 20/8/2021                    | 20/8/2021                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | FAT of Genset No.2 after modification works  | 25/8/2021                          | 25/8/2021                              | 25/8/2021                    | 25/8/2021                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Installation Work of I-beam Support  | 26/8/2021                          | 26/8/2021                              | 26/8/2021                    | 26/8/2021                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Transportation of Genset No. 2 to existing power house in SWHSTW and completion of the Genset No.2 installation on I-beam supporting frame   | 27/8/2021                          | 27/8/2021                              | 27/8/2021                    | 27/8/2021                        | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Provision of one (1) can of 160L diesel and a diesel hand pump placed at diesel daily tank of Genset No.1 for standby top up (PPMI-012 item L) Location to be coordinated and advised by SWHSTW operator DSD/ST1 | 27/7/2021                          | 27/7/2021                              | 31/8/2021                    |                                  |  |                         |                |                    |                   |        | Location to be further coordinated with DSD.   |
|   | Modification works of existing switchboard   | 1/9/2021                           | 1/9/2021                               | 8/9/2021                     | 8/9/2021                         | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Cables (including control cable and power cables) laying and installation of cable containment, busbar chamber   | 21/7/2021                          | 30/7/2021                              | 8/9/2021                     | 8/9/2021                         | Task Completed                             |                         |                |                    | 100%              |        |  |
|   | Supply of busbar chamber/ connection box   | 10/8/2021                          | 10/8/2021                              | 3/9/2021                     | 3/9/2021                         | Task Completed                             |                         |                |                    | 100%              |        |  |
| Completion of all Genset cables and cable termination work to existing power house in SWHSTW after the completion of Genset No. 2 installation work | 1/9/2021   | 1/9/2021                           | 8/9/2021                               | 8/9/2021                     | Task Completed                   |  |                         |                | 100%               |                   |        |  |
| Delivery of dummy load and self-test  | 9/9/2021   | 9/9/2021                           | 14/9/2021                              | 15/9/2021                    | Task Completed                   |  |                         |                | 100%               |                   |        |  |

| Item  | Major Activities & Submission in coming 3 months  | Time                               |  |                              |                                  |  | Progress (E&M contract) |                |                    |                   | Action | Remarks / Status   |
|---|---|------------------------------------|--|------------------------------|----------------------------------|--|-------------------------|----------------|--------------------|-------------------|--------|--|
|   |   | Contract Planned Commencement Date | Anticipated / Actual Commencement Date | Contract Planned Finish Date | Anticipated / Actual Finish Date | % of time elapsed based on "updated date") | Unit                    | Total Quantity | Completed Quantity | Actual Progress % |        |  |
|   | SAT and T&C (witness by AECOM and DSD/ST1)<br>Please allow 1 week advance notice for coordination with DSD/ST1, e.g. genset signal start, etc.) | 15/9/2021                          | 15/9/2021                              | 15/9/2021                    | 16/9/2021                        | Task Completed                             |                         |                |                    | 100%              |        |  |
| 04SC009 - Design, Supply and Installation of HVSB | Submission of subletting package for acceptance   | 21/4/2020                          |  | 1/5/2020                     |                                  | -  |                         |                |                    |                   |        |  |
|   | Acceptance of subletting package  | 21/5/2020                          |  | 30/5/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Tender invitation   | 1/6/2020                           |  | 14/6/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Tender award  | 1/7/2020                           |  | 14/7/2020                    |                                  | -  |                         |                |                    |                   |        |  |
| 04SC010 - Design, Supply and Installation of LVSB | Submission of subletting package for acceptance   | 1/5/2020                           |  | 14/5/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Acceptance of subletting package  | 1/6/2020                           |  | 14/6/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Tender invitation   | 14/6/2020                          |  | 30/6/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Tender award  | 1/7/2020                           |  | 14/7/2020                    |                                  | -  |                         |                |                    |                   |        |  |
