

Our Ref : 382766/(DC/2018/08)/M45/110/(802677)

Your Ref :

8 November 2021

Distribution List

Dear Sirs,

**Contract No. DC/2018/08**  
**Inter-reservoirs Transfer Scheme –**  
**Water Tunnel between Kowloon Byewash Reservoir and Lower Shing Mun Reservoir**  
**Revised Monthly Environmental Monitoring and Audit (EM&A) Report**  
**(July 2021)**

I write to inform you that the revised monthly EM&A Reports for July 2021 have been certified by the ET leader and verified by the IEC in accordance with Condition 4.3 of the EP. The revised report will be submitted to EPD separately.

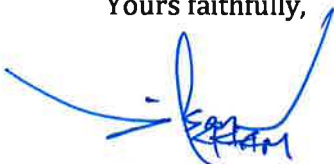
Please note that the following measures have been taken to enhance the EM&A programme:

- Review of water sampling methodology
- Enhancement of records of water monitoring and noise monitoring
- Review of relevant reference for noise level adjustment

The Baseline Monitoring Report in accordance with Condition 4.2 of the EP and EM&A Manual is also being reviewed and updated to enhance the records of water monitoring, e.g. additional of record photos and sampler. The revised report will be submitted once available.

Should you have any queries, please contact my Resident Engineer Mr. Irving Sze at 3959 7366.

Yours faithfully,



Wilson Lam  
Chief Resident Engineer

**Distribution List:**

SE/DP2, DSD

E/NTE (Headworks 1), WSD

- Attn: Mr. N.F. Wan, Antony

- Attn: Mr. Anthony Lau

WL/IS/cc

Our ref: 26-10-2021b

26-10-2021

By email: cre.wilsonlam@hkirts.com

Binnies Hong Kong Limited  
Unit No. 2507-2509, 25/F, The Octagon,  
No. 6 Sha Tsui Road,  
Tsuen Wan, N.T.  
(Attn: Wilson Lam)

Dear Mr. Lam,

**Re: Contract No. CM 10/2018**

**Independent environmental checker services for inter-reservoirs transfer scheme (IRTS)**

**– water tunnel between Kowloon byewash reservoir and lower shing mun reservoir**

**25th Monthly EM&A Report (Rev. 4)**

Reference is made to the submission of the 25th Monthly EM&A Report (Rev. 4) and provided to us via email dated on 25-10-2021 for our review and comment.

The ET Leader and ET are reminded that according to condition 2.2 of the Environmental Permit No. EP-345/2009/A the ET and the ET Leader shall be responsible for the implementation of the EM&A programme in accordance with the relevant EM&A requirements as contained in the EM&A Manual.

Please be informed that IEC has comments on the captioned submission. This is a revised EM&A monthly report to address the unverified items in IEC letter dated on 13-8-2021. IEC observes the following from the ET and the ET Leader in relation to Section 2.6.3 of EM&A manual:

- Lack of supervision and guidance from the ET Leader
- Inadequate implementation of EM&A programme according to the EM&A manual and baseline monitoring report
- Insufficient training and competence of the technicians
- Lack of resources to fully implement EM&A programme
- Ineffective responsiveness to address IEC comments

Without advanced notification, some of water samples in the baseline and impact monitoring events were not collected by water sampling equipment required in Section 5.3.4 of EM&A manual. The baseline monitoring report is pending for further revision.

IEC would like to remind the ET Leader shall provide proper documentation and records for inspection in relation to Section 2.6.2 of EM&A

# 嘉誠管理顧問有限公司

Ka Shing management consultant Limited



manual. IEC hereby writes to verify the captioned submission in accordance with Condition 2.1 of the Environmental Permit No. EP-345/2009/A.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours faithfully,

For and on behalf of

Ka Shing Management Consultant Limited

A handwritten signature in black ink that reads "Douglas Wong".

Dr. Wong

Independent Environmental Checker

Unit 2, 13/F Kai Yue Commercial Building, 2C Argyle St, Mong Kok, Kowloon

九龍旺角亞皆老街 2C 號啟如商業大廈 13 樓 2 室

Tel: (852) 2618 2166

Fax: (852) 2120 7752

Web Site: [www.ka-shing.net](http://www.ka-shing.net)

電話: (852) 2618 2166

傳真: (852) 2120 7752

網站: [www.ka-shing.net](http://www.ka-shing.net)

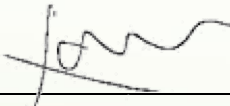

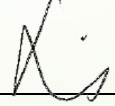




**25<sup>th</sup> Monthly EM&A Report (Rev. 4)**  
**July 2021**

**for**

**Inter-Reservoir Transfer Scheme –  
Water Tunnel Between Kowloon Byewash Reservoir  
and Lower Shing Mun Reservoir  
(Contract No.: DC/2018/08)**

|                  | <b>Prepared by:</b>   | <b>Checked by:</b>   | <b>Certified by:</b>  |
|------------------|---|--|---|
| <b>Name</b>      | Kelvin LAU  | Nelson TSUI  | Kevin LI  |
| <b>Position</b>  | Environmental Team Member   | Environmental Team Member  | Environmental Team Leader   |
| <b>Signature</b> |  |  |  |
| <b>Date</b>      | 25 October 2021   | 25 October 2021  | 25 October 2021   |

### Revision History

| <b>Rev.</b> | <b>Description</b>                      | <b>Date</b>     |
|-------------|---|-----------------|
| 4           | Revision according to IEC's comments    | 25 October 2021 |
| 3           | Revision according to IEC's comments    | 25 October 2021 |
| 2           | Revision according to IEC's comments    | 12 August 2021  |
| 1           | Revision according to IEC's comments    | 12 August 2021  |
| 0           | 1 <sup>st</sup> Submission for Comments | 10 August 2021  |

## **EXECUTIVE SUMMARY**

- E1. Acuity Sustainability Consulting Limited (ASCL) has been commissioned by Bouygues Travaux Publics to undertake the assignment as the Environmental Team (ET) for the Designated Project of West Kowloon Drainage Improvement – Inter-reservoirs Transfer Scheme (IRTS) (the Project), with Contract No. DC/2018/08.
- E2. This is the 25<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report presents EM&A works undertaken in the period of 1 to 31 July 2021. EM&A works were performed in accordance with the approved EM&A Manual and conditions stipulated in the amended Environmental Permit EP-345/2009/A.
- E3. According to the approved EM&A Manual, construction noise and water quality monitoring are required to be performed during the construction phase of the Project. Five (5) sessions of construction noise impact monitoring at NM1 and NM2 for daytime except general holidays and Sundays; four (4) sessions of construction noise impact monitoring at NM1 for daytime during general holidays and Sundays; five (5) sessions of construction noise impact monitoring at NM1 for all days during evening and five (5) sessions of construction noise impact monitoring at NM1 for all days during night time were conducted during the reporting period. Thirteen (13) sessions of impact water quality monitoring at all approved monitoring points were carried out in the reporting period.
- E4. The control point C1b was observed with very shallow flow on 4, 10, 13, 15 and 17 July 2021. The control point C2 was observed with very shallow flow on 2, 4, 6, 8, 10, 13, 15, 17, 28 and 30 July 2021. Insufficient water was available for sample collection.
- E5. No exceedance was recorded for noise and water monitoring in the reporting period.
- E6. Joint weekly site inspections were conducted by representative of ET, Contractor and Engineer on 6, 13, 20 and 27 July 2021. Details of the audit findings and implementation status are presented in Section 5.
- E7. No complaint regarding environmental issue was received in the reporting period.
- E8. No notification of summons nor prosecution have been received since the commencement of the Project.

E9. The variation of Environmental Permit was issued on 11 November 2020. The amendments incorporated into the Environmental Permit are summarized as follow:

- “Location of Designated Project” changed;
- Location of cofferdam changed;
- Content of earth bund added;
- More plant species of conservation importance added.

E10. Construction works undertaken in the reporting period include the following:

| Works Area    | Major Site Activities   |
|---------------|---|
| Portion A & D | <ul style="list-style-type: none"><li>• TBM excavation</li></ul>  |
| Portion C     | <ul style="list-style-type: none"><li>• Intake structure construction</li><li>• Maintenance walkway superstructure</li><li>• Ground Treatment Works</li></ul> |

E11. Construction works to be undertaken in the next reporting period include the following:

| Works Area    | Major Site Activities  |
|---------------|--|
| Portion A & D | <ul style="list-style-type: none"><li>• TBM excavation</li></ul>   |
| Portion C     | <ul style="list-style-type: none"><li>• Intake structure construction</li><li>• Maintenance walkway superstructure</li></ul> |

E12. The Contractor was reminded that all works to be undertaken within the water gathering ground of Lower Shing Mun Reservoir (LSMR) and Kowloon Byewash Reservoir (KBR) must fulfill statutory environmental requirements, especially in watercourse protection.

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## 1. INTRODUCTION

- 1.1 Acuity Sustainability Consulting Limited (ASCL) has been commissioned by Bouygues Travaux Publics to undertake the assignment as the Environmental Team (ET) for the contract of West Kowloon Drainage Improvement – Inter-reservoirs Transfer Scheme (IRTS) (the Project), with Contract No. DC/2018/08. The Project comprises the following principal works elements:
- Construction of a new water tunnel, with about 2.8km in length and 3m in diameter, from KBR to LSMR;
  - Construction of an intake structure at KBR and an isolation system;
  - Construction of an outfall structure at LSMR with an energy dissipater; and
  - All associated civil, structural, geotechnical, electrical and mechanical works, including landscaping, permanent and temporary accesses as may be necessary for the completion of the works elements listed above.
- 1.2 The Project site consists of the intake site at KBR and the outfall site at the Lower Shing Mun Reservoir. The layout of the Project site is presented in **Appendix A**.
- 1.3 This project is a Designated Project under Part I of Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO). An Environmental Permit (EP), with Permit No. EP345/2009, was granted to the Water Supplies Department (WSD) for permitting the construction and operation of this Project. Subsequently, the EP was amended and a variation of EP, with Permit No. EP345/2009/A, was granted to the WSD on 11 November 2020.
- 1.4 The commencement date of construction of the Project was 12 July 2019. No major works except site clearance and preparation was performed before the commencement date of construction.
- 1.5 This is the 25<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report presenting results and findings of all EM&A work required in the approved EM&A Manual for the period of 1 to 31 July 2021.
- 1.6 All project information since the commencement of work under EP including Monthly EM&A Reports is made available to the public via internet access at the website: <https://www.epd.gov.hk/eia/register/permit/latest/vep5822020.htm>
- 1.7 As part of the EM&A programme, baseline monitoring is required for determining the ambient environmental conditions. Baseline monitoring including background noise and water quality were conducted in periods from 3 May 2019 to 22 June 2019 in accordance to the approved EM&A Manual before commencement of construction works. The

corresponding Baseline Monitoring Report has been compiled by the ET and verified by the Independent Environment Checker (IEC) prior submitting to the Environmental Protection Department.

1.8 Project organization structure is presented in Figure 1.1.

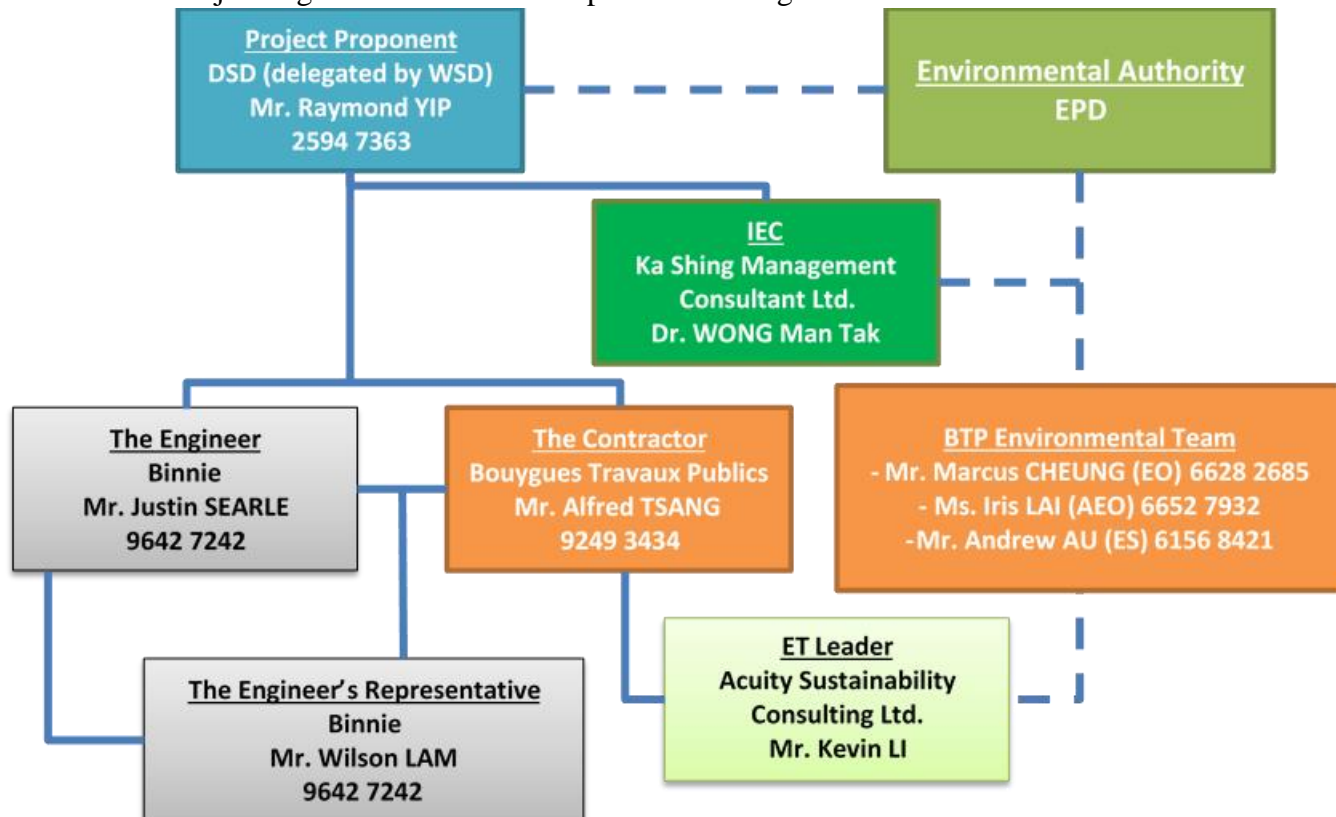


Figure 1.1 Project Organization Chart

1.9 Contact details of key personnel are presented in Table 1.1 below.

Table 1.1 Contact Details of Key Personnel

| Party                                    | Position                        | Name             | Contact No. |
|--|---------------------------------|------------------|-------------|
| Bouygues Travaux Publics                 | Site Agent                      | Mr. Alfred Tsang | 3959 7317   |
| Acuity Sustainability Consulting Limited | Environmental Team Leader       | Mr. Kevin Li     | 2698 6833   |
| Ka Shing Management Consultant Limited   | Independent Environment Checker | Dr. Douglas Wong | 2618 2166   |

1.10 Details of major construction activities undertaken in this reporting period are shown in Table 1.2 below. The construction programme is presented in **Appendix B**.

Table 1.2 Summary of Construction Activities Undertaken in the Reporting Period

| Works Area    | Major Site Activities   |
|---------------|---|
| Portion A & D | <ul style="list-style-type: none"> <li>• TBM excavation</li> </ul>  |
| Portion C     | <ul style="list-style-type: none"> <li>• Intake structure construction</li> <li>• Maintenance walkway superstructure</li> <li>• Ground Treatment Works</li> </ul> |

1.11 A summary of status of environmental legislations related licences, permits and/or notifications is presented in Table 1.3.

Table 1.3 Summary of Environmental Licences and Permits of the Project

| Type of Permit / License   | Date of Application | Reference Number     | Status                           | Duration                   |
|--|---------------------|----------------------|----------------------------------|----------------------------|
| Variation of Environmental Permit  | 15-Oct-2020         | EP-345/2009/A        | Valid                            | Along project              |
| Chemical Waste Producer  | 22-Feb-2019         | WPN5218-733-B2557-01 | Approved.                        | Along project              |
| Notification of The Air Pollution Control (Construction Dust) Regulation | 1-Mar-2019          | 442711               | Completed (No approval required) | Along project              |
| Billing Account of Trip Ticket System                                    | 25-Feb-2019         | 703344617            | Approved on 13 March 2019        | Along project              |
| Effluent Discharge License for LSMR                                      | 4-Apr-2019          | WT00034164-2019      | Approved                         | Until 31-Jul-2024          |
| Effluent Discharge License for KBR                                       | 30-Sep-2019         | WT00035821-2020      | Approved                         | Until 31-May-2025          |
| Construction Noise Permit for 24-hr TBM assembly at Portion A & D        | 6-Jan-2021          | GW-RN0244-21         | Approved                         | 06-May-2021 to 05 Aug-2021 |
| Construction Noise Permit for works at Portion C                         | 27-May-2021         | GW-RN0377-21         | Approved                         | 14-Jun-2021 to 13-Dec-2021 |
| Construction Noise Permit for works at Tai Po Road                       | 21-Apr-2020         | GW-RN0255-21         | Approved                         | 13-May-2021 to 12-Nov-2021 |

Remark: Information for table 1.3 will be updated by the Contractor.

1.12 Contract documents required under conditions stipulated in the amended Environmental Permit are summarized in Table 1.4.

Table 1.4 Documents Submission Required in the amended Environmental Permit

| <b>Document</b>                                 | <b>EP Condition No.</b> | <b>Timeframe</b>  | <b>Status</b>  | <b>Remarks</b>  |
|---|-------------------------|---|--|---|
| Landscape Plan                                  | 2.4 & 2.5               | Submission of document shall be done no later than 6 months after commencement of construction. | The document was submitted to EPD on 9 January 2020. | Submission date to be updated with DSD.                         |
| Condition Survey Report for Historic Structures | 2.6                     | Document shall be deposited to the authority before commencement of construction.               | The document was deposited to EPD on 3 June 2019.    | N.A.  |
| Baseline Monitoring Report                      | 4.2                     | Submission of document shall be done at least two weeks before commencement of construction.    | The document was submitted to EPD on 28 June 2019.   | 1 <sup>st</sup> Revision was submitted to EPD on 6 August 2019. |

## 2. ENVIRONMENTAL MONITORING REQUIREMENTS AND PROGRAMME

2.1 The Environmental Monitoring and Audit requirements are set out in the approved EM&A Manual. Construction noise and water quality were identified as key environmental issues during the construction phase. A summary of the requirements for conducting impact noise and water quality monitoring is presented in the sub-sections below.

### Monitoring Parameters, Time and Frequency

2.2 Impact monitoring parameters are summarized in Table 2.1 below.

Table 2.1 – Summary of Impact Monitoring Parameters

| Environmental Aspect | Parameters   | Frequency   |
|----------------------|--|---|
| Noise                | <ul style="list-style-type: none"> <li>• 1 no. of <math>L_{eq}(30min)</math> noise measurements between 0700-1900 hours on any normal weekdays</li> <li>• 3 nos. of consecutive <math>L_{eq}(5min)</math> noise measurement between 0700-1900 hours on general holidays or Sunday (if works are undertaken)</li> <li>• 3 nos. of consecutive <math>L_{eq}(5min)</math> noise measurement between 1900-2300 hours (if evening works are undertaken)</li> <li>• 3 nos. of consecutive <math>L_{eq}(5min)</math> noise measurement between 2300-0700 hours (if nighttime works are undertaken)</li> </ul> | <ul style="list-style-type: none"> <li>• Once per week</li> </ul>   |
| Water Quality        | <ul style="list-style-type: none"> <li>• Dissolved Oxygen (mg/L)</li> <li>• Dissolved Oxygen Saturation (%)</li> <li>• pH Value</li> <li>• Turbidity (NTU)</li> <li>• Temperature (°C)</li> <li>• Suspended Solids (mg/L)</li> </ul>   | <ul style="list-style-type: none"> <li>• 3 times per week</li> <li>• Interval between two sets of monitoring shall not be less than 36 hours</li> </ul> |

## Monitoring Locations

### Noise

- 2.3 According to Section 4.4 of the approved EM&A Manual, the two most representative and affected noise sensitive receivers (NSRs) were designated as monitoring stations. Details regarding the two noise monitoring stations are shown in Table 2.2. Layout plans showing the monitoring locations are presented in **Appendix C**.

Table 2.2 – Designated Noise Monitoring Location

| <b>Location ID<br/>(ID in EM&amp;A<br/>Manual)</b> | <b>Type of NSR</b> | <b>Location</b>            | <b>Description</b>                         |
|--|--------------------|----------------------------|--|
| NM1 (LG)   | Residential        | Tower 1, Lakeview Garden   | The closest NSR to the Outfall Site (LSMR) |
| NM2 (VH)   | Residential        | 4 ½ Milestone, Tai Po Road | The closest NSR to the Intake Site (KBR)   |

### Water Quality

- 2.4 According to Section 5.4 of the approved EM&A Manual, water quality monitoring should be performed at designated monitoring stations. Details regarding the four designated water quality monitoring stations are shown in Table 2.3.

Table 2.3 – Original Water Quality Monitoring Location

| <b>ID</b> | <b>Description</b>                        | <b>Location</b>   |
|-----------|---|---|
| C1        | Control Point near Intake Site            | Stepped channel by-passing KBR                          |
| D1        | Impact Monitoring Point near Intake Site  | Junction of stepped channel and overflow channel of KBR |
| C2        | Control Point near Outfall Site           | Natural Stream directing to Lower Shing Mun Reservoir   |
| D2        | Impact Monitoring Point near Outfall Site | Overflow channel of Lower Shing Mun Reservoir           |

- 2.5 As conditions of designated water quality monitoring locations have been changed since the issuing of the approved EM&A Manual, location C1, D1 and D2 are no longer feasible for conducting water quality monitoring. Therefore, the three locations were proposed to relocating to alternative monitoring locations. The proposal of alternative monitoring location was approved by EPD on 20 May 2019. Details regarding the approved water quality monitoring stations are shown in Table 2.4. Layout plans showing the original and approved monitoring locations are attached in **Appendix C**.

Table 2.4 – Approved Water Quality Monitoring Location

| <b>ID</b> | <b>Description</b>                        | <b>Location</b>                                       |
|-----------|---|---|
| C1b       | Control Point near Intake Site            | Overflow channel of Kowloon Reception Reservoir (KRR) |
| D1b       | Impact Monitoring Point near Intake Site  | KBR   |
| C2        | Control Point near Outfall Site           | Natural Stream directing to LSMR                      |
| D2a       | Impact Monitoring Point near Outfall Site | LSMR  |

### **Monitoring Equipment**

#### Noise

- 2.6 As referenced to the Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO), sound level meters in compliance with the International Electrical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring.
- 2.7 Immediately prior to and following each noise measurement the accuracy of the sound level meter should be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0dB. The acoustic calibrator to be used shall meet IEC 942, 1988 Class 1 specifications. Annual calibration of all sound level meters and acoustic calibrators shall be conducted by a laboratory in Hong Kong or the manufacturer in compliance with national standards as recommended by the manufacturer of the sound level meter and acoustic calibrator.