| 04SC011 - Design and Installation of Building     | Submission of subletting package for acceptance   | 14/4/2020                          |  | 30/4/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Acceptance of subletting package  | 14/5/2020                          |  | 30/5/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Tender invitation   | 30/5/2020                          |  | 14/6/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Tender award  | 21/6/2020                          |  | 30/6/2020                    |                                  | -  |                         |                |                    |                   |        |  |
| 04SC012 - Facility Computerized Systems           | Submission of subletting package for acceptance   | 14/5/2020                          |  | 30/5/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Acceptance of subletting package  | 14/6/2020                          |  | 30/6/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Tender invitation   | 1/7/2020                           |  | 14/7/2020                    |                                  | -  |                         |                |                    |                   |        |  |
|   | Tender award  | 21/7/2020                          |  | 14/8/2020                    |                                  | -  |                         |                |                    |                   |        |  |
| <b>Plant and Materials (Marking Scheme)</b>       |   |                                    |  |                              |                                  |  |                         |                |                    |                   |        |  |
| PS Clause no. 6B.2.1<br>Inlet Pump                | Submission of marking scheme for PM's acceptance (fourth draft)   | 1/5/2020                           | 1/5/2020                               | 1/9/2020                     | 19/8/2020                        | Task Completed                             |                         |                |                    | 100%              |        | AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020.  |
|   | Submission of marking scheme for PM's acceptance  | 1/5/2020                           | 1/5/2020                               | 1/9/2020                     | 19/8/2020                        | Task Completed                             |                         |                |                    | 100%              |        | Bestwise resubmitted on 19 Aug 2020.   |
|   | Acceptance of marking scheme by the PM  | 15/5/2020                          | 20/8/2020                              | 15/9/2020                    | 1/9/2020                         | Task Completed                             |                         |                |                    | 100%              |        | AECOM accepted on 1 Sep 2020   |
|   | Tender invitation   | 29/5/2020                          | 9/9/2020                               | 29/9/2020                    | 18/9/2020                        | Task Completed                             |                         |                |                    | 100%              |        | Tender invitation was conducted on 9 Sept 2020 and returned on 18 Sept 2020.   |
| PS Clause no. 6B.2.1<br>Inlet Pump                | Tender award  | 5/6/2020                           | 19/9/2020                              | 5/10/2020                    | 7/10/2020                        | Task Completed                             |                         |                |                    | 100%              |        | Technical Submission Evaluation Report was submitted on 5 Oct 2020, Tender report was submitted on 7 Oct 2020. AECOM noted on 8 Oct 2020.  |
|   | Acceptance of tender award  | 19/6/2020                          | 17/10/2020                             | 19/10/2020                   | 15/11/2020                       | Task Completed                             |                         |                |                    | -                 |        |  |
|   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |        |  |
|   | Submission of marking scheme for PM's acceptance (third draft)  | 1/5/2020                           | 14/5/2020                              | 1/9/2020                     | 19/8/2020                        | Task Completed                             |                         |                |                    | 100%              |        | AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020   |
|   | Submission of marking scheme for PM's acceptance  | 1/5/2020                           | 14/5/2020                              | 1/9/2020                     | 19/8/2020                        | Task Completed                             |                         |                |                    | 100%              |        | Bestwise resubmitted on 19 Aug 2020  |
| PS Clause no. 6B.2.4<br>MBR Pre-treatment Screen  | Acceptance of marking scheme by the PM  | 15/5/2020                          | 20/8/2020                              | 15/9/2020                    | 1/9/2020                         | Task Completed                             |                         |                |                    | 100%              |        | AECOM accepted on 1 Sep 2020   |