#### Water Quality

- 2.8 DO and water temperature should be measured in-situ by a DO/temperature meter. The equipment should be portable and weather proof using a DC power source. It should have a membrane electrode with automatic temperature compensation complete with a cable. The equipment should be capable of measuring:
- A DO level in the range of 0-20 mg/l and 0-200% saturation; and
  - A temperature of between 0 and 45 degree Celsius.
- 2.9 A portable pH meter capable of measuring a range between 0.0 and 14.0 should be provided to measure pH under the specified conditions (e.g. Orion Model 250A or an approved similar instrument) accordingly to the Standard Methods, APHA.
- 2.10 Turbidity should be measured in situ by the nephelometric method. The instrument should be portable and weatherproof using a DC power source complete with cable, sensor and comprehensive operation manuals. The equipment should be capable of measuring turbidity between 0-1000 NTU.

2.11 During baseline and impact water quality monitoring, a water sampler, consisting of a transparent PVC or glass cylinder of a capacity of not less than two litres which can be effectively sealed with cups at both ends should be used. If water at sampling location is too shallow or not applicable for use of water sampler, a water bucket made of inert material (e.g. plastic) should be used instead.

|  |   |  |  |  |
|--|---|--|--|--|
|  | C1b   | D1b  | C2   | D2a  |
| Sampling Equipment Used During Baseline Water Quality Monitoring | Days used water sampler:<br>28/5/2019 and 30/5/2019 | Days used water sampler:<br>All days during baseline | Days used water sampler:<br>All days during baseline | Days used water sampler:<br>All days during baseline |
|  | Days used water bucket: 1/6/2019 – 22/6/2019        |  |  |  |
| Sampling Equipment Used During Jul 2021 Water Quality Monitoring | Please refer to Appendix F.                         |  |  |  |

2.12 In-situ monitoring instruments should be checked, calibrated and certified by a laboratory accredited under HOKLAS or other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals.

**Environmental Quality Performance Limits (Action/Limit Levels)**

2.13 The baseline results form basis for determining the environmental acceptance criteria for the impact monitoring. Derived Action/Limit Levels for noise and water quality are summarised in Table 2.5 and 2.6 respectively.

Table 2.5 – Action / Limit Levels for Construction Noise Monitoring

| Time Period   | Action Level                              | Limit Level, dB(A) |
|---|---|--------------------|
| Daytime (0700-1900) except general holidays and Sunday<br><i>*Measurements in <math>L_{eq}</math> (30min)</i>   | When one documented compliant is received | 75                 |
| Daytime (0700-1900) during general holidays and Sundays and all days during Evening (1900-2300 hrs)<br><i>*Measurements in <math>L_{eq}</math> (5min)</i> |   | 60                 |
| Night-time (2300 – 0700 hrs)<br><i>*Measurements in <math>L_{eq}</math> (5min)</i>  |   | 45                 |



Table 2.6 – Action/Limit Levels for Water Quality Monitoring

| Parameter               | Performance Criteria | Monitoring Location  |                       |
|-------------------------|----------------------|--|-----------------------|
|                         |                      | D1b  | D2a                   |
| Dissolved Oxygen (mg/L) | Action Level         | 6.1  | 6.3                   |
|                         | Limit Level          | 5.8  | 6.1                   |
| pH Value                | Action Level         | 8.8  | 9.0                   |
|                         | Limit Level          | ≤ 6.5 <b>OR</b> ≥ 8.9                                      | ≤ 6.5 <b>OR</b> ≥ 9.2 |
| Turbidity (NTU)         | Action Level         | 19.5   | 13.1                  |
|                         |                      | <b>OR</b> 120% of upstream control station of the same day |                       |
|                         | Limit Level          | 23.4   | 18.9                  |
|                         |                      | <b>OR</b> 130% of upstream control station of the same day |                       |
| Suspended Solids (mg/L) | Action Level         | 9.0  | 22.0                  |
|                         |                      | <b>OR</b> 120% of upstream control station of the same day |                       |
|                         | Limit Level          | 13.0   | 25.0                  |
|                         |                      | <b>OR</b> 130% of upstream control station of the same day |                       |

*Remarks:*

1. Non-compliance occurs when monitoring result of Dissolved Oxygen is lower than the limits.
2. Non-compliance occurs when monitoring result of pH value is higher than the Action Levels or when the result does not fall into the pH range of the Limit Levels.
3. Non-compliance occurs when monitoring results of Turbidity and Suspended Solids is higher than the limits.

**Event / Action Plan**

- 2.14 Should there be any triggering of Action Levels, or exceedance of Limit Levels, the Event / Action Plan established in the approved EM&A Manual should be followed. The Event / Action Plan is attached in **Appendix H**.

### 3. IMPACT MONITORING METHODOLOGY AND RESULTS

#### Equipment Used

- 3.1 Equipment used in impact noise and water quality monitoring during the reporting period is summarized in Table 3.1 below. Calibration certificates of equipment used are attached in **Appendix D**.

Table 3.1 – Equipment Used in the Reporting Period

| Environmental Aspect | Equipment             | Model  |
|----------------------|-----------------------|--|
| Noise                | Sound Level Meter     | Svantek 731  |
|                      | Sound Level Meter     | XL2  |
|                      | Calibrator            | Pulsar 105   |
|                      | Portable Anemometer   | Kestrel 1000   |
| Water Quality        | Multifunctional Meter | HORIBA U-53<br>Multiparameter Water<br>Quality Meter |

#### Monitoring Procedure

##### Noise

- 3.2 Field measurement procedures for each set of the noise level measurement are as followed:
- i. Record the field condition including weather conditions and any other potential source of interference;
  - ii. Turn the power of sound level meter on;
  - iii. Check the general condition of the sound level meter and the battery status;
  - iv. Mount the sound level meter onto a tripod of 1.2 m height;
  - v. Check the distance of the probe from closest facade;
  - vi. Adjust the orientation of probe so that it is facing the project site;
  - vii. Calibrate the sound level meter by using acoustic calibrator;
  - viii. Select the period of measurement to be 30 minutes;
  - ix. Select the appropriate displaying unit, dB(A);
  - x. Collect and record the sampled data;
  - xi. Calibrate the sound level meter by using acoustic calibrator. Repeat procedure ii. to xi. if the difference in calibration level is more than 1.0 dB.
- 3.3 All noise measurements were performed in the absence of fog, rain and wind with a speed exceeding 5m/s or wind with gusts exceeding 10m/s. Wind speed was checked with portable wind speed meter.

### Water Quality

- 3.4 Field measurement procedures for each set of the water quality measurement are as followed:
- i. The DO probe of the multifunctional meter is checked by wet bulb method; the pH and turbidity probes are checked against standard solutions. Record the checking result;
  - ii. Record the field condition including weather conditions and any other potential source of interference;
  - iii. Lower the sampler into water body and rinse it with water in the target water body;
  - iv. Fill the sampler until adequate sample is collected. Replicate sample at each monitoring location is required;
  - v. Rinse the bottles by the sample before transferring samples into containing bottles;
  - vi. Rinse the probe of multimeter with distilled water;
  - vii. Measure and record temperature, turbidity, pH value and DO of each bottle of sample;
  - viii. Bottles containing sample is stored temporarily in insulation box with ice until reaching the laboratory;
- 3.5 Analysis of SS was carried out in a HOKLAS accredited laboratory. Standard test method, APHA 2540 D, in accordance to American Public Health Association: Standard Methods for the Examination of Water and Wastewater APHA 21 ed was adopted.

### Data Management and QA/QC

- 3.6 The monitoring data were handled by the ET's in-house data recording and management system. Laboratory responsible for laboratory analysis would follow QA/QC requirements as set out under HOKLAS scheme.
- 3.7 The in-situ monitoring data measured in the equipment were recorded by both field operators and by the equipment itself. Laboratory analysis results were directly issued by the designated laboratory. All data were then input into a computerized database which is properly maintained by the ET. Cross checking between results was performed by other personnel.

### **Noise Monitoring Result**

- 3.8 Construction noise monitoring was performed at during the reporting period. No work was conducted during restricted hours at KBR as confirmed by the Contractor, therefore no noise monitoring was performed during restricted hours at NM2 in the reporting period.
- 3.9 Evening time construction work has been conducted since 25 March 2020. Evening time monitoring was conducted on 2, 8, 15, 23 and 30 July 2021 at NM1. The evening time construction noise monitoring data is presented in Table 3.2

Table 3.2 Summary of Evening Time Noise Monitoring Result

| Monitoring Location | Time Period                         | Leq(5min), dB(A) |      |      | Limit Level, dB(A) |
|---------------------|-------------------------------------|------------------|------|------|--------------------|
|                     |                                     | Mean             | Max  | Min  |                    |
| NM1                 | All days during Evening (1900-2300) | 45.1             | 46.4 | 43.2 | 60                 |

- 3.10 Night time construction work has been conducted since 6 April 2020. Night time monitoring was conducted 2, 8, 15, 23 and 30 July 2021. The night time construction noise monitoring data is presented in Table 3.3

Table 3.3 Summary of Night Time Noise Monitoring Result

| Monitoring Location | Time Period                       | Leq(5min), dB(A) |          |                          | Limit Level, dB(A) |
|---------------------|-----------------------------------|------------------|----------|--------------------------|--------------------|
|                     |                                   | Measured         | Baseline | Corrected <sup>(1)</sup> |                    |
| NM1                 | All days during Night (2300-0700) | 40.6-44.5        | 51.9     | Below Baseline           | 45                 |

(1) When applicable, the measured noise levels are corrected against the baseline noise levels by using the formula:

$$10 \log \left( 10^{\frac{\text{measured level}}{10}} - 10^{\frac{\text{baseline level}}{10}} \right)$$

Reference from other EIA Project which uses such formula is presented below:

[Contract No. DC/2007/10 – Design and Construction of Hong Kong West Drainage Tunnel](#)

- 3.11 Daytime during general holidays and Sundays construction work had conducted on 4, 11, 18 and 25 July 2021 at NM1. Construction noise monitoring was also conducted in the same day. The daytime during general holidays and Sundays construction noise monitoring data is presented in Table 3.4.

Table 3.4 Summary of Daytime during General Holidays and Sundays Noise Monitoring Result

| Monitoring Location | Time Period   | Leq(5min), dB(A) |      |      | Limit Level, dB(A) |
|---------------------|---|------------------|------|------|--------------------|
|                     |   | Mean             | Max  | Min  |                    |
| NM1                 | Daytime (0700-1900) during general holidays and Sundays | 52.4             | 55.3 | 50.3 | 60                 |

- 3.12 Five (5) sessions of construction noise impact monitoring at NM1 and NM2 for daytime except general holidays and Sundays. The noise monitoring data is presented in **Appendix E** and results are summarized in Table 3.5.

Table 3.5 Summary of Construction Noise Monitoring Results

| Monitoring Location | Time Period  | Leq(30min), dB(A) |      |      | Limit Level, dB(A) |
|---------------------|--|-------------------|------|------|--------------------|
|                     |  | Mean              | Max  | Min  |                    |
| NM1                 | Daytime (0700 – 1900) except general holidays and Sunday | 52.8              | 54.3 | 50.3 | 75                 |
| NM2                 |  | 51.3              | 54.5 | 49.1 |                    |

3.13 No construction noise related complaint was received in the reporting period. There was no Action / Limit Levels exceedance of construction noise recorded in the reporting period.

3.14 Weather conditions during monitoring were mainly cloudy with sunny intervals. Summary of meteorological data is presented in **Appendix G**.

**Water Quality Monitoring Result**

3.15 Water quality monitoring was performed at approved monitoring locations, i.e. C1b, D1b, C2 and D2a, during the reporting period.

3.16 Thirteen (13) sessions of water quality monitoring were performed at each of the approved monitoring locations. The water quality monitoring data is presented in **Appendix F** and results are summarized in Table 3.6.

Table 3.6 Summary of Water Quality Monitoring Results

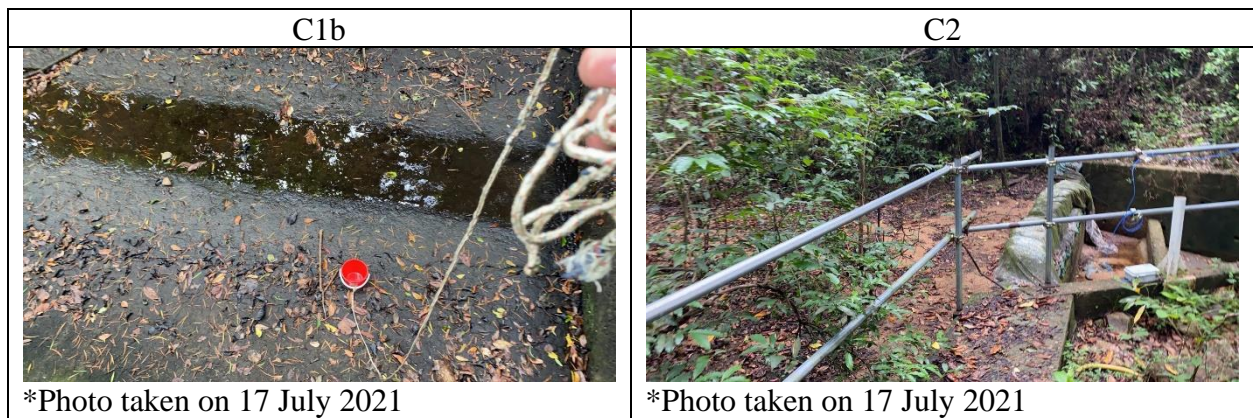
| Parameters                           |      | C1b   | D1b   | C2    | D2a   |
|--------------------------------------|------|-------|-------|-------|-------|
| Dissolved Oxygen (mg/L)              | Min  | 7.3   | 7.5   | 7.7   | 7.6   |
|                                      | Max  | 8.0   | 7.9   | 8.0   | 8.4   |
|                                      | Mean | 7.8   | 7.7   | 7.9   | 7.8   |
| Dissolved Oxygen Saturation (%)      | Min  | 98.5  | 96.3  | 100.1 | 95.5  |
|                                      | Max  | 106.8 | 105.7 | 104.8 | 115.4 |
|                                      | Mean | 102.0 | 102.1 | 102.2 | 105.6 |
| pH Value                             | Min  | 6.7   | 6.8   | 7.0   | 6.8   |
|                                      | Max  | 7.7   | 7.7   | 7.1   | 8.3   |
|                                      | Mean | 7.2   | 7.2   | 7.0   | 7.3   |
| Turbidity (NTU)                      | Min  | 3.7   | 0.6   | 3.7   | 1.1   |
|                                      | Max  | 8.6   | 9.1   | 8.1   | 11.7  |
|                                      | Mean | 6.4   | 5.0   | 6.3   | 5.1   |
| Suspended Solids <sup>1</sup> (mg/L) | Min  | 2.5   | 2.5   | 2.5   | 2.5   |
|                                      | Max  | 6.4   | 6.7   | 3.7   | 6.4   |
|                                      | Mean | 3.6   | 3.9   | 3.3   | 4.2   |

Remarks:

1. Lower detection limit of Suspended Solids is 2.5. Data lower than such limit is regarded as 2.5 in result presentation.

- 3.17 The control point C1b was observed with very shallow flow on 4, 10, 13, 15 and 17 July 2021. The control point C2 was observed with very shallow flow on 2, 4, 6, 8, 10, 13, 15, 17, 28 and 30 July 2021. Insufficient water was available for sample collection, even though water bucket was used for attempt of sampling. Alternative sampling methods are being constructed to tackle the issue.
- 3.18 Shallow water and break up into sections of the stream were observed at control points (C1 and C2), which are located at the natural stream directing to the construction site and Kowloon Byewash Reservoir and Lower Shing Mun Reservoir, during water monitoring event in July 2021; and the natural stream where C1b and C2 located were found dried up during water monitoring event in July 2021. The abnormal stream conditions for the natural stream where C1b and C2 located were considered due to lack of precipitation in this period of time. Trace amount of or no water from the natural streams where C1b and C2 located were observed flowing through the impact monitoring point (D1b and D2a) near the construction site at Kowloon Byewash Reservoir and Lower Shing Mun Reservoir in July 2021. Low water level of Kowloon Byewash Reservoir and Lower Shing Mun Reservoir was also observed as a result of lack of precipitation and/or WSD assistance in drawing off

the reservoir water. The actual sampling location of D2a is subject to the actual water level of the reservoir and was determined on-site at locations close to the site.



- 3.19 As a result, some Action and Limit levels of water quality monitoring at D1b and D2a in July 2021 were referred only to the respective percentile of baseline data according to the Baseline Monitoring Report when insufficient water was available for sample collection.
- 3.20 Weather conditions during monitoring were mainly cloudy with sunny intervals. Summary of meteorological data is presented in Appendix G.

#### 4. WASTE MANAGEMENT

4.1 An on-site environmental coordinator, i.e. Environmental Officer, has been employed by the Contractor to coordinate and supervise the project waste management works.

4.2 Waste arisen from the construction works are classified into the followings:

- Construction and demolition (C&D) material;
- Chemical waste; and
- General refuse.

4.3 Waste disposal record provided by the Contractor is summarized in Table 4.1.

Table 4.1 Summary of Waste Disposal

| Reporting period | Quantity                                       |                             |   |                                |                        |                      |
|------------------|--|-----------------------------|---|--------------------------------|------------------------|----------------------|
|                  | Inert C&D Materials<br>(in'000m <sup>3</sup> ) | Chemical Waste<br>(in'000L) | Non-inert C&D Materials   |                                |                        |                      |
|                  |  |                             | Others, e.g. General Refuse disposed at Landfill<br>(in'000m <sup>3</sup> ) | Recycled materials             |                        |                      |
|                  |  |                             |   | Paper/card board<br>(in'000kg) | Plastics<br>(in'000kg) | Metals<br>(in'000kg) |
| July 2021        | 4.0758   | 0.05                        | 0.02628   | 0                              | 0                      | 0                    |

4.4 The Monthly Summary Waste Flow Table is presented in **Appendix I**.



## 5. SITE INSPECTION

- 5.1 Joint weekly site inspections were conducted by representative of ET, Contractor and Engineer so as to monitoring the implementation of proper environmental pollution control and mitigation measures. Four (4) site inspections were performed in the reporting period.
- 5.2 One joint site inspection with IEC was also undertaken on 6 July 2021. Minor deficiencies were observed during weekly site inspection. Inspection findings are summarized in Table 5.1.

Table 5.1 Weekly Inspection Findings

| <b>Date</b>  | <b>Location</b> | <b>Observation(s)</b>  | <b>Follow-up Status</b>   |
|--------------|-----------------|--|---|
| 6 July 2021  | KBR             | No environmental deficiency was observed.  | N.A.  |
| 13 July 2021 | LSMR            | No environmental deficiency was observed.  | N.A.  |
| 20 July 2021 | LSMR            | 1. The condition of the silt curtain should be reviewed more frequently especially after heavy rain. | 1. The position of silt curtain is moved and checked the condition. |
| 27 July 2021 | KBR             | No environmental deficiency was observed.  | N.A.  |

## **6. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE**

- 6.1 No exceedance was recorded for water quality and noise monitoring in the reporting period.
- 6.2 When the nature of exceedance event is considered not project-related after investigation, no further actions as listed in the event / action plan were required.
- 6.3 There was no environmental related complaint received in the reporting period.
- 6.4 There was no notification of summon and successful prosecution for breaches of current environmental protection/pollution control legislation in the reporting period.
- 6.5 The Cumulative statistics on complaints, notifications of summons and successful prosecutions is presented in **Appendix L**.

## 7. IMPLEMENTATION STATUS OF MITIGATION MEASURES

7.1 The Contractor has been implementing environmental mitigation measures set out in the approved EM&A Manual subject to the actual site condition. The implementation schedule is presented in **Appendix J**. Mitigation measures generally implemented by the Contractor in the reporting period are summarized in Table 7.1.

Table 7.1 Implemented Environmental Mitigation Measures in the Reporting Period

| <b>Environmental Aspect</b> | <b>Mitigation Measures Implemented</b>   |
|-----------------------------|--|
| Air Quality                 | <ul style="list-style-type: none"> <li>• Water spraying at works area before, during and after operation</li> <li>• Restricting heights from which materials were to be dropped</li> <li>• All vehicles were washed to remove dusty materials immediately before leaving the site</li> <li>• Erection of hoarding of not less than 2.4m in height</li> <li>• Covering dusty materials stockpile entirely with impervious tarpaulin</li> <li>• Spraying dusty materials with water immediately prior to any loading, unloading or transfer operation</li> </ul>   |
| Construction Noise          | <ul style="list-style-type: none"> <li>• The Contractor had been submitting method statement to the Engineer Representative for the approval of working method, equipment and noise mitigation measures to be used before commencing any work</li> <li>• Unused equipment was switched off</li> <li>• Regular maintenance of plants and equipment</li> </ul>   |
| Water Quality               | <ul style="list-style-type: none"> <li>• Provision of desilting facilities within works area capable of controlling discharge of SS to comply with WPCO/TM-DSS</li> <li>• Preparing of Contingency Plan which detailing the response and procedures when there was accidental spillage</li> <li>• Provision of channels, earth bunds and sand bags barriers for directing surface runoff to desilting facilities</li> <li>• Existing manholes were covered</li> <li>• Portable chemical toilets were provided on-site and licensed contractor was employed for the collection and disposal process</li> <li>• Two layers of silt curtain were deployed to separate the works area from water gathering ground</li> <li>• Oil and grease removal materials were provided</li> <li>• Exposed slopes were either shotcreted or covered by impervious tarpaulin</li> </ul> |

|                      |  |
|----------------------|--|
| Waste Management     | <ul style="list-style-type: none"> <li>• Provision of on-site coordinator for waste management</li> <li>• Excavated material was reused on site as far as practicable to minimize off-site disposal</li> <li>• Sorting of waste materials into inert/non-inert type on-site</li> <li>• Trip Ticket System was implemented for control of C&amp;D waste disposal</li> <li>• Covered bins were provided for the containment of general refuse</li> <li>• Toolbox talks were provided to workers for enhancing their awareness</li> </ul> |
| Ecology              | <ul style="list-style-type: none"> <li>• Clear definition of site boundary was provided</li> <li>• <i>Pavetta hongkongensis</i> had been transplanted on-site</li> <li>• Eating, leaving food and feeding wildlife are forbidden in works area</li> <li>• Fishing was forbidden in works area</li> <li>• Litter was removed off-site regularly</li> <li>• Unused equipment was switched off</li> </ul>   |
| Landscape and Visual | <ul style="list-style-type: none"> <li>• Retained trees were protected</li> <li>• Hoarding erected was compatible with surrounding setting</li> </ul>  |
| Cultural Heritage    | <ul style="list-style-type: none"> <li>• Condition survey was conducted prior to the commencement of construction</li> <li>• Vibration monitoring had been implemented in accordance with recommendations in the condition survey report</li> </ul>  |

## 8. ENVIRONMENTAL FORECASTING

8.1 As advised by the Contractor, major construction works to be performed in the next reporting month, i.e. August 2021, include the followings:

| Works Area    | Major Site Activities  |
|---------------|--|
| Portion A & D | <ul style="list-style-type: none"><li>• TBM excavation</li></ul>   |
| Portion C     | <ul style="list-style-type: none"><li>• Intake structure construction</li><li>• Maintenance walkway superstructure</li></ul> |

8.2 The Contractor is reminded to properly implement mitigation measures for each specified works. The Contractor should also carefully program the drainage diversion and TBM launching platform works so as to critically protect the water gathering ground of LSMR during construction.

8.3 Tentative schedule of impact construction noise and water quality monitoring for the next reporting month, i.e. August 2021, is presented in **Appendix K**. Monitoring will be performed at same locations presented in above sections.

## **9. CONCLUSION AND RECOMMENDATIONS**

- 9.1 This is the 25<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report presents EM&A works undertaken in the period of 1 to 31 July 2021. EM&A works were performed in accordance with the approved EM&A Manual and conditions stipulated in the amended Environmental Permit EP-345/2009/A.
- 9.2 Impact monitoring for construction noise and water quality were performed in the reporting period.
- 9.3 The control point C1b was observed with very shallow flow on 4, 10, 13, 15 and 17 July 2021. The control point C2 was observed with very shallow flow on 2, 4, 6, 8, 10, 13, 15, 17, 28 and 30 July 2021. Insufficient water was available for sample collection.
- 9.4 Similar to predictions from the EIA report, no project-related exceedance was identified from the EM&A programme of the reporting month.
- 9.5 As per Section 10.3.3 of the EM&A Manual, the number and location of monitoring stations and parameters were reviewed. No significant change was observed on the surrounding environment (i.e., no new stream or water way, no new sensitive receiver and no better alternative monitoring locations which suit the descriptions in Section 5.4.2 of the EM&A Manual) or the nature of works in progress. The current monitoring locations remain to be representative; the current water quality control monitoring locations are the nearest upstream accessible stream before passing through the construction site and merging with the water body; and the current monitoring parameters have covered the possible environmental impact arising from the nature of works in progress. No change is suggested to be made to the current EM&A programme. No change in surrounding environment and nature of works in progress was noted from the Contractor and Supervisor.
- 9.6 Weekly site inspections were performed during the reporting period.
- 9.7 No complaint regarding environmental issue was received in the reporting period.
- 9.8 No notification of summons nor prosecution have been received since the commencement of the Project.
- 9.9 The Contractor is reminded that all works to be undertaken within the water gathering ground of LSMR and KBR must fulfill statutory environmental requirements, especially in watercourse protection.
- 9.10 Maintenance walkway connecting Cheung Yuen Road and intake structure, which were not shown in the EIA Report (AEIAR-135/2009), were observed inside the site boundary

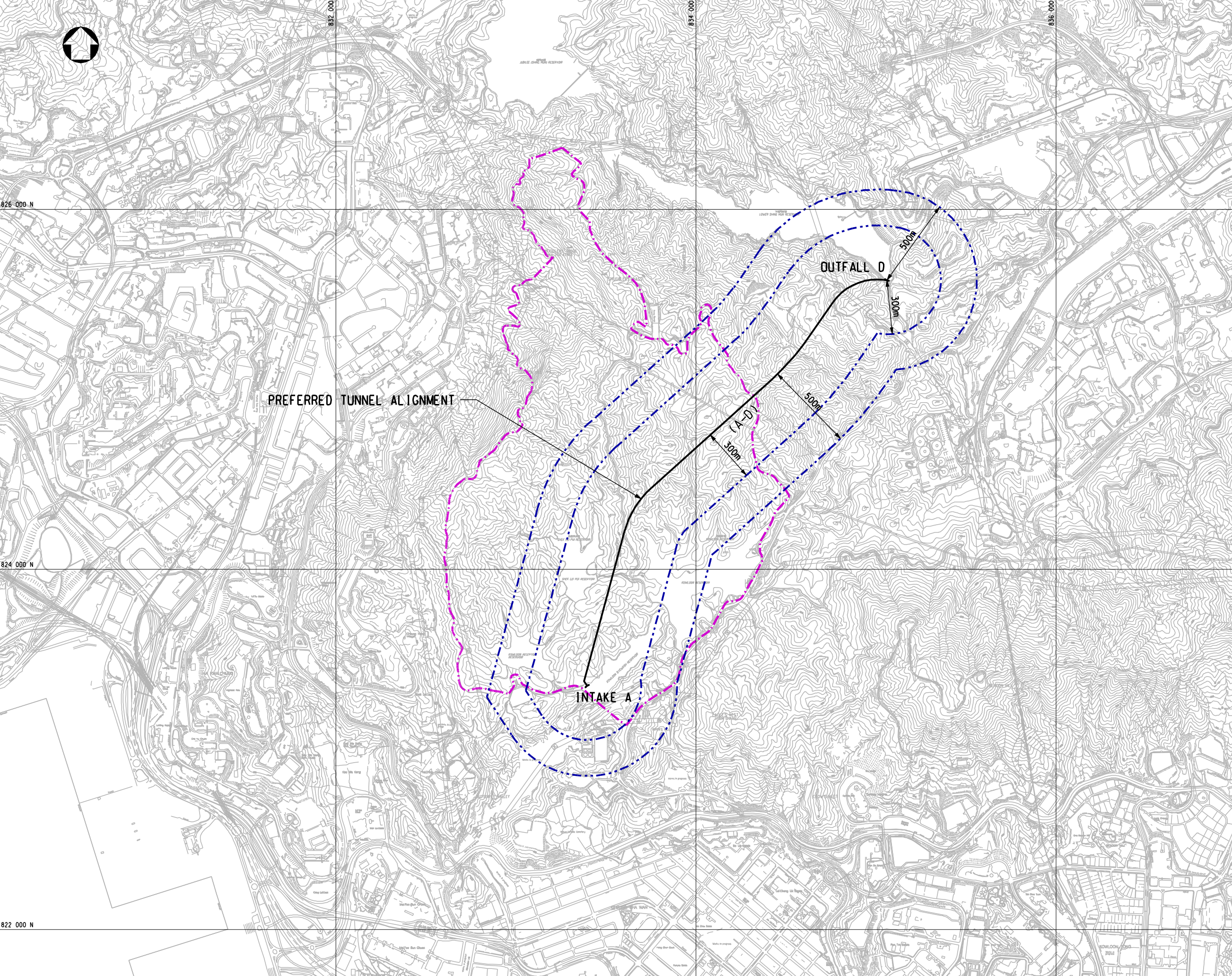
at the KBR area. Such structures shall be included in the latest Landscape Plan for authorities' approval.

Appendix A  
Project Site Layout Plan





**LEGEND:**  
 - - - - - KAM SHAN COUNTRY PARK BOUNDARY  
 - - - - - STUDY AREA




PREFERRED TUNNEL ALIGNMENT

OUTFALL D

INTAKE A

| Rev | Date | Drawn/Description | Ch'kd/App'd |
|-----|------|-------------------|-------------|
|     |      |                   |             |

Client  
 THE GOVERNMENT OF THE HONG KONG  
 SPECIAL ADMINISTRATIVE REGION  
 WATER SUPPLIES DEPARTMENT

**m Mott MacDonald**  
 Mott MacDonald Hong Kong Ltd  
 7th Floor  
 West Wing Office Building  
 New World Centre  
 20 Salisbury Road  
 Tsim Sha Tsui, Kowloon  
 Hong Kong  
 Tel: 2828 5757  
 Fax: 2827 1823  
 Web: www.mottmac.com.hk

Project  
 Agreement No. CE55/2006(EP)  
 Inter-reservoirs Transfer Scheme (IRTS)  
 Water Tunnel between Kowloon Byewash  
 Reservoir and Lower Shing Mun Reservoir  
 Environmental Impact Assessment  
 Investigation

Title  
 THE PREFERRED SCHEME

|          |       |              |     |
|----------|-------|--------------|-----|
| Designed | HN/PW | Eng.Chk.     | PW  |
| Drawn    | VN    | Coordination | PW  |
| Dwg.Chk. | HN    | Approved     | AFK |

|             |            |         |        |        |     |
|-------------|------------|---------|--------|--------|-----|
| Scale       | 1:10000@A1 | Project | 240564 | Status | INF |
| Drawing No. | CAD File   |         |        | Rev    |     |

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FIGURE 1-1

## Appendix B

# Latest Construction Programme



# IRTS: 3 Month Rolling Programme (Jul 21 ~ Sep 21)

Layout : 4 -IRT-Rolling Y21M06D30a  
 TASK filters: 3 Month Rolling, Level of Effort.  
 Data Date : 30-Jun-21

| Activity ID  | Activity Name   | Dur | Start       | Finish     | 2021   |        |        |        |   |
|--|---|-----|-------------|------------|--------|--------|--------|--------|---|
|  |   |     |             |            | Jun 28 | Jul 29 | Aug 30 | Sep 31 | Oct 32  |
| <b>IRTS - 3M Rolling Programme (Y21M06D28a-2)</b>                              |   |     |             |            |        |        |        |        |   |
| <b>Contract Dates</b>  |   |     |             |            |        |        |        |        |   |
| <b>Project Completion</b>  |   |     |             |            |        |        |        |        |   |
| <b>Defect Dates</b>  |   |     |             |            |        |        |        |        |   |
| <b>Contract Provision</b>  |   |     |             |            |        |        |        |        |   |
| DLP_S2_1010  | Section 2 - End of Defect Date  | 0   |             | 03-Oct-21* |        |        |        |        | ◆ Section 2 - End of Defect Date,   |
| <b>Forecast</b>  |   |     |             |            |        |        |        |        |   |
| DLP_S2_1020  | Forecast Section 2 - End of Defect Date   | 0   |             | 03-Oct-21* |        |        |        |        | ◆ Forecast Section 2 - End of Defect Date   |
| <b>Preliminaries and General Requirements</b>                                  |   |     |             |            |        |        |        |        |   |
| <b>Procurement of Consultants and Sub-Contractors</b>                          |   |     |             |            |        |        |        |        |   |
| <b>Sub-Contractors</b>   |   |     |             |            |        |        |        |        |   |
| Pro_SCon_1700  | Subcontract Enhancement works at Kam Shan Country park works *(P3)                | 38  | 04-Aug-21   | 16-Sep-21  |        |        |        | █      | Subcontract Enhancement works at Kam Shan Country park work                       |
| <b>Tai Po Road Site (TGLA No. TST453)</b>                                      |   |     |             |            |        |        |        |        |   |
| TPR_GW-1040  | General Site Storage  | 891 | 02-Jul-19A  | 19-Jul-22  |        |        |        |        |   |
| <b>CSD Submission</b>  |   |     |             |            |        |        |        |        |   |
| <b>CSD 2 - Alternative Alignment &amp; Intake Structure</b>                    |   |     |             |            |        |        |        |        |   |
| <b>Alternative Works (Subject to approval of alternative tunnel alignment)</b> |   |     |             |            |        |        |        |        |   |
| CSD_FF_2210  | Intake Structure Wall Construction  | 80  | 01-Apr-21A  | 28-Jul-21  |        |        |        |        | Intake Structure Wall Construction  |
| CSD_FF_2210-20   | Mined Tunnel Construction (Stage 1 - 2.0m)  | 36  | 10-Jun-21A  | 04-Aug-21  |        |        |        |        | Mined Tunnel Construction (Stage 1 - 2.0m)  |
| CSD_FF_2210-30   | Mined Tunnel Construction (Stage 2 - 0.7555m - Tunnel Breakthrough)               | 14  | 13-Sep-21   | 29-Sep-21  |        |        |        |        | Mined Tunnel Construction (Stage 2 - 0.7555m)                                     |
| CSD_FF_2225  | Internal Staircase Construction   | 24  | 30-Jun-21   | 28-Jul-21  |        |        |        |        | Internal Staircase Construction   |
| CSD_FF_2230  | E&M Installation  | 168 | 29-Jul-21   | 23-Feb-22  |        |        |        |        | E&M Installation  |
| <b>Feasibility Study for Maintenance Walkway at KBR (CE-054)</b>               |   |     |             |            |        |        |        |        |   |
| <b>Design Submissions</b>  |   |     |             |            |        |        |        |        |   |
| CSD_FF_3190  | DDAComment/ Approval for Decking for Maintenance Walkway                          | 24  | 24-Jun-21A  | 22-Jul-21  |        |        |        |        | DDAComment/ Approval for Decking for Maintenance Walkway                          |
| CSD_FF_3210  | DDAComment/ Approval for Extension of Spillage Drainage Channel                   | 24  | 02-Jul-21   | 29-Jul-21  |        |        |        |        | DDAComment/ Approval for Extension of Spillage Drainage Channel                   |
| CSD_FF_3270  | DDAComment/ Approval for Ladder & Platform at Intake Structure                    | 28  | 02-Jul-21   | 03-Aug-21  |        |        |        |        | DDAComment/ Approval for Ladder & Platform at Intake Structure                    |
| CSD_FF_3290  | Ready for Procurement   | 0   |             | 03-Aug-21  |        |        |        |        | ◆ Ready for Procurement,  |
| <b>Tunneling Works</b>   |   |     |             |            |        |        |        |        |   |
| <b>Design Submission</b>   |   |     |             |            |        |        |        |        |   |
| <b>Mined Tunnel Temporary Works Design</b>                                     |   |     |             |            |        |        |        |        |   |
| <b>KBR Mined Tunnel</b>  |   |     |             |            |        |        |        |        |   |
| MTD_KB_3000  | 2nd Submission - Mined Tunnel Temp.Works Design Preparation & Submission with ICE | 28  | 28-Jun-21A  | 30-Jul-21  |        |        |        |        | 2nd Submission - Mined Tunnel Temp.Works Design Preparation & Submission with ICE |
| MTD_KB_4000  | Review and Acceptance (GEO)   | 18  | 31-Jul-21   | 20-Aug-21  |        |        |        |        | Review and Acceptance (GEO)   |
| <b>Mined Tunnel Permanent Works Design</b>                                     |   |     |             |            |        |        |        |        |   |
| MTD_KB_4020  | Review and Comments   | 18  | 02-Jul-21   | 22-Jul-21  |        |        |        |        | Review and Comments   |
| MTD_KB_4030  | 2nd Submission - Mined Tunnel Design Preparation & Submission with ICE            | 28  | 23-Jul-21   | 24-Aug-21  |        |        |        |        | 2nd Submission - Mined Tunnel Design Preparation & Submission with ICE            |
| MTD_KB_4040  | Review and Acceptance   | 18  | 25-Aug-21   | 14-Sep-21  |        |        |        |        | Review and Acceptance   |
| <b>Lining Mould Procurement, Manufacture and Delivery</b>                      |   |     |             |            |        |        |        |        |   |
| TBM_Ln_1500  | 2nd Batch : Segment Fabrication 1579 rings  | 315 | 11-Jun-20 A | 16-Jul-21  |        |        |        |        | 2nd Batch : Segment Fabrication 1579 rings  |

█ Actual Level of Effort    █ Critical Remaining Work  
█ Actual Work            ◆ Milestone  
█ Remaining Work

Contract No. DC/2018/08 : Inter-Reservoirs Transfer Scheme  
 Water Tunnel Between Kowloon Byewash Reservoir and Lower Shing Mun Reservoir

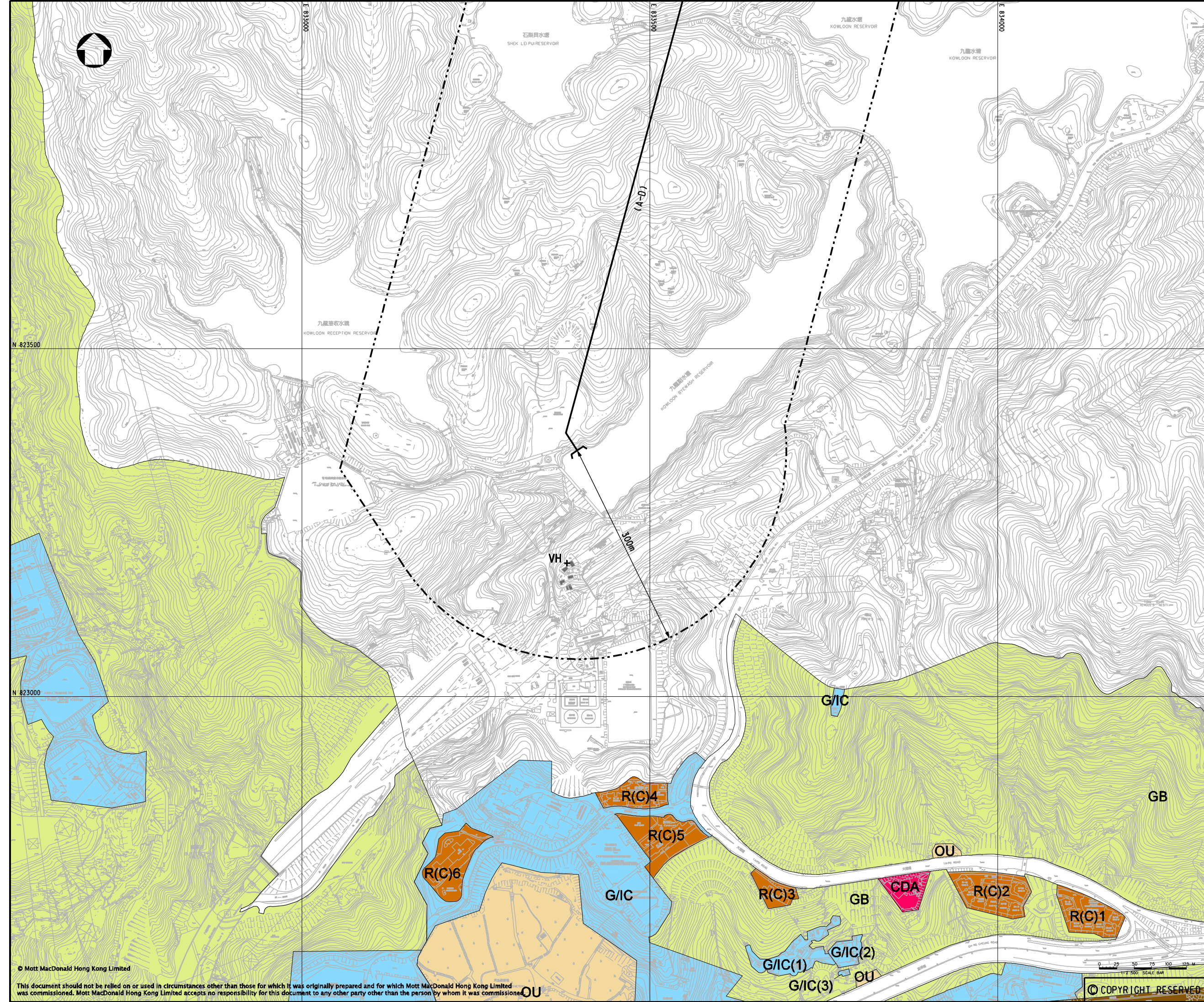
| Date      | Revision           | Checked  | Approved |
|-----------|--------------------|----------|----------|
| 30-Jun-21 | Rolling Y21M06D30a | A. Tsang |          |
|           |                    |          |          |

Appendix C  
Monitoring Locations




**LEGEND:**

- STUDY AREA BOUNDARY
- PREFERRED TUNNEL ALIGNMENT
- + NOISE SENSITIVE RECEIVER
- C COMMERCIAL
- CDA COMPREHENSIVE DEVELOPMENT AREA
- G/IC GOVERNMENT/INSTITUTION/COMMUNITY
- GB GREEN BELT
- I INDUSTRIAL
- O OPEN SPACE
- OU OTHER SPECIFIED USES
- RIA1 RESIDENTIAL (GROUP A)
- RIA2 RESIDENTIAL (GROUP B)
- RIA3 RESIDENTIAL (GROUP C)
- RIA4 RESIDENTIAL (GROUP E)
- V VILLAGE TYPE DEVELOPMENT



| Rev | Date | Drawn/Description | Ch'kd/App'd |
|-----|------|-------------------|-------------|
|     |      |                   |             |

Client



THE GOVERNMENT OF THE HONG KONG  
SPECIAL ADMINISTRATIVE REGION  
WATER SUPPLIES DEPARTMENT

**m Mott MacDonald**

Mott MacDonald Hong Kong Ltd  
7th Floor  
West Wing Office Building  
New World Centre  
20 Salisbury Road  
Tsim Sha Tsui, Kowloon  
Hong Kong  
Tel: 2828 5757  
Fax: 2827 1823  
Web: www.mottmac.com.hk

Project  
Agreement No. CE55/2006(EP)  
Inter-reservoirs Transfer Scheme (IRTS)  
Water Tunnel between Kowloon Byewash  
Reservoir and Lower Shing Mun Reservoir  
Environmental Impact Assessment  
Investigation

Title  
THE STUDY AREA AND  
REPRESENTATIVE NSRs (INTAKE END)

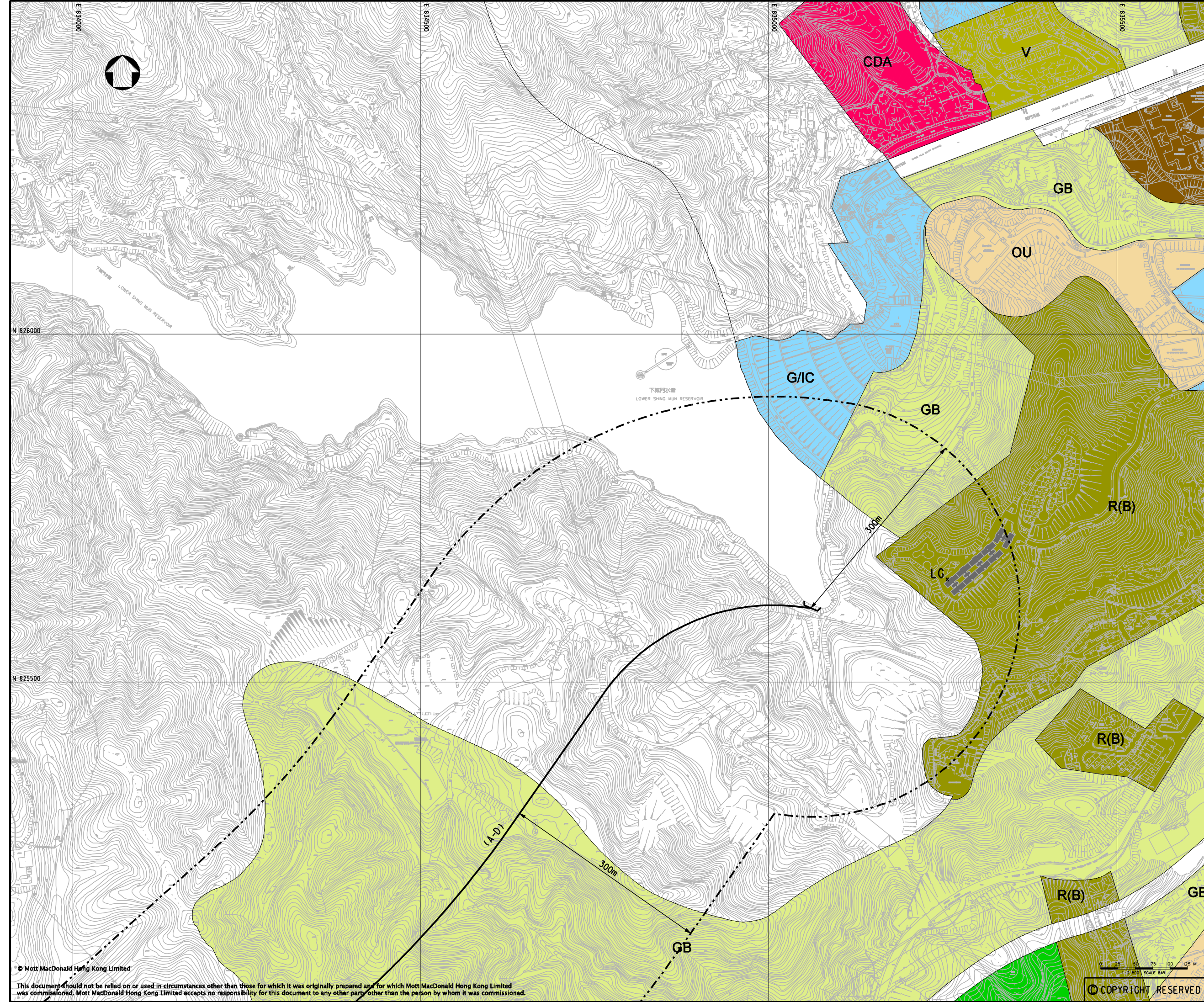
|          |       |              |     |
|----------|-------|--------------|-----|
| Designed | HN/PW | Eng.Chk.     | PW  |
| Drawn    | VN    | Coordination | PW  |
| Dwg.Chk. | HN    | Approved     | AFK |