|   | Tender invitation   | 29/5/2020                          | 20/11/2020                             | 29/9/2020                    | 11/12/2020                       | Task Completed                             |                         |                |                    | 100%              |        | Tender invitation was conducted on 20 Nov 2020 and returned on 11 Dec 2020. Tender   |
|   | Tender award  | 5/6/2020                           | 13/12/2020                             | 5/10/2020                    | 3/3/2021                         | Task Completed                             |                         |                |                    | 100%              |        | Technical Submission Evaluation Report was submitted on 12 Jan 2021. AECOM noted on 22 Jan 2021.   |
|   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |        | Tender Report was submitted on 4 Feb 2021, AECOM commented on 19 Feb 2021, Bestwise submitted supplementary information on 26 Feb 2021. AECOM noted on 3 Mar   |
|   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |        |  |
| PS Clause no. 6B.2.4                              | Submission of marking scheme for PM's acceptance  | 1/5/2020                           | 14/5/2020                              | 1/9/2020                     | 2/9/2020                         | Task Completed                             |                         |                |                    | 100%              |        | AECOM commented on 1 September 2020, Bestwise resubmitted on 2 Sep 2020  |
|   | Submission of marking scheme for PM's acceptance  | 1/5/2020                           | 3/9/2020                               | 1/9/2020                     | 2/9/2020                         | Task Completed                             |                         |                |                    | 100%              |        | Bestwise resubmitted on 2 Sep 2020   |
| PS Clause no. 6B.2.4<br>Air Diffusion System      | Acceptance of marking scheme by the PM  | 15/5/2020                          | 20/8/2020                              | 15/9/2020                    | 1/9/2020                         | Task Completed                             |                         |                |                    | 100%              |        | AECOM accepted on 1 Sep 2020, subject to conditions.   |
|   | Tender invitation   | 29/5/2020                          | 17/2/2021                              | 29/9/2020                    | 12/3/2021                        | Task Completed                             |                         |                |                    | 100%              |        | Procurement package would follow the approved format (i.e. aeration blower)<br>Tender invitation was conducted on 17 Feb 2021. Addendum No. 1 was issued on 18 Feb 2021. Tender return date was extended from 26 Feb 2021 to 12 Mar 2021. Tender returned on 12 Mar 2021 |
|   | Tender award  | 5/6/2020                           | 18/3/2021                              | 5/10/2020                    | 20/4/2021                        | Task Completed                             |                         |                |                    | -                 |        | Technical Submission Evaluation Report was submitted on 18 Mar 2021. AECOM noted on 30 Mar 2021. Tender Report was submitted on 8 Apr 2021. LOI was issued to supplier.  |
|   | Acceptance of tender award  | 19/6/2020                          | 20/2/2021                              | 19/10/2020                   | 12/3/2021                        | Task Completed                             |                         |                |                    | -                 |        |  |
|   |   |                                    |  |                              |                                  |  |                         |                |                    |                   |        |  |
| PS Clause no. 6B.2.4                              | Submission of marking scheme for PM's acceptance  | 14/5/2020                          | 14/5/2020                              | 14/9/2020                    | 19/8/2020                        | Task Completed                             |                         |                |                    | 100%              |        | AECOM commented on 14 August 2020, Bestwise resubmitted on 19 Aug 2020   |
|   | Submission of marking scheme for PM's acceptance  | 14/5/2020                          | 14/5/2020                              | 14/9/2020                    | 19/8/2020                        | Task Completed                             |                         |                |                    | 100%              |        | Bestwise resubmitted on 19 Aug 2020  |
| PS Clause no. 6B.2.4<br>BR Aeration Blower        | Acceptance of marking scheme by the PM  | 28/5/2020                          | 20/8/2020                              | 28/9/2020                    | 1/9/2020                         | Task Completed                             |                         |                |                    | 100%              |        | AECOM accepted on 1 Sep 2020   |
|   | Tender invitation   | 11/6/2020                          | 3/2/2021                               | 12/10/2020                   | 3/3/2021                         | Task Completed                             |                         |                |                    | 100%              |        | Procurement package was submitted to AECOM under CGS-066. AECOM replied on 29 Jan 2021.<br>Tender invitation was conducted on 3 Feb 2021. Tender returned on 3 Mar 2021  |