Scale  
1:2500@A1

Project  
240564

Status  
INF

Drawing No.  
FIGURE 4-1



**LEGEND:**

- STUDY AREA BOUNDARY
- PREFERRED TUNNEL ALIGNMENT
- + NOISE SENSITIVE RECEIVER
- C COMMERCIAL
- CDA COMPREHENSIVE DEVELOPMENT AREA
- G/IC GOVERNMENT/INSTITUTION/COMMUNITY
- GB GREEN BELT
- I INDUSTRIAL
- O OPEN SPACE
- OU OTHER SPECIFIED USES
- R(A) RESIDENTIAL (GROUP A)
- R(B) RESIDENTIAL (GROUP B)
- R(C) RESIDENTIAL (GROUP C)
- R(E) RESIDENTIAL (GROUP E)
- V VILLAGE TYPE DEVELOPMENT

| Rev | Date | Drawn/Description | Ch'kd/App'd |
|-----|------|-------------------|-------------|
|     |      |                   |             |

Client

THE GOVERNMENT OF THE HONG KONG  
SPECIAL ADMINISTRATIVE REGION  
WATER SUPPLIES DEPARTMENT

**Mott MacDonald**

Mott MacDonald Hong Kong Ltd  
7th Floor  
West Wing Office Building  
New World Centre  
20 Salisbury Road  
Tsim Sha Tsui, Kowloon  
Hong Kong  
Tel: 2828 5757  
Fax: 2827 1823  
Web: www.mottmac.com.hk

Project

Agreement No. CE55/2006(EP)  
Inter-reservoirs Transfer Scheme (IRTS)  
Water Tunnel between Kowloon Byewash  
Reservoir and Lower Shing Mun Reservoir  
Environmental Impact Assessment  
Investigation

Title

PROPOSED LOCATION OF NOISE  
MONITORING STATION AT OUTFALL END

|          |       |              |     |
|----------|-------|--------------|-----|
| Designed | HN/PW | Eng.Chk.     | PW  |
| Drawn    | VN    | Coordination | PW  |
| Dwg.Chk. | HN    | Approved     | AFK |

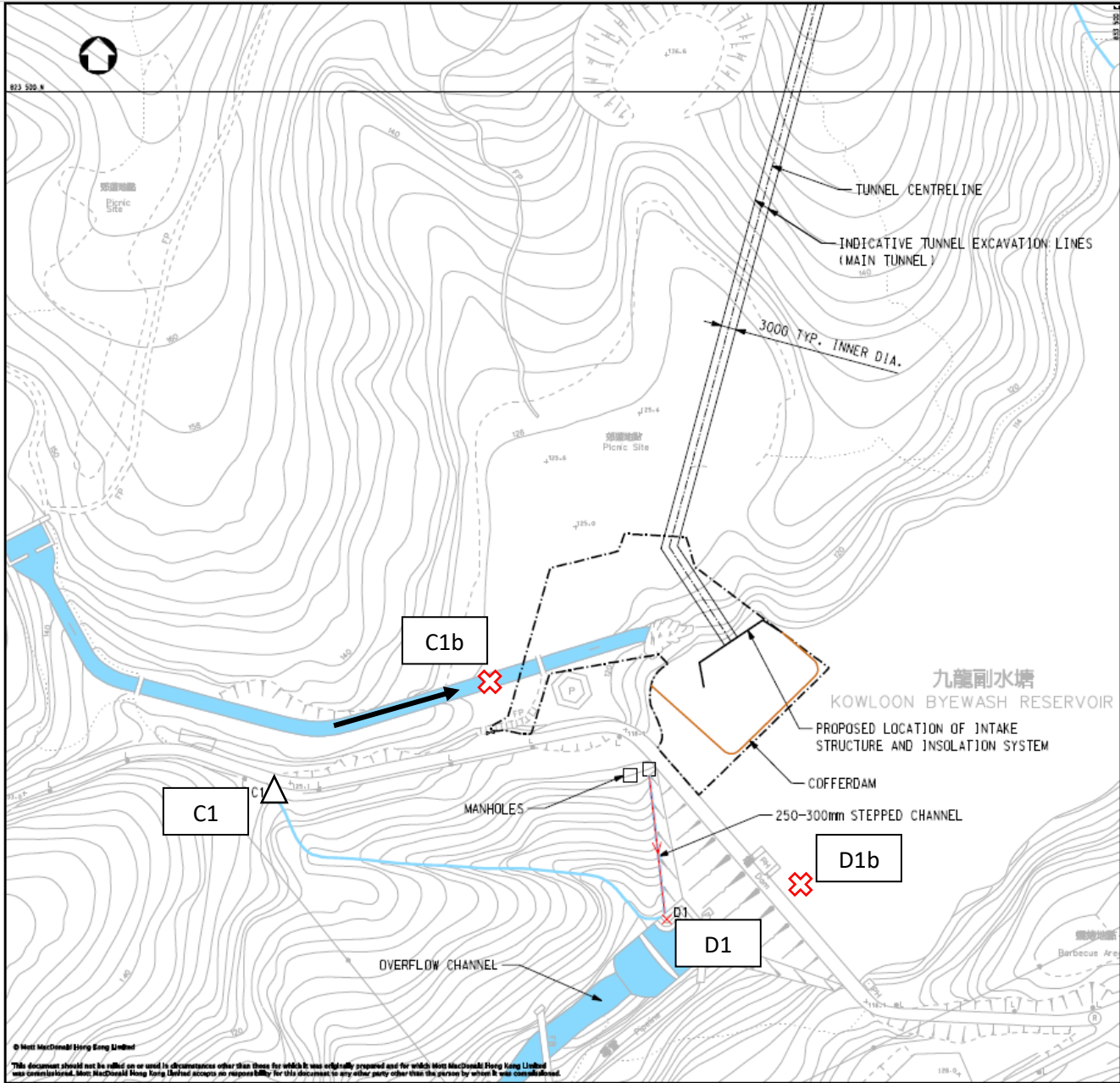
Scale

1:2500@A1

Project 240564

Status INF

Drawing No. FIGURE 4-2



NOTE:  
DESIGN DETAILS OF THE COFFERDAM WILL BE DETERMINED BY THE CONTRACTOR.

- LEGEND:
- WORKSITE AREA
  - WATERCOURSE
  - INDICATIVE LOCATION OF COFFERDAM
  - FLOW PATH OF TREATED EFFLUENT
  - POINT OF EFFLUENT DISCHARGE / MONITORING STATION D1
  - CONTROL STATION AT INTAKE SITE
  - Proposed Alternative Water Monitoring Station

|     |        |         |                 |               |               |
|-----|--------|---------|-----------------|---------------|---------------|
| FF  | REV 00 | WDG     | ISSUE AMENDMENT | FI            | APR           |
| FF  | REV 00 | WDG     | ISSUE AMENDMENT | FI            | APR           |
| FF  | REV 00 | WN      | FIRST ISSUE     | FL            | APR           |
| Rev | Drawn  | Checked | Drawn/Checked   | Drawn/Checked | Drawn/Checked |

THE GOVERNMENT OF THE HONG KONG  
SPECIAL ADMINISTRATIVE REGION  
WATER SUPPLIES DEPARTMENT

**Mott MacDonald**  
22/F, One World Finance Centre  
121 Hing Fong Street  
Kowloon, Hong Kong  
Tel: 852 2512 8888  
Fax: 852 2512 8888  
www.mottmac.com.hk

Project:  
Agreement No. CE55/2006 (EP)  
Inter-reservoirs Transfer Scheme (IRTS)  
Water Tunnel between Kowloon Byewash Reservoir and Lower Shing Mun Reservoir  
Environmental Impact Assessment Investigation

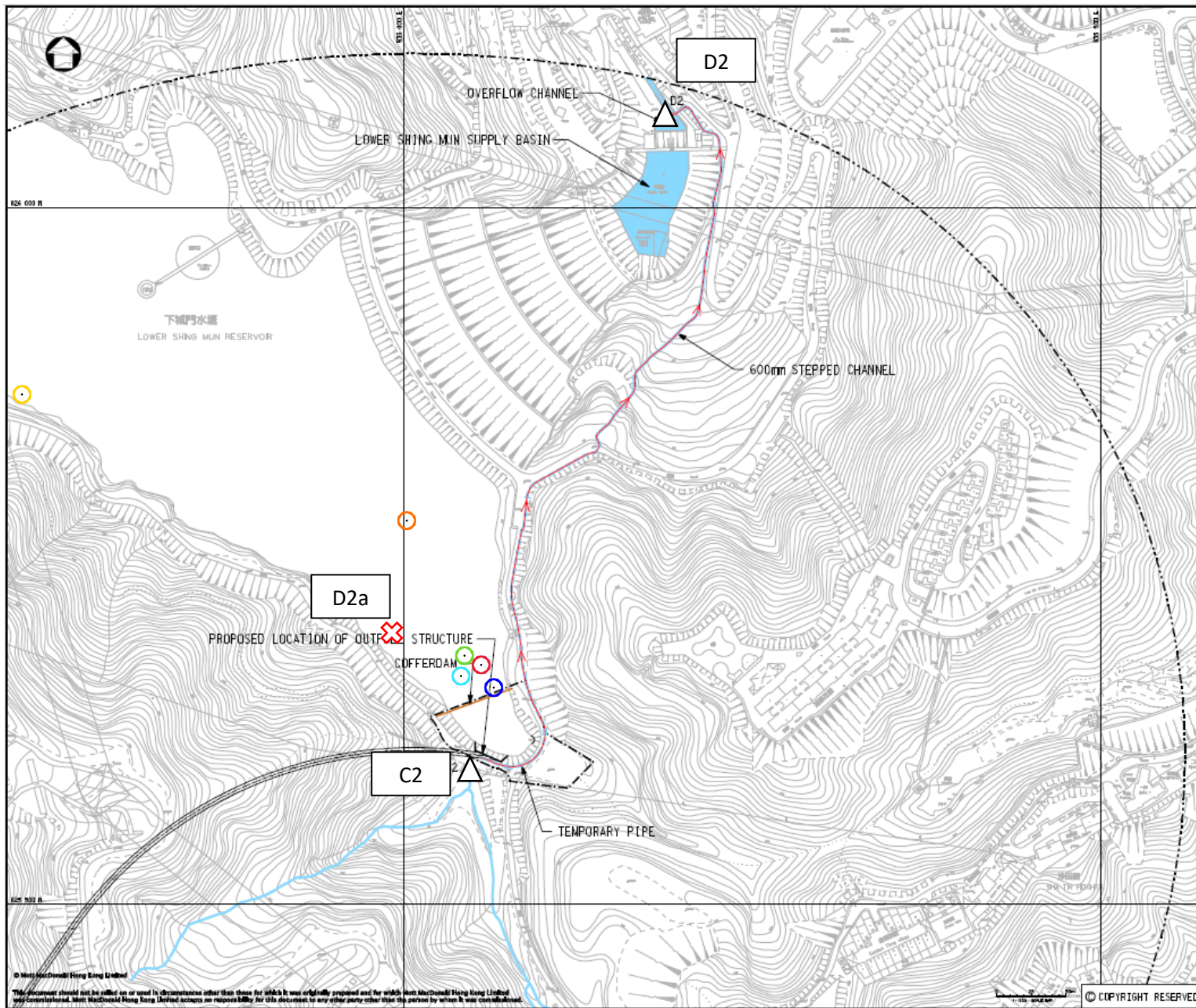
PROPOSED WATER QUALITY MONITORING STATION AT INTAKE END

|          |     |          |    |
|----------|-----|----------|----|
| Designed | FF  | Checked  | FF |
| Drawn    | WDG | Approved | FF |
| Sup/Chk  | FF  | Approved | FF |

Scale: 1:500@A1  
Project No: 240564  
Date: 21/03/2007  
Drawing No: 5-1

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- NOTE:**  
DESIGN DETAILS OF THE COFFERDAM WILL BE DETERMINED BY THE CONTRACTOR.
- LEGEND:**
- STUDY AREA BOUNDARY
  - WORKSITE AREA
  - WATERCOURSE
  - TEMPORARY PIPE
  - INDICATIVE LOCATION OF COFFERDAM
  - FLOW PATH OF TREATED EFFLUENT
  - ✗ POINT OF EFFLUENT DISCHARGE / MONITORING STATION (X)
  - △ CONTROL STATION AT OUTFALL SITE
  - ✗ Proposed Alternative Water Monitoring Station
  - Approximate sampling location on 2 Jul 2021
  - Approximate sampling location on 4-6 Jul 2021
  - Approximate sampling location on 8-10 Jul 2021
  - Approximate sampling location on 13-17 Jul 2021
  - Approximate sampling location on 21-25 Jul 2021
  - Approximate sampling location on 28-30 Jul 2021

|    |        |     |     |     |     |     |     |     |     |
|----|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| FR | REV 01 | NOV | NOV | NOV | NOV | NOV | NOV | NOV | NOV |
| FR | REV 02 | NOV | NOV | NOV | NOV | NOV | NOV | NOV | NOV |
| FR | REV 03 | NOV | NOV | NOV | NOV | NOV | NOV | NOV | NOV |

**THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION**  
WATER SUPPLIES DEPARTMENT

**Mott MacDonald**  
Mott MacDonald Hong Kong Ltd  
28/F, One World Building  
One World Centre  
23rd Floor  
The One, The Garden  
Hong Kong  
Tel: 852 2500 1111  
www.mottmac.com.hk

Project: Agreement No. CE55/2006 (EP) Inter-reservoirs Transfer Scheme (IRTS) Water Tunnel between Kowloon Byewash Reservoir and Lower Shing Mun Reservoir Environmental Impact Assessment Investigation

PROPOSED WATER QUALITY MONITORING STATION AT OUTFALL END

|         |     |          |    |
|---------|-----|----------|----|
| Checked | FR  | Checked  | FR |
| Drawn   | NOV | Checked  | FR |
| Eng. OK | FR  | Approved | FR |

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## Appendix D

# Calibration Certificates of Equipment Used

# Certificate of Calibration

for

**Description:** Sound Level Meter  
**Manufacturer:** SVANTEK  
**Type No.:** 971 (Serial No.: 77731)  
**Microphone:** ACO 7052E (Serial No.: 78123)  
**Preamplifier:** SV18 (Serial No.: 78763)

**Submitted by:**

**Customer:** Acuity Sustainability Consulting Limited  
**Address:** Unit 1908, Nos. 301-305 Castle Peak Road,  
Kwai Chung, N.T.

Upon receipt for calibration, the instrument was found to be:

- Within  
 Outside

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

**Date of receipt:** 4 February 2021

**Date of calibration:** 9 February 2021

**Calibrated by:** \_\_\_\_\_  
Calibration Technician

**Certified by:** \_\_\_\_\_  
Mr. Ng Yan Wa  
Laboratory Manager

**Date of issue:** 9 February 2021

**Certificate No.:** APJ20-172-CC001



**1. Calibration Precaution:**

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

**2. Calibration Conditions:**

Air Temperature: 23.0 °C  
 Air Pressure: 1003 hPa  
 Relative Humidity: 54.5 %

**3. Calibration Equipment:**

|                          | Type     | Serial No. | Calibration Report Number | Traceable to |
|--------------------------|----------|------------|---------------------------|--------------|
| Multifunction Calibrator | B&K 4226 | 2288467    | AV200041                  | HOKLAS       |

**4. Calibration Results**

Sound Pressure Level

Reference Sound Pressure Level

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading, dB | IEC 61672 Class 1 Specification, dB |
|----------------------------------|-----------------|----------------|---------------|---------------|-----------------|-------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                 |                                     |
| 34.2-136.2                       | dBa SPL         | Fast           | 94            | 1000          | 94.0            | ±0.4                                |

Linearity

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading, dB | IEC 61672 Class 1 Specification, dB |
|----------------------------------|-----------------|----------------|---------------|---------------|-----------------|-------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                 |                                     |
| 34.2-136.2                       | dBa SPL         | Fast           | 94            | 1000          | 94.0            | Ref                                 |
|                                  |                 |                | 104           |               | 104.0           | ±0.3                                |
|                                  |                 |                | 114           |               | 114.0           | ±0.3                                |

Time Weighting

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading, dB | IEC 61672 Class 1 Specification, dB |
|----------------------------------|-----------------|----------------|---------------|---------------|-----------------|-------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                 |                                     |
| 34.2-136.2                       | dBa SPL         | Fast           | 94            | 1000          | 94.0            | Ref                                 |
|                                  |                 | Slow           |               |               | 94.0            | ±0.3                                |

Frequency Response

Linear Response

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading,<br>dB | IEC 61672 Class 1<br>Specification, dB |      |
|----------------------------------|-----------------|----------------|---------------|---------------|--------------------|--|------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                    |  |      |
| 34.2-136.2                       | dB              | SPL            | 94            | Fast          | 31.5               | 94.3                                   | ±2.0 |
|                                  |                 |                |               |               | 63                 | 94.4                                   | ±1.5 |
|                                  |                 |                |               |               | 125                | 94.2                                   | ±1.5 |
|                                  |                 |                |               |               | 250                | 94.1                                   | ±1.4 |
|                                  |                 |                |               |               | 500                | 94.0                                   | ±1.4 |
|                                  |                 |                |               |               | 1000               | 94.0                                   | Ref  |
|                                  |                 |                |               |               | 2000               | 93.7                                   | ±1.6 |
| 4000                             | 93.0            | ±1.6           |               |               |                    |  |      |

A-weighting

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading,<br>dB | IEC 61672 Class 1<br>Specification, dB |           |
|----------------------------------|-----------------|----------------|---------------|---------------|--------------------|--|-----------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                    |  |           |
| 34.2-136.2                       | dBA             | SPL            | 94            | Fast          | 31.5               | 55.9                                   | -39.4±2.0 |
|                                  |                 |                |               |               | 63                 | 68.1                                   | -26.2±1.5 |
|                                  |                 |                |               |               | 125                | 78.0                                   | -16.1±1.5 |
|                                  |                 |                |               |               | 250                | 85.4                                   | -8.6±1.4  |
|                                  |                 |                |               |               | 500                | 90.8                                   | -3.2±1.4  |
|                                  |                 |                |               |               | 1000               | 94.0                                   | Ref       |
|                                  |                 |                |               |               | 2000               | 94.9                                   | +1.2±1.6  |
| 4000                             | 94.0            | +1.0±1.6       |               |               |                    |  |           |

C-weighting

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading,<br>dB | IEC 61672 Class 1<br>Specification, dB |          |
|----------------------------------|-----------------|----------------|---------------|---------------|--------------------|--|----------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                    |  |          |
| 34.2-136.2                       | dBC             | SPL            | 94            | Fast          | 31.5               | 91.3                                   | -3.0±2.0 |
|                                  |                 |                |               |               | 63                 | 93.4                                   | -0.8±1.5 |
|                                  |                 |                |               |               | 125                | 94.0                                   | -0.2±1.5 |
|                                  |                 |                |               |               | 250                | 94.1                                   | -0.0±1.4 |
|                                  |                 |                |               |               | 500                | 94.1                                   | -0.0±1.4 |
|                                  |                 |                |               |               | 1000               | 94.0                                   | Ref      |
|                                  |                 |                |               |               | 2000               | 93.5                                   | -0.2±1.6 |
| 4000                             | 92.2            | -0.8±1.6       |               |               |                    |  |          |

Certificate No.: APJ20-172-CC001



Page 3 of 4

## 5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

|        |         |        |
|--------|---------|--------|
| 94 dB  | 31.5 Hz | ± 0.05 |
|        | 63 Hz   | ± 0.10 |
|        | 125 Hz  | ± 0.10 |
|        | 250 Hz  | ± 0.05 |
|        | 500 Hz  | ± 0.05 |
|        | 1000 Hz | ± 0.05 |
|        | 2000 Hz | ± 0.05 |
|        | 4000 Hz | ± 0.05 |
| 104 dB | 1000 Hz | ± 0.05 |
| 114 dB | 1000 Hz | ± 0.05 |

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow 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 calibration. (A+A)\*L shall not be liable for any loss or damage resulting from the use of the equipment.

# Certificate of Calibration

for

**Description:** *Sound Level Meter*  
**Manufacturer:** *NTi Audio*  
**Type No.:** *XL2 (Serial No.: A2A-17638-E0)*  
**Microphone:** *ACO 7052 (Serial No.:68746)*  
**Preamplifier:** *NTi Audio M2211 MA220 (Serial No.:7014)*

**Submitted by:**

**Customer:** *Acuity Sustainability Consulting Limited*  
**Address:** *Unit C, 11/F., Ford Glory Plaza, No. 37-39 Wing Hong Street,  
Cheung Sha Wan, Kowloon*

Upon receipt for calibration, the instrument was found to be:

- Within**  
 **Outside**

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

**Date of receipt:** 22 March 2021

**Date of calibration:** 24 March 2021

**Calibrated by:** \_\_\_\_\_  
*Calibration Technician*

**Certified by:** \_\_\_\_\_  
*Mr. Ng Yan Wa*  
*Laboratory Manager*

**Date of issue:** 24 March 2021

Certificate No.: APJ20-185-CC001



Page 1 of 4

**1. Calibration Precaution:**

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

**2. Calibration Conditions:**

Air Temperature: 23.2 °C  
 Air Pressure: 1006 hPa  
 Relative Humidity: 57.6 %

**3. Calibration Equipment:**

|                          | Type     | Serial No. | Calibration Report Number | Traceable to |
|--------------------------|----------|------------|---------------------------|--------------|
| Multifunction Calibrator | B&K 4226 | 2288467    | AV200041                  | HOKLAS       |

**4. Calibration Results**

Sound Pressure Level

Reference Sound Pressure Level

| Setting of Unit-under-test (UUT) |                 |                |           | Applied value |      | UUT Reading, dB | IEC 61672 Class 1 Specification, dB |
|----------------------------------|-----------------|----------------|-----------|---------------|------|-----------------|-------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB | Frequency, Hz |      |                 |                                     |
| 30-130                           | dBA SPL         | Fast           | 94        | 1000          | 94.1 | ±0.4            |                                     |

Linearity

| Setting of Unit-under-test (UUT) |                 |                |           | Applied value |       | UUT Reading, dB | IEC 61672 Class 1 Specification, dB |
|----------------------------------|-----------------|----------------|-----------|---------------|-------|-----------------|-------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB | Frequency, Hz |       |                 |                                     |
| 30-130                           | dBA SPL         | Fast           | 94        | 1000          | 94.1  | Ref             |                                     |
|                                  |                 |                | 104       |               | 104.1 | ±0.3            |                                     |
|                                  |                 |                | 114       |               | 114.1 | ±0.3            |                                     |

Time Weighting

| Setting of Unit-under-test (UUT) |                 |                |           | Applied value |      | UUT Reading, dB | IEC 61672 Class 1 Specification, dB |
|----------------------------------|-----------------|----------------|-----------|---------------|------|-----------------|-------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB | Frequency, Hz |      |                 |                                     |
| 30-130                           | dBA SPL         | Fast           | 94        | 1000          | 94.1 | Ref             |                                     |
|                                  |                 | Slow           |           |               | 94.1 | ±0.3            |                                     |

Certificate No.: APJ20-185-CC001



Page 2 of 4



Frequency Response

Linear Response

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading,<br>dB | IEC 61672 Class 1<br>Specification, dB |            |
|----------------------------------|-----------------|----------------|---------------|---------------|--------------------|--|------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                    |  |            |
| 30-130                           | dB              | SPL            | Fast          | 94            | 31.5               | 94.1                                   | ±2.0       |
|                                  |                 |                |               |               | 63                 | 94.2                                   | ±1.5       |
|                                  |                 |                |               |               | 125                | 94.2                                   | ±1.5       |
|                                  |                 |                |               |               | 250                | 94.1                                   | ±1.4       |
|                                  |                 |                |               |               | 500                | 94.2                                   | ±1.4       |
|                                  |                 |                |               |               | 1000               | 94.1                                   | Ref        |
|                                  |                 |                |               |               | 2000               | 94.3                                   | ±1.6       |
|                                  |                 |                |               |               | 4000               | 94.6                                   | ±1.6       |
|                                  |                 |                |               |               | 8000               | 92.8                                   | +2.1; -3.1 |

A-weighting

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading,<br>dB | IEC 61672 Class 1<br>Specification, dB |                |
|----------------------------------|-----------------|----------------|---------------|---------------|--------------------|--|----------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                    |  |                |
| 30-130                           | dBA             | SPL            | Fast          | 94            | 31.5               | 54.7                                   | -39.4±2.0      |
|                                  |                 |                |               |               | 63                 | 68.0                                   | -26.2±1.5      |
|                                  |                 |                |               |               | 125                | 78.1                                   | -16.1±1.5      |
|                                  |                 |                |               |               | 250                | 85.5                                   | -8.6±1.4       |
|                                  |                 |                |               |               | 500                | 91.0                                   | -3.2±1.4       |
|                                  |                 |                |               |               | 1000               | 94.1                                   | Ref            |
|                                  |                 |                |               |               | 2000               | 95.5                                   | +1.2±1.6       |
|                                  |                 |                |               |               | 4000               | 95.6                                   | +1.0±1.6       |
|                                  |                 |                |               |               | 8000               | 91.8                                   | -1.1±2.1; -3.1 |

C-weighting

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading,<br>dB | IEC 61672 Class 1<br>Specification, dB |                |
|----------------------------------|-----------------|----------------|---------------|---------------|--------------------|--|----------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                    |  |                |
| 30-130                           | dBC             | SPL            | Fast          | 94            | 31.5               | 91.1                                   | -3.0±2.0       |
|                                  |                 |                |               |               | 63                 | 93.3                                   | -0.8±1.5       |
|                                  |                 |                |               |               | 125                | 94.0                                   | -0.2±1.5       |
|                                  |                 |                |               |               | 250                | 94.1                                   | -0.0±1.4       |
|                                  |                 |                |               |               | 500                | 94.2                                   | -0.0±1.4       |
|                                  |                 |                |               |               | 1000               | 94.1                                   | Ref            |
|                                  |                 |                |               |               | 2000               | 94.1                                   | -0.2±1.6       |
|                                  |                 |                |               |               | 4000               | 93.8                                   | -0.8±1.6       |
|                                  |                 |                |               |               | 8000               | 89.8                                   | -3.0±2.1; -3.1 |

## 5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

|        |         |        |
|--------|---------|--------|
| 94 dB  | 31.5 Hz | ± 0.10 |
|        | 63 Hz   | ± 0.05 |
|        | 125 Hz  | ± 0.05 |
|        | 250 Hz  | ± 0.05 |
|        | 500 Hz  | ± 0.05 |
|        | 1000 Hz | ± 0.05 |
|        | 2000 Hz | ± 0.05 |
|        | 4000 Hz | ± 0.05 |
|        | 8000 Hz | ± 0.10 |
| 104 dB | 1000 Hz | ± 0.05 |
| 114 dB | 1000 Hz | ± 0.05 |

The uncertainties are evaluated for a 95% confidence level.

### Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow 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 calibration. (A+A)\*L shall not be liable for any loss or damage resulting from the use of the equipment.



## CERTIFICATE OF CALIBRATION

Certificate No.: 20CA0803 01

Page: 1 of 2

### Item tested

Description: Acoustical Calibrator (Class 1)  
Manufacturer: Pulsar Instruments Ltd.  
Type/Model No.: 105  
Serial/Equipment No.: 63705  
Adaptors used: -

### Item submitted by

Customer: Acuity Sustainability Consulting Limited.  
Address of Customer: -  
Request No.: -  
Date of receipt: 03-Aug-2020

Date of test: 06-Aug-2020

### Reference equipment used in the calibration

| Description:            | Model:   | Serial No. | Expiry Date: | Traceable to: |
|-------------------------|----------|------------|--------------|---------------|
| Lab standard microphone | B&K 4180 | 2341427    | 11-May-2021  | SCL           |
| Preamplifier            | B&K 2673 | 2743150    | 03-Jun-2021  | CEPREI        |
| Measuring amplifier     | B&K 2610 | 2346941    | 03-Jun-2021  | CEPREI        |
| Signal generator        | DS 360   | 33873      | 19-May-2021  | CEPREI        |
| Digital multi-meter     | 34401A   | US36087050 | 19-May-2021  | CEPREI        |
| Audio analyzer          | 8903B    | GB41300350 | 18-May-2021  | CEPREI        |
| Universal counter       | 53132A   | MY40003662 | 18-May-2021  | CEPREI        |

### Ambient conditions

Temperature:  $22 \pm 1$  °C  
Relative humidity:  $55 \pm 10$  %  
Air pressure:  $1005 \pm 5$  hPa

### Test specifications

- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

### Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

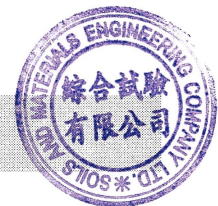
Details of the performed measurements are presented on page 2 of this certificate.

Approved Signatory:

Feng Junqi

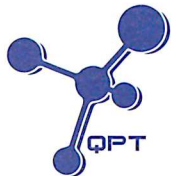
Date: 07-Aug-2020

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.





專業化驗有限公司  
QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong  
Email: info@qualityprotest.com; Website: www.qualityprotest.com  
Tel: (852) 3956 8717; Fax: (852) 3956 3928

## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : BA060061  
Date of Issue : 17 June 2021  
Page No. : 1 of 2

### PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited  
Unit C, 11/F, Ford Glory Plaza  
37-39 Wing Hong Street  
Cheung Sha Wan, Kowloon, Hong Kong  
Attn: Mr. Nelson TSUI

### PART B – DESCRIPTION

Name of Equipment : Multi Water Quality Checker U-53  
Manufacturer : Horiba  
Serial Number : UHB5F2BB  
Date of Received : Jun 11, 2021  
Date of Calibration : Jun 16, 2021  
Date of Next Calibration<sup>(a)</sup> : Sep 15, 2021

### PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

| Parameter        | Reference Method  |
|------------------|---|
| pH at 25°C       | APHA 21e 4500-H <sup>+</sup> B  |
| Dissolved Oxygen | APHA 21e 4500-O G   |
| Salinity         | APHA 21e 2520 B   |
| Turbidity        | APHA 21e 2130 B   |
| Temperature      | Section 6 of international Accreditation New Zealand Technical<br>Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure. |

### PART D – CALIBRATION RESULTS<sup>(b,c)</sup>

#### (1) pH at 25°C

| Target (pH unit) | Displayed Reading <sup>(d)</sup> (pH Unit) | Tolerance <sup>(e)</sup> (pH Unit) | Results      |
|------------------|--|------------------------------------|--------------|
| 4.00             | 4.09                                       | 0.09                               | Satisfactory |
| 7.42             | 7.34                                       | -0.08                              | Satisfactory |
| 10.01            | 9.89                                       | -0.12                              | Satisfactory |

Tolerance of pH should be less than  $\pm 0.20$  (pH unit)

#### (2) Temperature


| Reading of Ref. thermometer (°C) | Displayed Reading (°C) | Tolerance (°C) | Results      |
|----------------------------------|------------------------|----------------|--------------|
| 18.0                             | 18.2                   | 0.2            | Satisfactory |
| 28.0                             | 29.3                   | 1.3            | Satisfactory |
| 37                               | 38.0                   | 1.0            | Satisfactory |

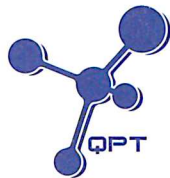
Tolerance limit of temperature should be less than  $\pm 2.0$  (°C)

~ CONTINUED ON NEXT PAGE ~

#### Remark(s): -

- <sup>(a)</sup> The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.  
<sup>(b)</sup> The results relate only to the calibrated equipment as received  
<sup>(c)</sup> The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.  
<sup>(d)</sup> "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.  
<sup>(e)</sup> The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.

  
LEE Chun-ning, Desmond  
Senior Chemist



專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong

Email: info@qualityprotest.com; Website: www.qualityprotest.com

Tel: (852) 3956 8717; Fax: (852) 3956 3928

## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : BA060061  
Date of Issue : 17 June 2021  
Page No. : 2 of 2

### PART D – CALIBRATION RESULTS (Cont'd)

#### (3) Dissolved Oxygen

| Expected Reading (mg/L) | Displayed Reading (mg/L) | Tolerance (mg/L) | Results      |
|-------------------------|--------------------------|------------------|--------------|
| 2.00                    | 1.75                     | -0.25            | Satisfactory |
| 4.77                    | 4.31                     | -0.46            | Satisfactory |
| 6.43                    | 6.22                     | -0.21            | Satisfactory |
| 7.71                    | 7.47                     | -0.24            | Satisfactory |

Tolerance limit of dissolved oxygen should be less than  $\pm 0.50$  (mg/L)

#### (4) Salinity

| Expected Reading (g/L) | Displayed Reading (g/L) | Tolerance (%) | Results      |
|------------------------|-------------------------|---------------|--------------|
| 10                     | 10.03                   | 0.30          | Satisfactory |
| 20                     | 21.38                   | 6.90          | Satisfactory |
| 30                     | 32.49                   | 8.30          | Satisfactory |

Tolerance limit of salinity should be less than  $\pm 10.0$  (%)

#### (5) Turbidity

| Expected Reading (NTU) | Displayed Reading <sup>(f)</sup> (NTU) | Tolerance <sup>(g)</sup> (%) | Results      |
|------------------------|--|------------------------------|--------------|
| 0                      | 0.41                                   | --                           | Satisfactory |
| 10                     | 10.00                                  | 0.0                          | Satisfactory |
| 20                     | 20.20                                  | 1.0                          | Satisfactory |
| 100                    | 100.80                                 | 0.8                          | Satisfactory |
| 800                    | 828.00                                 | 3.5                          | Satisfactory |

Tolerance limit of turbidity should be less than  $\pm 10.0$  (%)

~ END OF REPORT ~

**Remark(s): -**

<sup>(f)</sup> "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

<sup>(g)</sup> The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.

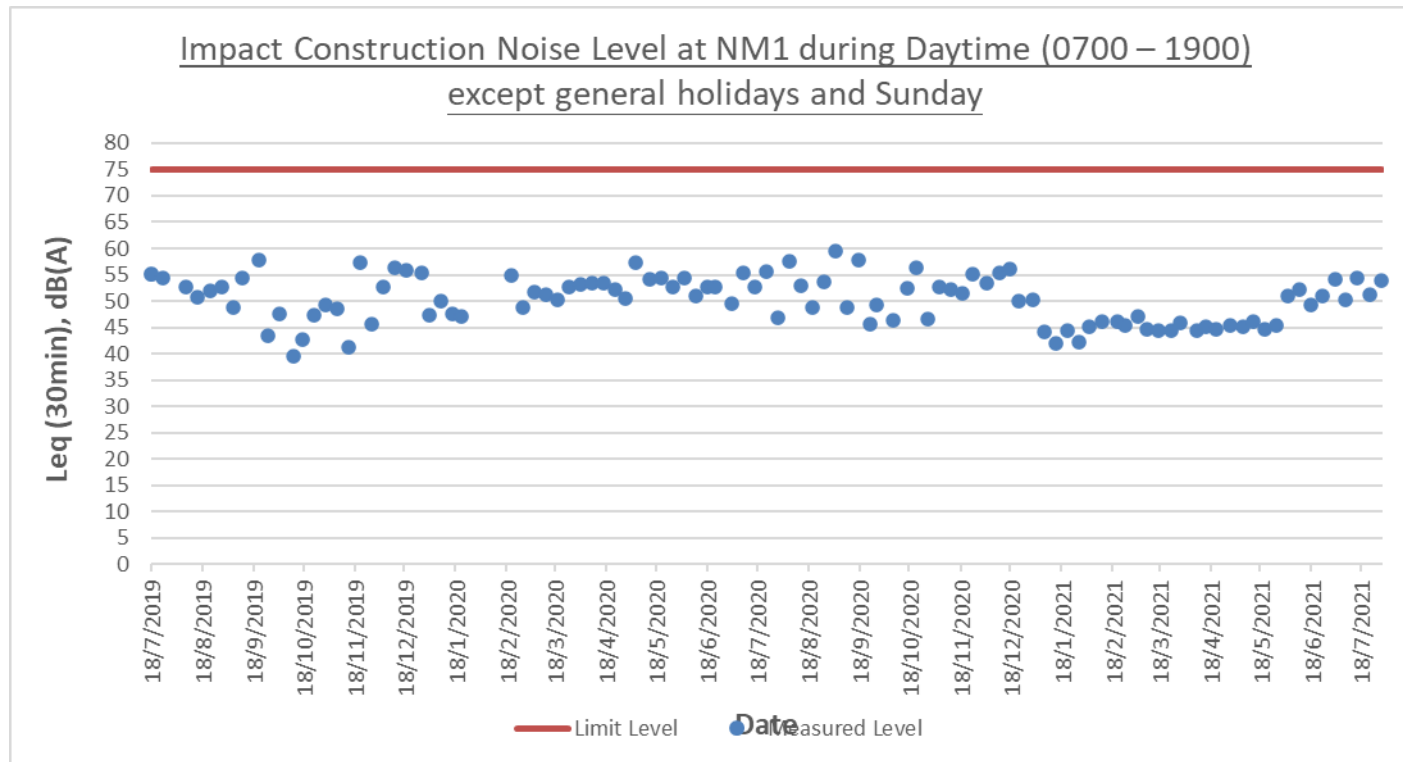
Appendix E  
Impact Noise Monitoring Data

## Impact Noise Monitoring Data

### NM1 – Lakeview Garden

Daytime (0700 – 1900) except general holidays and Sunday

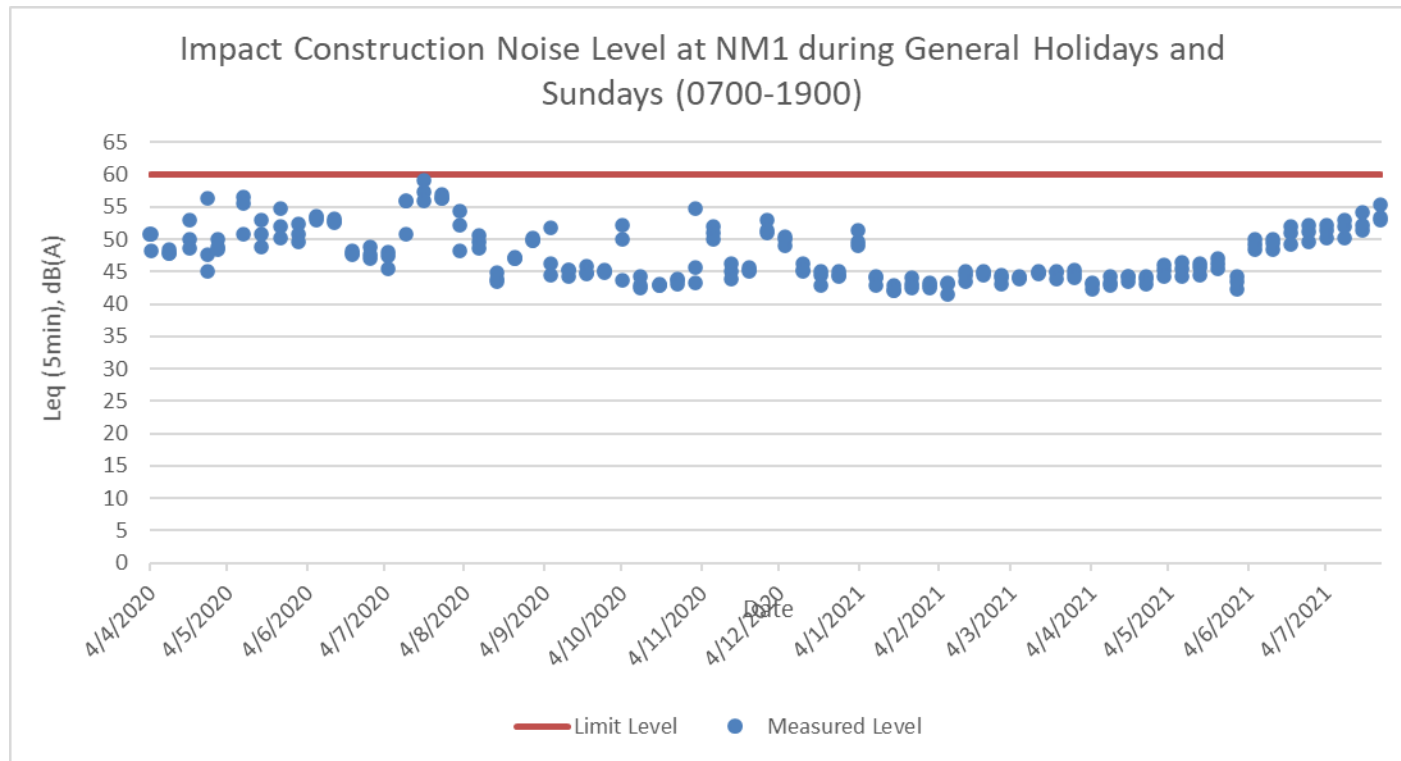
| Date      | Location | Time  |   | Weather | Leq (30min) | L10  | L90  | Wind Speed | Temperature |         |
|-----------|----------|-------|---|---------|-------------|------|------|------------|-------------|---------|
| 2/7/2021  | NM1      | 8:10  | - | 8:40    | sunny       | 54.2 | 57.3 | 50.3       | 2.5 m/s     | 29.6 °C |
| 8/7/2021  | NM1      | 8:45  | - | 9:15    | sunny       | 50.3 | 55.4 | 47.3       | 0.2 m/s     | 30.4 °C |
| 15/7/2021 | NM1      | 8:30  | - | 9:00    | sunny       | 54.3 | 58.4 | 49.2       | 0.9 m/s     | 31.4 °C |
| 23/7/2021 | NM1      | 8:00  | - | 8:30    | sunny       | 51.3 | 55.9 | 47.2       | 1.4 m/s     | 30.3 °C |
| 30/7/2021 | NM1      | 16:00 | - | 16:30   | cloudy      | 53.8 | 56.4 | 50.1       | 0.5 m/s     | 29.5 °C |





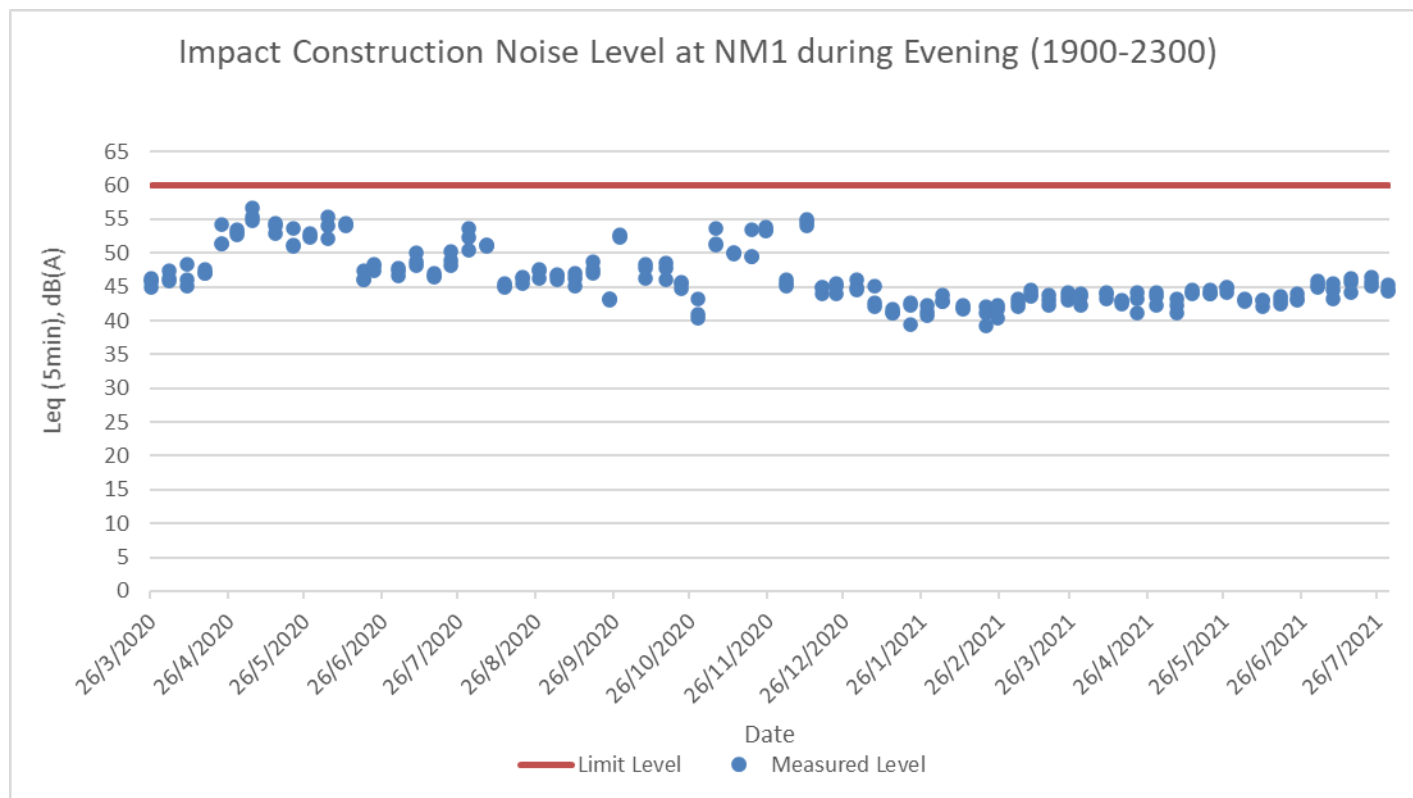
Daytime (0700-1900) during general holidays and Sundays

| Date      | Location | Time  |   |       | Weather | L <sub>eq</sub> (5min) | L <sub>10</sub> | L <sub>90</sub> | Wind Speed | Temperature |
|-----------|----------|-------|---|-------|---------|------------------------|-----------------|-----------------|------------|-------------|
| 5/9/2021  | NM1      | 9:10  | - | 9:15  | Cloudy  | 50.7                   | 51.6            | 44.9            | 2.8 m/s    | 30.6 °C     |
| 5/9/2021  | NM1      | 9:15  | - | 9:20  | Cloudy  | 49.6                   | 50.8            | 44.1            |            |             |
| 5/9/2021  | NM1      | 9:20  | - | 9:25  | Cloudy  | 49.0                   | 50.3            | 43.1            |            |             |
| 12/9/2021 | NM1      | 16:00 | - | 16:05 | Sunny   | 50.1                   | 54.3            | 48.2            | 1.3 m/s    | 31.4 °C     |
| 12/9/2021 | NM1      | 16:05 | - | 16:10 | Sunny   | 47.1                   | 50.3            | 45.3            |            |             |
| 12/9/2021 | NM1      | 16:10 | - | 16:15 | Sunny   | 52.5                   | 54.1            | 50.3            |            |             |
| 19/9/2021 | NM1      | 8:25  | - | 8:30  | Sunny   | 53.1                   | 55.2            | 49.2            | 4.0 m/s    | 26.6 °C     |
| 19/9/2021 | NM1      | 8:30  | - | 8:35  | Sunny   | 52.6                   | 54.5            | 48.5            |            |             |
| 19/9/2021 | NM1      | 8:35  | - | 8:40  | Sunny   | 53.1                   | 56.4            | 50.3            |            |             |
| 22/9/2021 | NM1      | 15:30 | - | 15:35 | Sunny   | 51.4                   | 53.4            | 46.8            | 1.0 m/s    | 30.0 °C     |
| 22/9/2021 | NM1      | 15:35 | - | 15:40 | Sunny   | 51.7                   | 54.2            | 48.5            |            |             |
| 22/9/2021 | NM1      | 15:40 | - | 15:45 | Sunny   | 53.6                   | 56.3            | 49.8            |            |             |



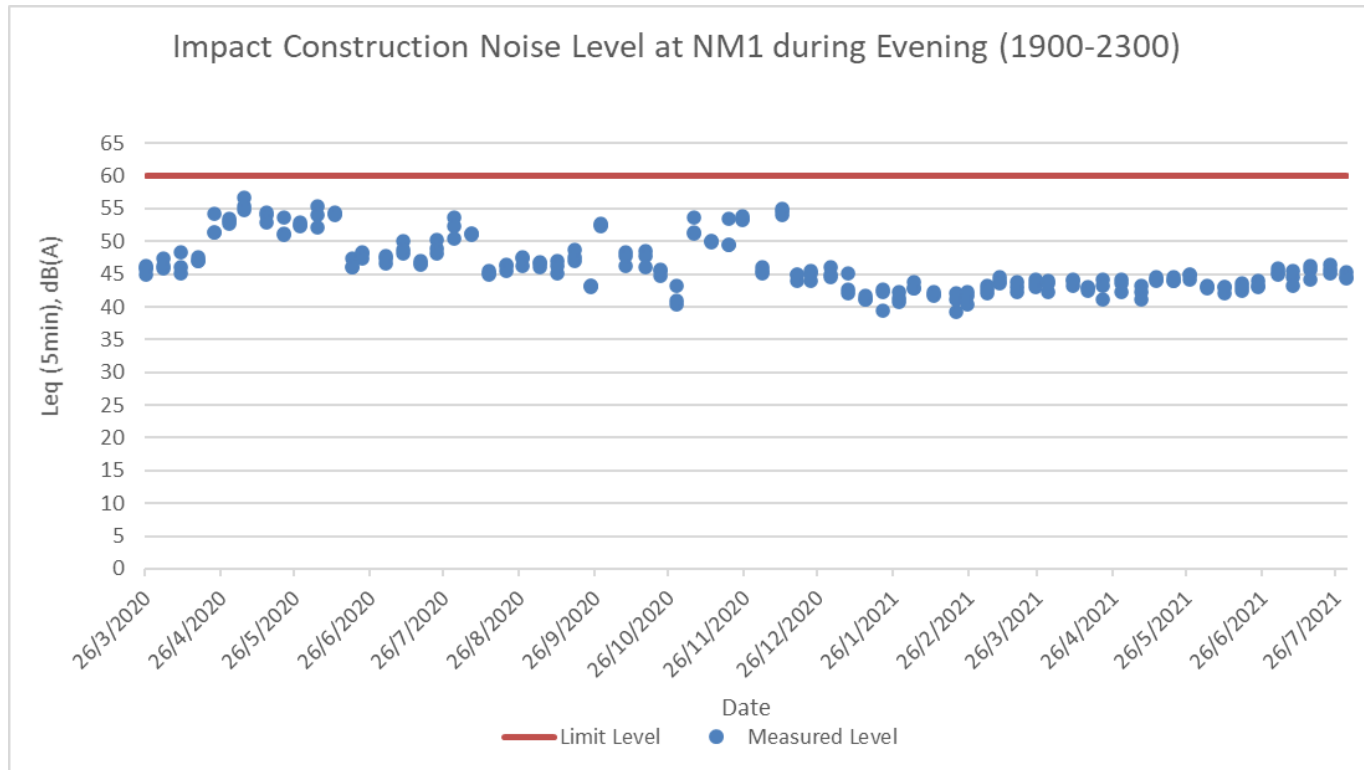
All days during Evening (1900-2300)

| Date      | Location | Time  |   |       | Weather | L <sub>eq</sub> (5min) | L <sub>10</sub> | L <sub>90</sub> | Wind Speed | Temperature |
|-----------|----------|-------|---|-------|---------|------------------------|-----------------|-----------------|------------|-------------|
| 2/7/2021  | NM1      | 22:23 | - | 22:28 | Fine    | 45.3                   | 48.3            | 41.4            | 0.5 m/s    | 29.9 °C     |
| 2/7/2021  | NM1      | 22:28 | - | 22:33 | Fine    | 45                     | 49              | 42.3            |            |             |
| 2/7/2021  | NM1      | 22:33 | - | 22:38 | Fine    | 45.9                   | 51.1            | 40.4            |            |             |
| 8/7/2021  | NM1      | 22:30 | - | 22:35 | Fine    | 44.5                   | 47.6            | 40.3            | 0.8 m/s    | 29.7 °C     |
| 8/7/2021  | NM1      | 22:35 | - | 22:40 | Fine    | 45.5                   | 50.3            | 41.7            |            |             |
| 8/7/2021  | NM1      | 22:40 | - | 22:45 | Fine    | 43.2                   | 46.5            | 38.1            |            |             |
| 15/7/2021 | NM1      | 22:45 | - | 22:50 | Fine    | 46.3                   | 49.4            | 43              | 0.9 m/s    | 29.4 °C     |
| 15/7/2021 | NM1      | 22:50 | - | 22:55 | Fine    | 45.6                   | 51.7            | 44.1            |            |             |
| 15/7/2021 | NM1      | 22:55 | - | 23:00 | Fine    | 44.2                   | 48.4            | 43.2            |            |             |
| 23/7/2021 | NM1      | 22:36 | - | 22:41 | Fine    | 45.6                   | 52.4            | 43.1            | 0.4 m/s    | 28.3 °C     |
| 23/7/2021 | NM1      | 22:41 | - | 22:46 | Fine    | 46.4                   | 53.4            | 45.3            |            |             |
| 23/7/2021 | NM1      | 22:46 | - | 22:51 | Fine    | 45.2                   | 50.3            | 43.9            |            |             |
| 30/7/2021 | NM1      | 22:30 | - | 22:35 | Fine    | 44.5                   | 49.3            | 43.5            | 1.1 m/s    | 27.3 °C     |
| 30/7/2021 | NM1      | 22:35 | - | 22:40 | Fine    | 45.3                   | 51.5            | 44              |            |             |
| 30/7/2021 | NM1      | 22:40 | - | 22:45 | Fine    | 44.3                   | 50.3            | 42.3            |            |             |



All days during Night-time (2300-0700)

| Date      | Location | Time  |   |       | Weather | L <sub>eq</sub> (5min) | L <sub>10</sub> | L <sub>90</sub> | Wind Speed | Temperature |
|-----------|----------|-------|---|-------|---------|------------------------|-----------------|-----------------|------------|-------------|
| 2/7/2021  | NM1      | 23:09 | - | 23:14 | Fine    | 42.1                   | 44.6            | 40.3            | 3.0 m/s    | 29.5 °C     |
| 2/7/2021  | NM1      | 23:14 | - | 23:19 | Fine    | 43.3                   | 47.6            | 39.2            |            |             |
| 2/7/2021  | NM1      | 23:19 | - | 23:24 | Fine    | 43.8                   | 45.6            | 40.5            |            |             |
| 8/7/2021  | NM1      | 23:00 | - | 23:05 | Fine    | 43.1                   | 46.4            | 40.2            | 1.8 m/s    | 29.2 °C     |
| 8/7/2021  | NM1      | 23:05 | - | 23:10 | Fine    | 40.6                   | 45.2            | 38.5            |            |             |
| 8/7/2021  | NM1      | 23:10 | - | 23:15 | Fine    | 42.6                   | 45.6            | 39.3            |            |             |
| 15/7/2021 | NM1      | 0:45  | - | 0:50  | Fine    | 41.9                   | 45.3            | 39.4            | 0.3 m/s    | 29.0 °C     |
| 15/7/2021 | NM1      | 0:50  | - | 0:55  | Fine    | 43.1                   | 47.4            | 40.1            |            |             |
| 15/7/2021 | NM1      | 0:55  | - | 1:00  | Fine    | 42.6                   | 46.2            | 40              |            |             |
| 23/7/2021 | NM1      | 23:06 | - | 23:11 | Fine    | 43                     | 46.6            | 40.3            | 0.4 m/s    | 27.9 °C     |
| 23/7/2021 | NM1      | 23:11 | - | 23:16 | Fine    | 42.8                   | 47.6            | 39.2            |            |             |
| 23/7/2021 | NM1      | 23:16 | - | 23:21 | Fine    | 41.9                   | 45.4            | 38.1            |            |             |
| 30/7/2021 | NM1      | 23:00 | - | 23:05 | Fine    | 43.4                   | 48.3            | 40.2            | 1.0 m/s    | 27.1 °C     |
| 30/7/2021 | NM1      | 23:05 | - | 23:10 | Fine    | 44.5                   | 47.7            | 41.3            |            |             |
| 30/7/2021 | NM1      | 23:10 | - | 23:15 | Fine    | 42.3                   | 48.1            | 40.7            |            |             |

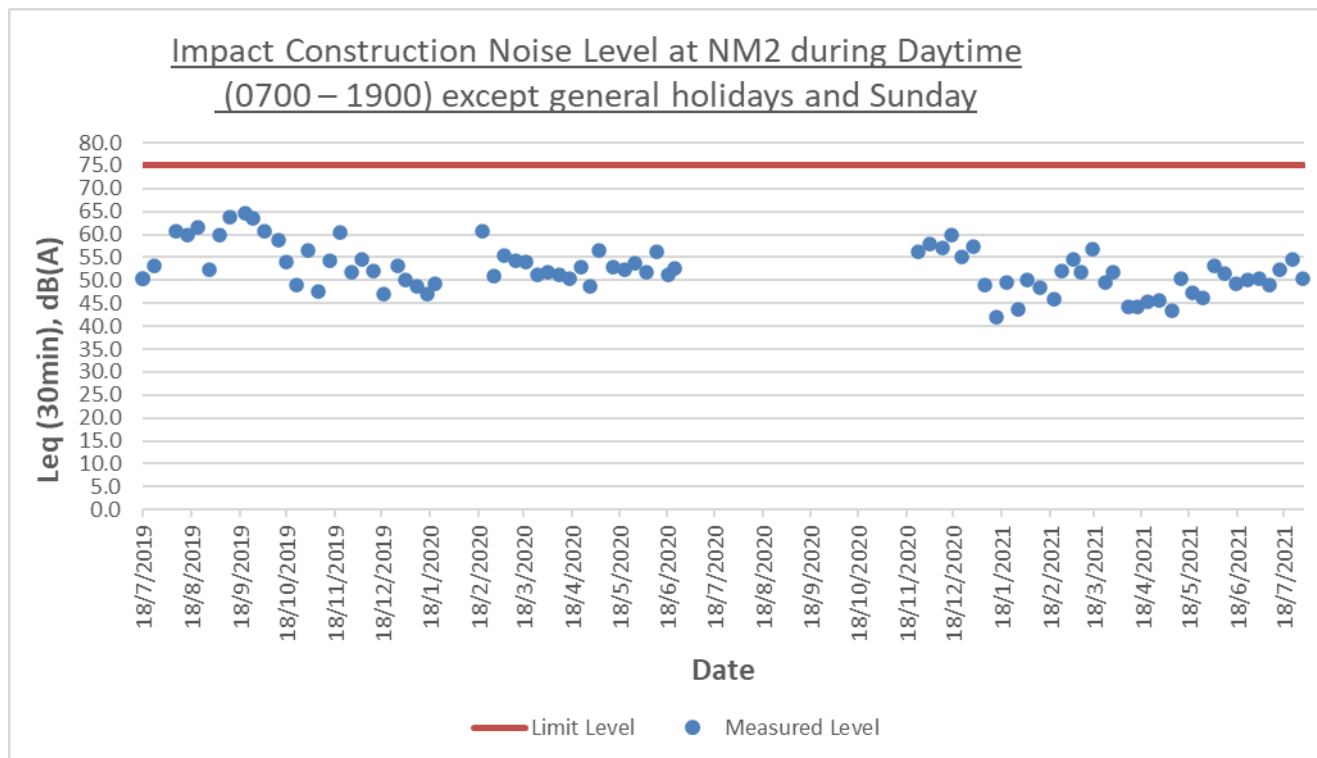


## Impact Noise Monitoring Data

NM2 – 4 ½ Milestone, Tai Po Road

Daytime (0700 – 1900) except general holidays and Sunday

| Date      | Location | Time  |   |       | Weather | L <sub>eq</sub> (30min) | L <sub>10</sub> | L <sub>90</sub> | Wind Speed | Temperature |
|-----------|----------|-------|---|-------|---------|-------------------------|-----------------|-----------------|------------|-------------|
| 2/7/2021  | NM2      | 9:40  | - | 10:10 | sunny   | 50.3                    | 54.3            | 46.2            | 2.3 m/s    | 30.0 °C     |
| 8/7/2021  | NM2      | 9:30  | - | 10:00 | sunny   | 49.1                    | 57.1            | 47.3            | 2.0 m/s    | 30.0 °C     |
| 15/7/2021 | NM2      | 9:45  | - | 10:15 | sunny   | 52.3                    | 56.5            | 49.3            | 1.1 m/s    | 31.1 °C     |
| 23/7/2021 | NM2      | 9:30  | - | 10:00 | sunny   | 54.5                    | 59.1            | 51.3            | 0.2 m/s    | 30.1 °C     |
| 30/7/2021 | NM2      | 15:00 | - | 15:30 | cloudy  | 50.5                    | 54.3            | 48.3            | 0.7 m/s    | 29.1 °C     |








Note 1: Period without data implied that no works were conducted at the monitoring location and no noise monitoring was needed for the location.

## Appendix F

# Impact Water Quality Monitoring Data

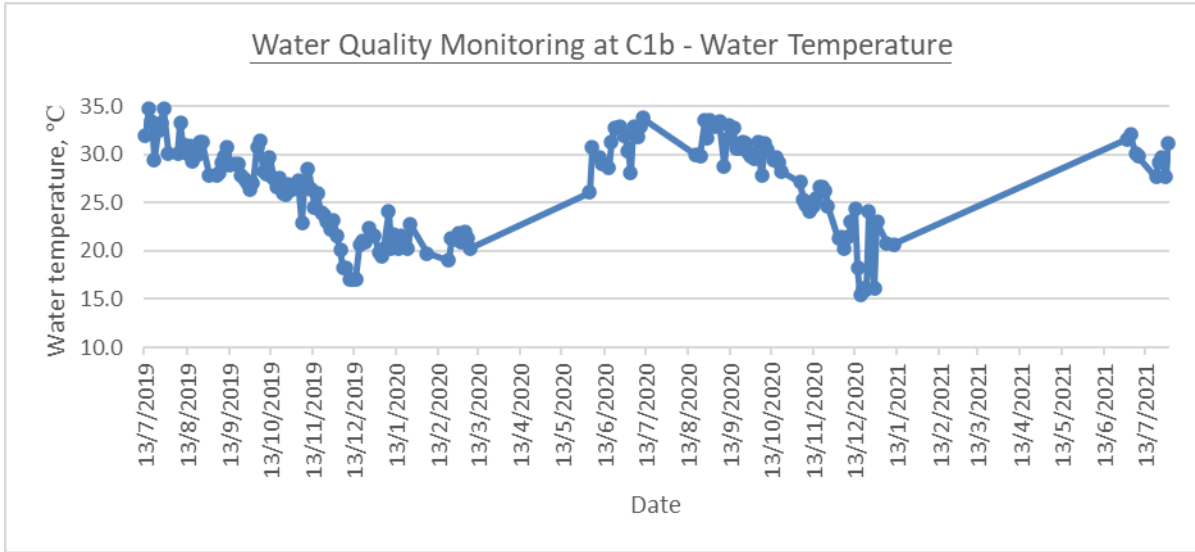
| Location  | Date      | Sample ID | Time | Temp (°C) | pH  | DO (mg/L) | DO%   | Turbidity (NTU) | SS (mg/L) | Sampling Equipment |
|-----------|-----------|-----------|------|-----------|-----|-----------|-------|-----------------|-----------|--------------------|
| C1b       | 2/7/2021  | C1b       | 8:50 | 32.1      | 7.0 | 7.2       | 98.8  | 7.4             | 2.5       | Water bucket       |
|           | 2/7/2021  | C1b#      | 8:53 | 32.0      | 6.8 | 7.4       | 100.9 | 5.3             | 2.5       |                    |
|           | 4/7/2021  | C1b       | /    | /         | /   | /         | /     | /               | /         | /                  |
|           | 4/7/2021  | C1b#      | /    | /         | /   | /         | /     | /               | /         | /                  |
|           | 6/7/2021  | C1b       | 8:50 | 30.2      | 6.8 | 7.9       | 104.9 | 7.8             | 8.4       | Water bucket       |
|           | 6/7/2021  | C1b#      | 8:53 | 30.1      | 6.8 | 7.9       | 104.9 | 7.8             | 4.3       |                    |
|           | 8/7/2021  | C1b       | 9:10 | 29.9      | 7.7 | 7.8       | 102.9 | 4.1             | 4.1       |                    |
|           | 8/7/2021  | C1b#      | 9:13 | 29.7      | 7.7 | 8.0       | 104.9 | 4.8             | 2.5       |                    |
|           | 10/7/2021 | C1b       | /    | /         | /   | /         | /     | /               | /         | /                  |
|           | 10/7/2021 | C1b#      | /    | /         | /   | /         | /     | /               | /         | /                  |
|           | 13/7/2021 | C1b       | /    | /         | /   | /         | /     | /               | /         | /                  |
|           | 13/7/2021 | C1b#      | /    | /         | /   | /         | /     | /               | /         | /                  |
|           | 15/7/2021 | C1b       | /    | /         | /   | /         | /     | /               | /         | /                  |
|           | 15/7/2021 | C1b#      | /    | /         | /   | /         | /     | /               | /         | /                  |
|           | 17/7/2021 | C1b       | /    | /         | /   | /         | /     | /               | /         | /                  |
|           | 17/7/2021 | C1b#      | /    | /         | /   | /         | /     | /               | /         | /                  |
|           | 21/7/2021 | C1b       | 9:00 | 27.7      | 7.1 | 8.0       | 101.1 | 6.9             | 2.5       | Water bucket       |
|           | 21/7/2021 | C1b#      | 9:03 | 27.7      | 7.1 | 7.9       | 100.0 | 7.1             | 2.9       |                    |
|           | 23/7/2021 | C1b       | 9:14 | 29.2      | 6.7 | 7.4       | 96.2  | 3.9             | 2.5       |                    |
|           | 23/7/2021 | C1b#      | 9:17 | 29.3      | 6.6 | 7.7       | 100.8 | 3.5             | 2.5       |                    |
|           | 25/7/2021 | C1b       | 9:32 | 29.8      | 7.3 | 7.7       | 101.5 | 6.8             | 4.4       |                    |
|           | 25/7/2021 | C1b#      | 9:35 | 29.5      | 7.1 | 7.9       | 103.6 | 6.9             | 2.7       |                    |
|           | 28/7/2021 | C1b       | 9:10 | 27.8      | 7.8 | 8.0       | 101.6 | 7.1             | 3.6       |                    |
| 28/7/2021 | C1b#      | 9:13      | 27.7 | 7.5       | 7.6 | 96.7      | 6.5   | 4.5             |           |                    |
| 30/7/2021 | C1b       | 9:07      | 31.2 | 7.6       | 7.9 | 106.2     | 8.7   | 3.8             |           |                    |
| 30/7/2021 | C1b#      | 9:10      | 31.1 | 7.3       | 8.0 | 107.3     | 8.4   | 4.1             |           |                    |

| C1b on Days with Insufficient Water Available for Sample Collection               |  |   |
|---|--|---|
| 4/7/2021  | 10/7/2021  | 13/7/2021   |
|  |  |  |
| 15/7/2021   | 17/7/2021  |   |
|  |  |   |

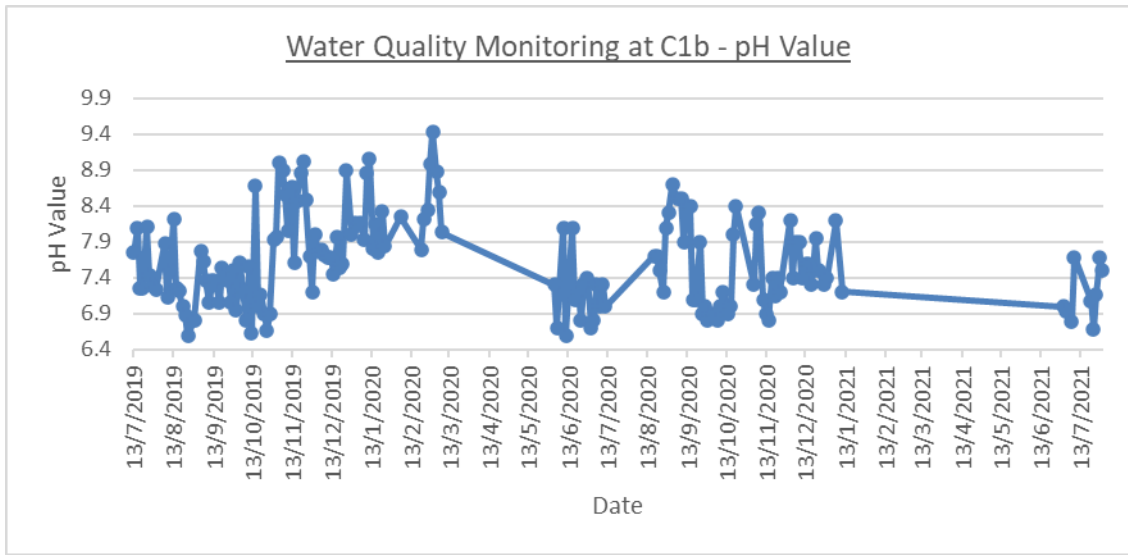
| Location  | Date      | Sample ID | Time  | Temp (°C) | pH  | DO (mg/L) | DO%   | Turbidity (NTU) | SS (mg/L) | Sampling Equipment |
|-----------|-----------|-----------|-------|-----------|-----|-----------|-------|-----------------|-----------|--------------------|
| D1b       | 2/7/2021  | D1b       | 9:10  | 33.0      | 7.1 | 7.1       | 97.4  | 9.6             | 2.5       | Water Sampler      |
|           | 2/7/2021  | D1b#      | 9:13  | 32.1      | 6.9 | 8.3       | 114.3 | 4.0             | 2.5       |                    |
|           | 4/7/2021  | D1b       | 10:51 | 30.3      | 7.4 | 7.7       | 102.5 | 14.9            | 5.4       |                    |
|           | 4/7/2021  | D1b#      | 10:54 | 30.3      | 6.8 | 8.4       | 111.1 | 13.0            | 4.7       |                    |
|           | 6/7/2021  | D1b       | 8:50  | 29.9      | 6.9 | 7.9       | 103.7 | 8.2             | 3.2       |                    |
|           | 6/7/2021  | D1b#      | 8:54  | 29.7      | 6.9 | 7.7       | 101.7 | 8.9             | 3.3       |                    |
|           | 8/7/2021  | D1b       | 9:40  | 28.9      | 7.7 | 7.8       | 100.9 | 3.3             | 4.1       |                    |
|           | 8/7/2021  | D1b#      | 9:43  | 28.8      | 7.8 | 7.8       | 100.9 | 3.5             | 4.1       |                    |
|           | 10/7/2021 | D1b       | 9:10  | 29.3      | 7.0 | 7.6       | 99.8  | 0.6             | 3.3       |                    |
|           | 10/7/2021 | D1b#      | 9:13  | 30.6      | 6.8 | 7.6       | 101.9 | 0.6             | 3.3       |                    |
|           | 13/7/2021 | D1b       | 9:00  | 33.6      | 7.5 | 7.4       | 104.6 | 2.7             | 2.5       |                    |
|           | 13/7/2021 | D1b#      | 9:03  | 33.6      | 7.4 | 7.6       | 106.7 | 2.6             | 2.5       |                    |
|           | 15/7/2021 | D1b       | 8:51  | 31.5      | 7.1 | 7.6       | 103.3 | 2.3             | 2.5       |                    |
|           | 15/7/2021 | D1b#      | 8:54  | 31.8      | 7.3 | 7.8       | 106.7 | 2.5             | 2.5       |                    |
|           | 17/7/2021 | D1b       | 13:52 | 30.7      | 6.9 | 7.7       | 103.3 | 4.9             | 3.5       |                    |
|           | 17/7/2021 | D1b#      | 13:55 | 30.6      | 6.8 | 8.0       | 106.7 | 3.7             | 3.4       |                    |
|           | 21/7/2021 | D1b       | 9:18  | 27.7      | 7.1 | 7.6       | 96.2  | 7.1             | 6.7       |                    |
|           | 21/7/2021 | D1b#      | 9:21  | 27.7      | 7.1 | 7.6       | 96.3  | 7.6             | 5.2       |                    |
|           | 23/7/2021 | D1b       | 9:00  | 29.1      | 6.7 | 7.6       | 99.5  | 3.1             | 2.5       |                    |
|           | 23/7/2021 | D1b#      | 9:03  | 28.9      | 7.5 | 7.7       | 99.6  | 3.3             | 2.5       |                    |
|           | 25/7/2021 | D1b       | 9:48  | 28.4      | 6.9 | 7.7       | 98.6  | 8.3             | 2.9       |                    |
|           | 25/7/2021 | D1b#      | 9:51  | 28.3      | 6.8 | 7.9       | 101.2 | 7.8             | 2.5       |                    |
|           | 28/7/2021 | D1b       | 9:42  | 28.9      | 7.5 | 7.8       | 101.7 | 6.7             | 6.7       |                    |
|           | 28/7/2021 | D1b#      | 9:45  | 28.5      | 7.2 | 7.9       | 101.6 | 7.0             | 6.7       |                    |
| 30/7/2021 | D1b       | 9:29      | 32.5  | 7.6       | 7.5 | 103.3     | 9.4   | 2.5             |           |                    |
| 30/7/2021 | D1b#      | 9:32      | 32.7  | 7.7       | 7.7 | 106.5     | 8.8   | 8.1             |           |                    |



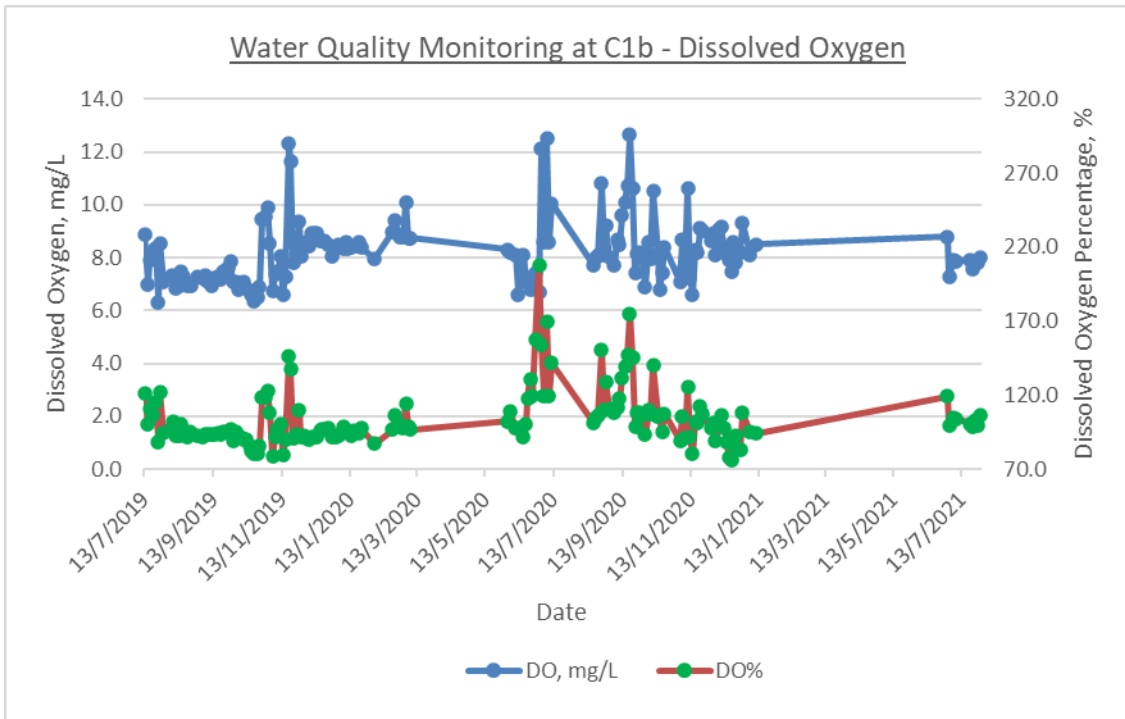
C1b



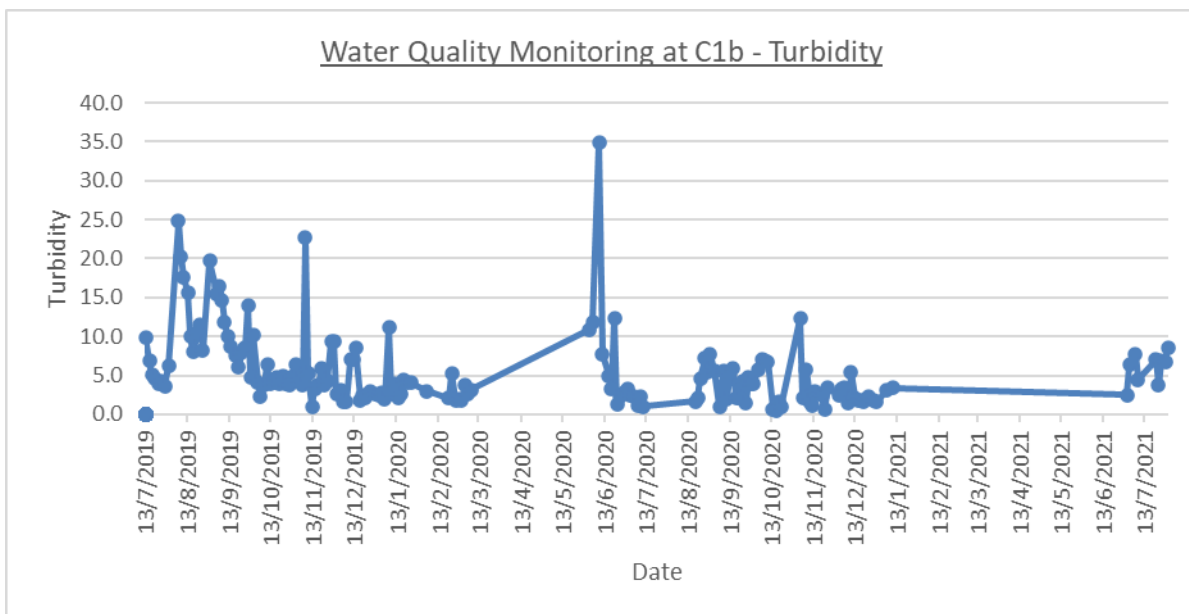
Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection



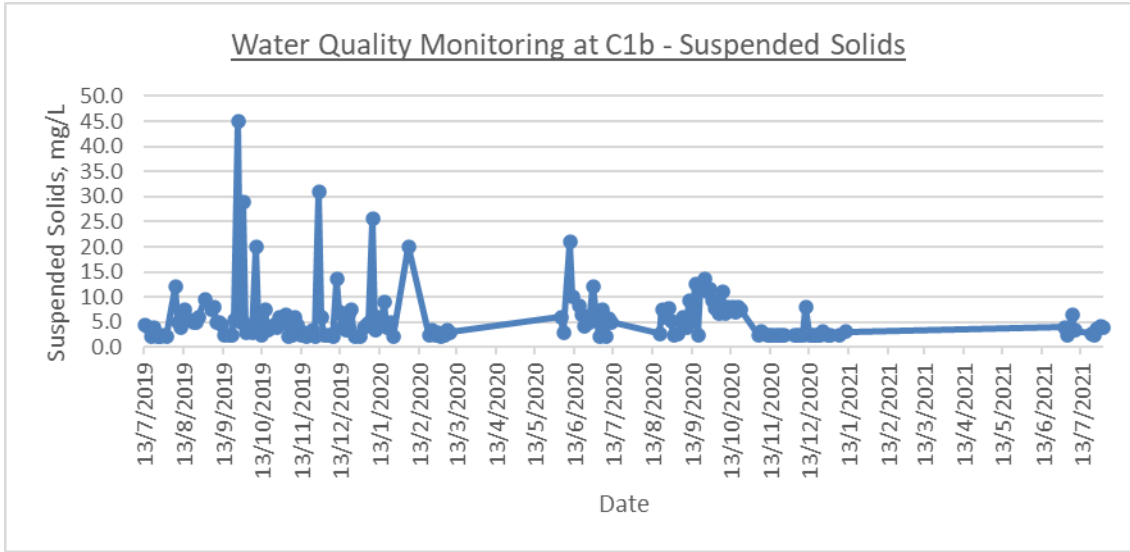
Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection



Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection

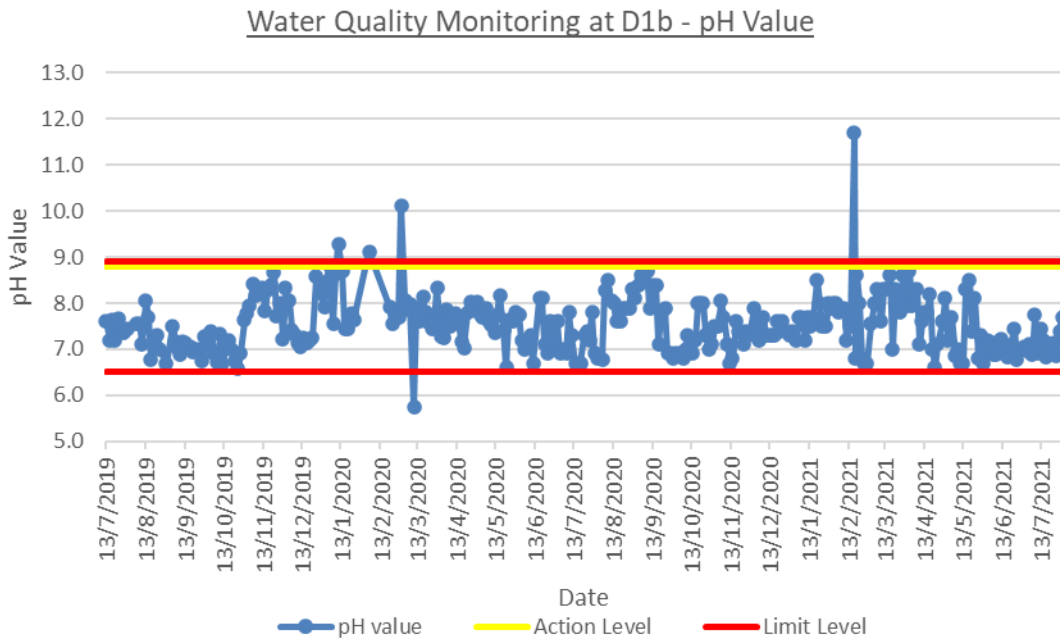
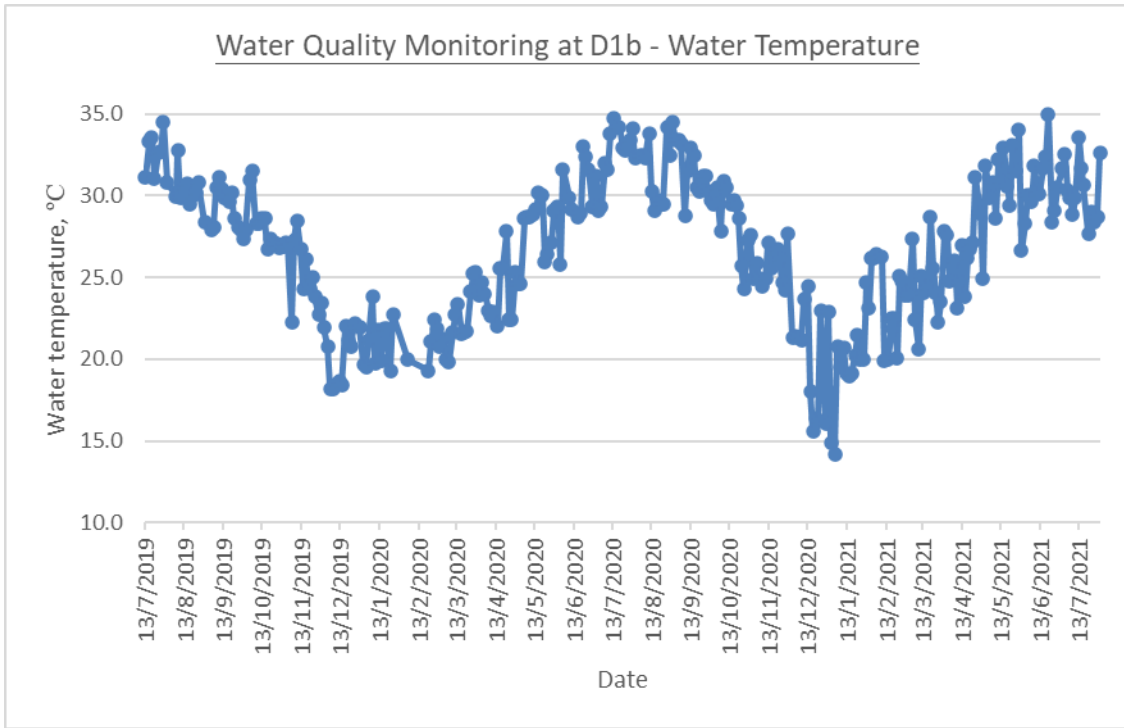


Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection

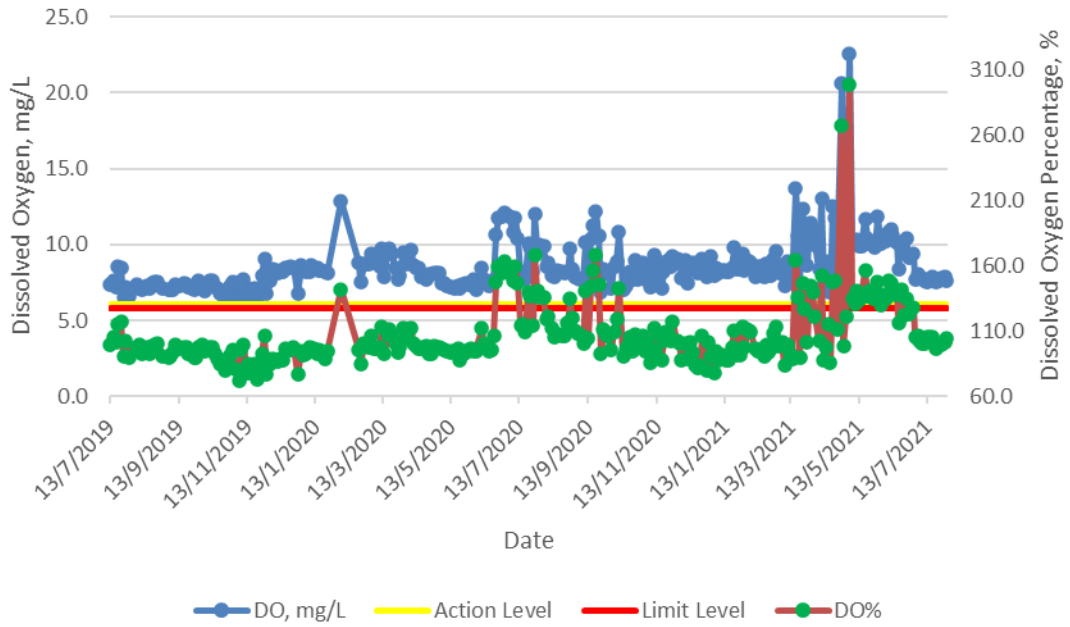


Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection

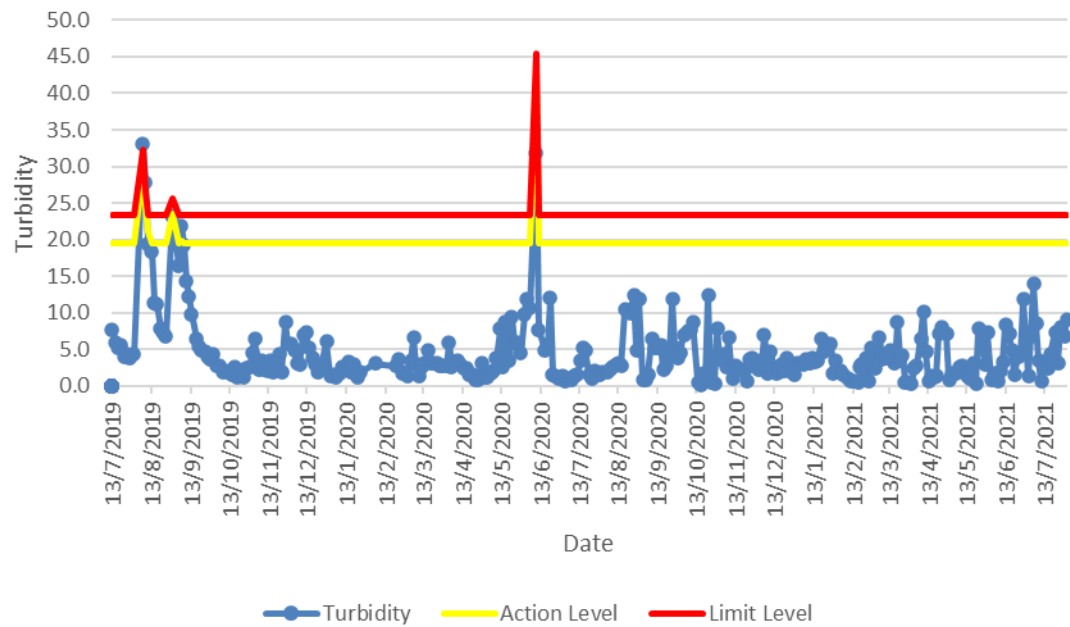
D1b



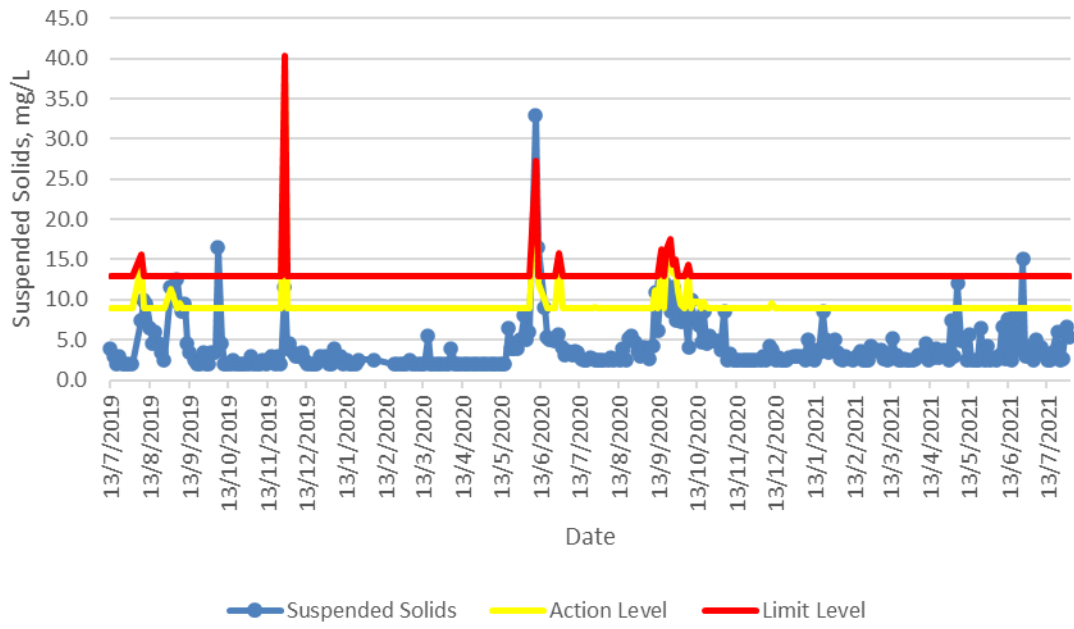
### Water Quality Monitoring at D1b - Dissolved Oxygen



### Water Quality Monitoring at D1b - Turbidity



### Water Quality Monitoring at D1b - Suspended Solids

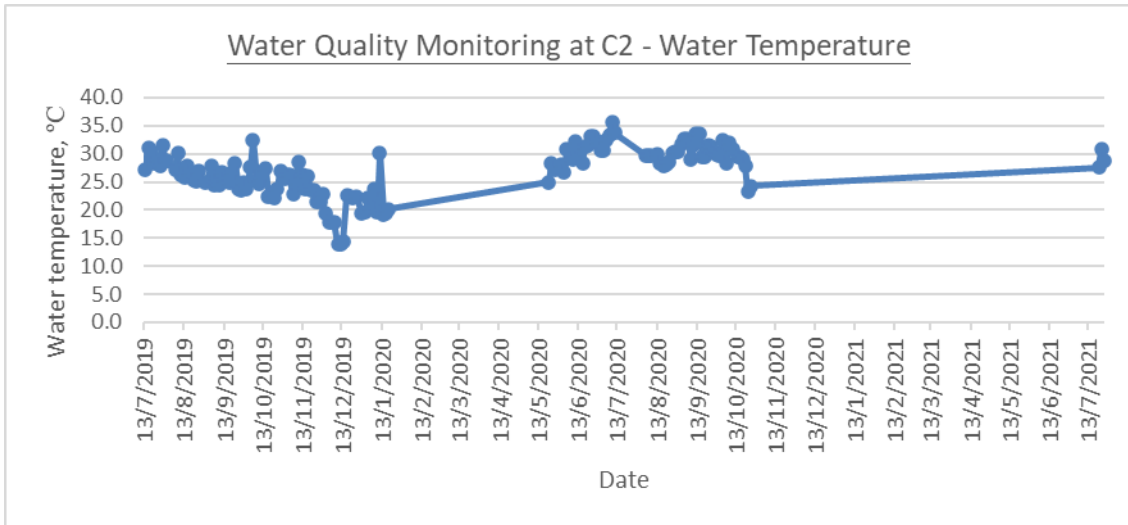




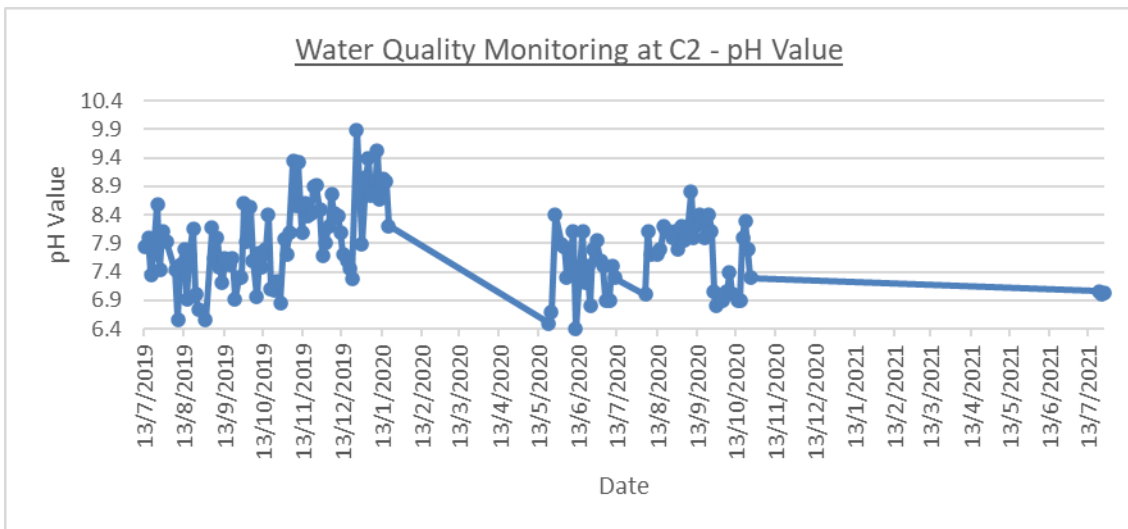
| Location  | Date        | Sample ID  | Time  | Temp (°C) | pH  | DO (mg/L) | DO%   | Turbidity (NTU) | SS (mg/L) | Sampling Equipment |
|-----------|-------------|--|-------|-----------|-----|-----------|-------|-----------------|-----------|--------------------|
| D2a       | 2/7/2021    | D2a  | 8:00  | 34.1      | 7.5 | 8.1       | 114.3 | 4.1             | 2.5       | Water Bucket       |
|           | 2/7/2021    | D2a#   | 8:03  | 34.0      | 7.6 | 8.0       | 112.9 | 2.6             | 2.5       |                    |
|           | 4/7/2021    | D2a  | 10:15 | 32.3      | 8.1 | 8.3       | 114.8 | 6.1             | 6.2       |                    |
|           | 4/7/2021    | D2a#   | 10:18 | 32.6      | 8.4 | 8.4       | 115.9 | 6.0             | 5.8       |                    |
|           | 6/7/2021    | D2a  | 8:00  | 30.6      | 6.8 | 7.7       | 103.3 | 8.3             | 7.0       |                    |
|           | 6/7/2021    | D2a#   | 8:03  | 30.4      | 6.8 | 7.9       | 105.2 | 8.3             | 5.7       |                    |
|           | 8/7/2021    | D2a  | 8:01  | 31.9      | 7.0 | 7.8       | 106.5 | 2.1             | 4.4       |                    |
|           | 8/7/2021    | D2a#   | 8:04  | 31.8      | 7.0 | 8.0       | 108.5 | 2.5             | 4.9       |                    |
|           | 10/7/2021   | D2a  | 7:58  | 30.2      | 7.2 | 7.9       | 105.4 | 1.1             | 2.5       |                    |
|           | 10/7/2021   | D2a#   | 8:01  | 30.2      | 7.2 | 8.0       | 105.6 | 1.1             | 3.3       |                    |
|           | 13/7/2021   | D2a  | 8:00  | 33.8      | 7.6 | 7.8       | 110.5 | 5.2             | 4.8       |                    |
|           | 13/7/2021   | D2a#   | 8:03  | 33.8      | 7.5 | 7.8       | 110.4 | 4.2             | 5.2       |                    |
|           | 15/7/2021   | D2a  | 8:00  | 31.3      | 7.3 | 7.5       | 101.4 | 2.8             | 2.5       |                    |
|           | 15/7/2021   | D2a#   | 8:03  | 31.4      | 7.0 | 7.8       | 105.9 | 2.4             | 4.0       |                    |
|           | 17/7/2021   | D2a  | 12:56 | 31.8      | 7.5 | 7.6       | 103.3 | 4.1             | 4.7       |                    |
|           | 17/7/2021   | D2a#   | 15:59 | 31.6      | 7.3 | 7.6       | 102.8 | 4.0             | 3.3       |                    |
|           | 21/7/2021   | D2a  | 8:05  | 27.6      | 7.0 | 7.7       | 98.1  | 7.7             | 6.4       |                    |
|           | 21/7/2021   | D2a#   | 8:08  | 27.6      | 6.9 | 7.8       | 99.5  | 7.6             | 4.1       |                    |
|           | 23/7/2021   | D2a  | 8:08  | 30.6      | 6.8 | 7.9       | 105.0 | 6.9             | 3.8       |                    |
|           | 23/7/2021   | D2a#   | 8:11  | 30.6      | 6.9 | 8.0       | 106.4 | 7.0             | 4.4       |                    |
| 25/7/2021 | D2a         | 8:20   | 27.5  | 6.8       | 7.6 | 96.5      | 3.4   | 2.5             |           |                    |
| 25/7/2021 | D2a#        | 8:23   | 26.9  | 6.8       | 7.5 | 94.4      | 3.5   | 2.5             |           |                    |
| 28/7/2021 | D2a         | 8:07   | 27.6  | 7.3       | 7.9 | 100.6     | 4.9   | 5.1             |           |                    |
| 28/7/2021 | D2a#        | 8:12   | 27.4  | 7.2       | 8.0 | 100.5     | 4.2   | 2.5             |           |                    |
| 30/7/2021 | D2a         | 8:07   | 34.2  | 7.4       | 7.8 | 110.3     | 10.3  | 2.5             |           |                    |
| 30/7/2021 | D2a#        | 8:12   | 33.5  | 7.5       | 7.7 | 107.5     | 13.0  | 6.1             |           |                    |
| D2a       | <b>Date</b> | <b>Approximate Sampling Location Coordinates</b> |       |           |     |           |       |                 |           |                    |
|           | 2/7/2021    | 825725.914 E<br>834985.825 N                     |       |           |     |           |       |                 |           |                    |
|           | 4/7/2021    | 825646.159 E<br>835218.585 N                     |       |           |     |           |       |                 |           |                    |
|           | 6/7/2021    | 825646.159 E<br>835218.585 N                     |       |           |     |           |       |                 |           |                    |
|           | 8/7/2021    | 835044.302 E<br>825660.371 N                     |       |           |     |           |       |                 |           |                    |
|           | 10/7/2021   | 835044.302 E<br>825660.371 N                     |       |           |     |           |       |                 |           |                    |
|           | 13/7/2021   | 835043.632 E<br>825662.267 N                     |       |           |     |           |       |                 |           |                    |
|           | 15/7/2021   | 835043.632 E<br>825662.267 N                     |       |           |     |           |       |                 |           |                    |
|           | 17/7/2021   | 835043.632 E<br>825662.267 N                     |       |           |     |           |       |                 |           |                    |
|           | 21/7/2021   | 825481.152 E<br>835312.296 N                     |       |           |     |           |       |                 |           |                    |
|           | 23/7/2021   | 825481.152 E<br>835312.296 N                     |       |           |     |           |       |                 |           |                    |
|           | 25/7/2021   | 825481.152 E<br>835312.296 N                     |       |           |     |           |       |                 |           |                    |
|           | 28/7/2021   | 835047.544 E<br>825662.869 N                     |       |           |     |           |       |                 |           |                    |
|           | 30/7/2021   | 835047.544 E<br>825662.869 N                     |       |           |     |           |       |                 |           |                    |



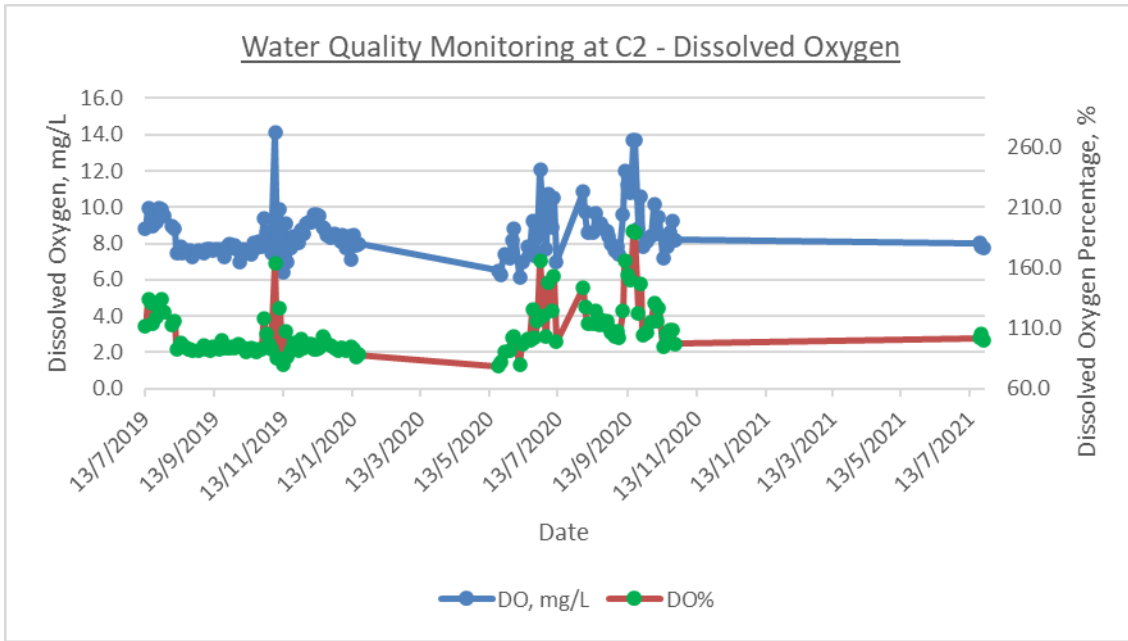
C2



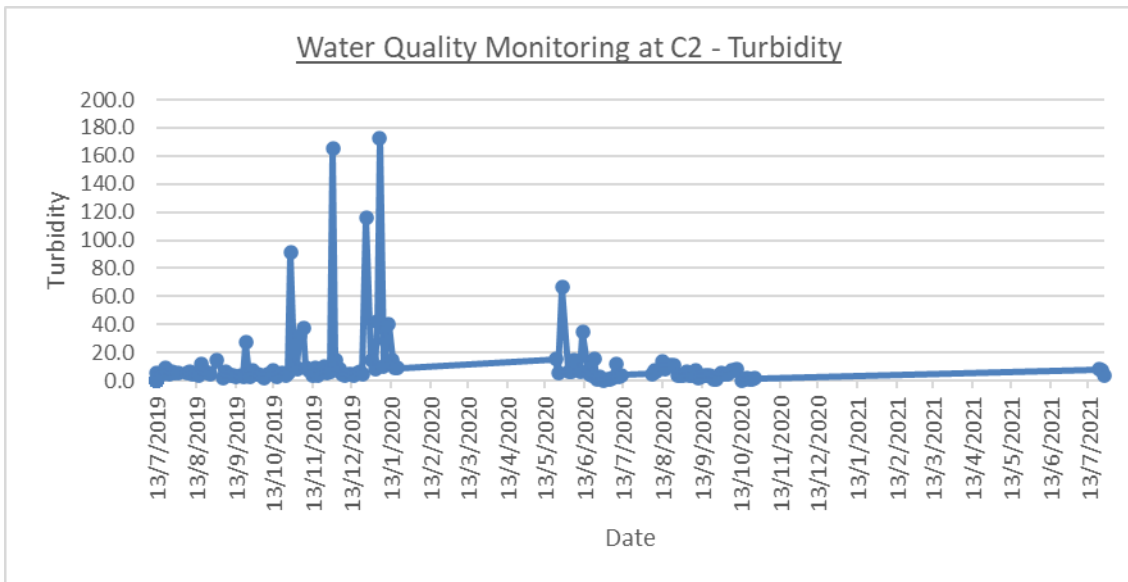
Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection



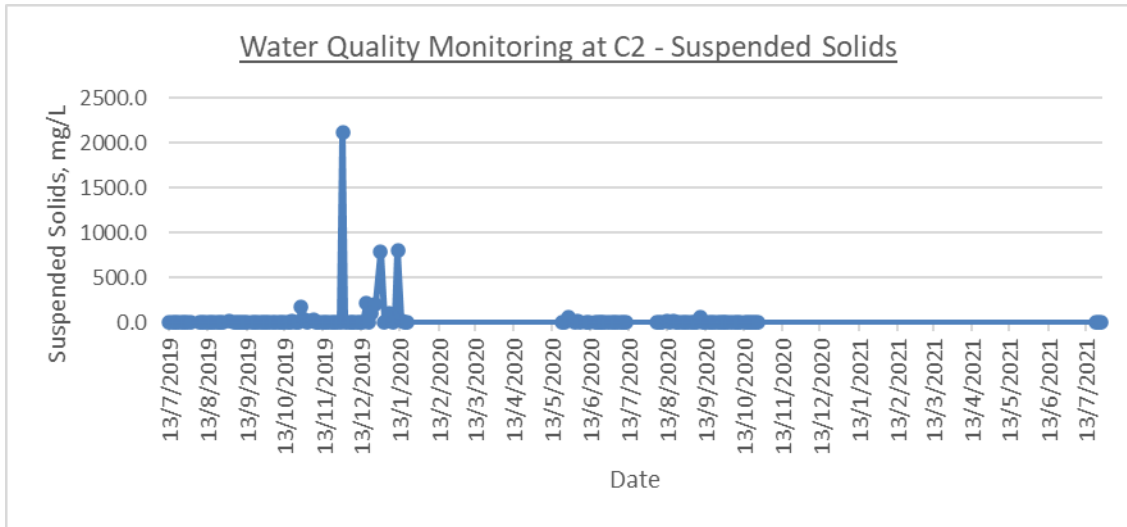
Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection



Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection

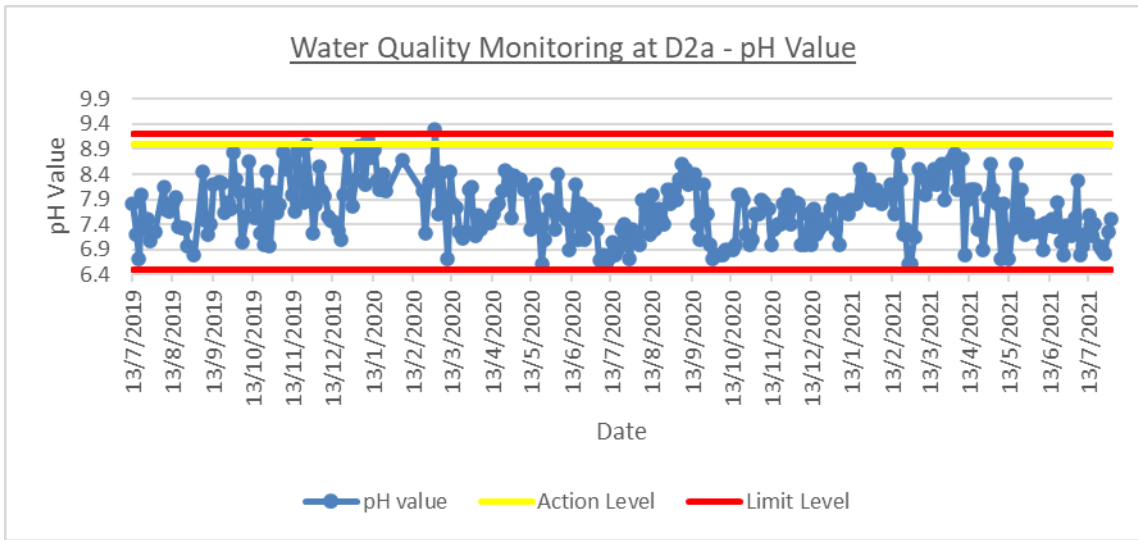
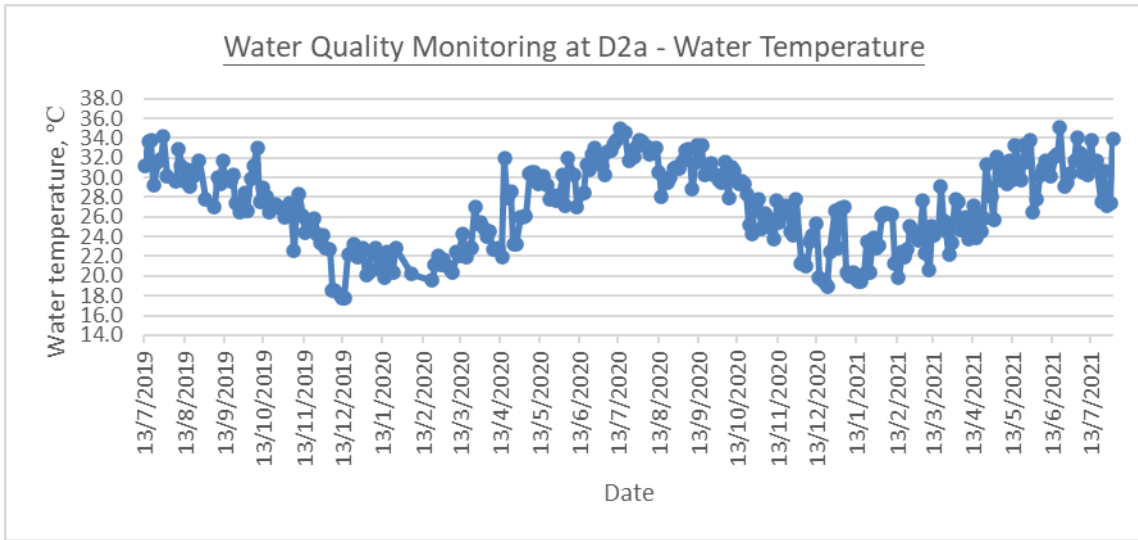


Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection

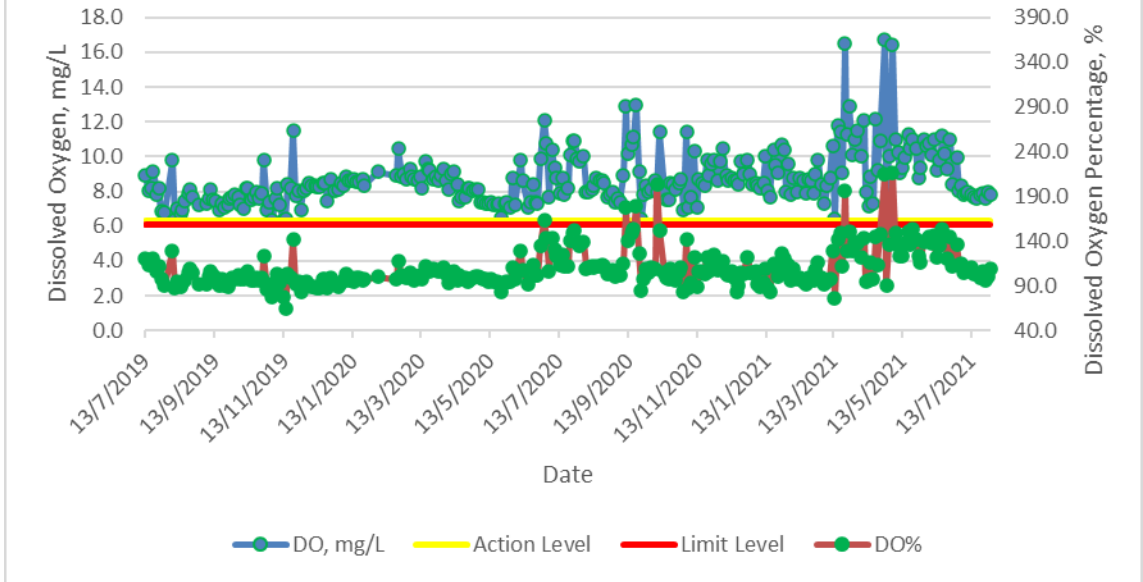


Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection

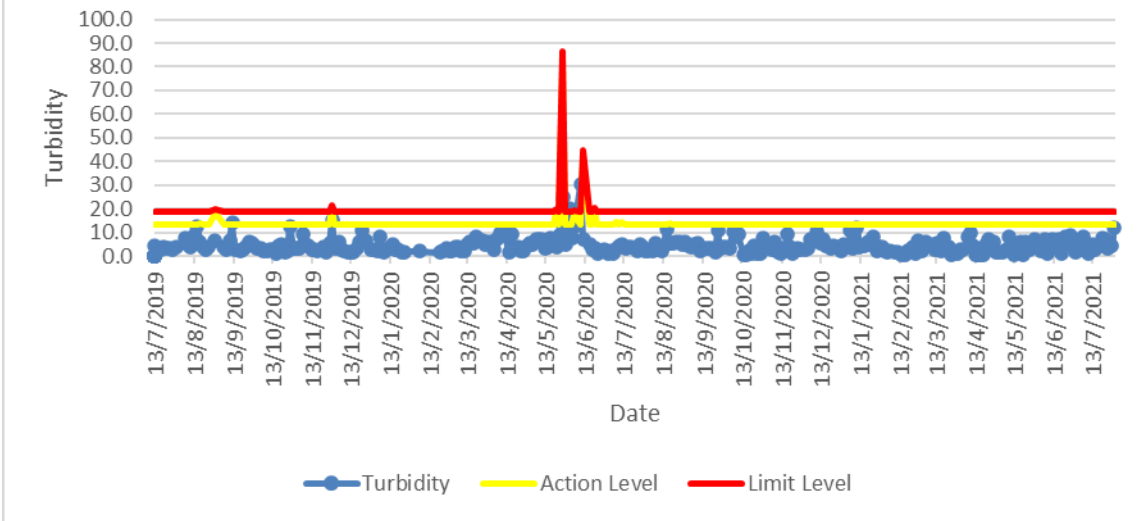
D2a



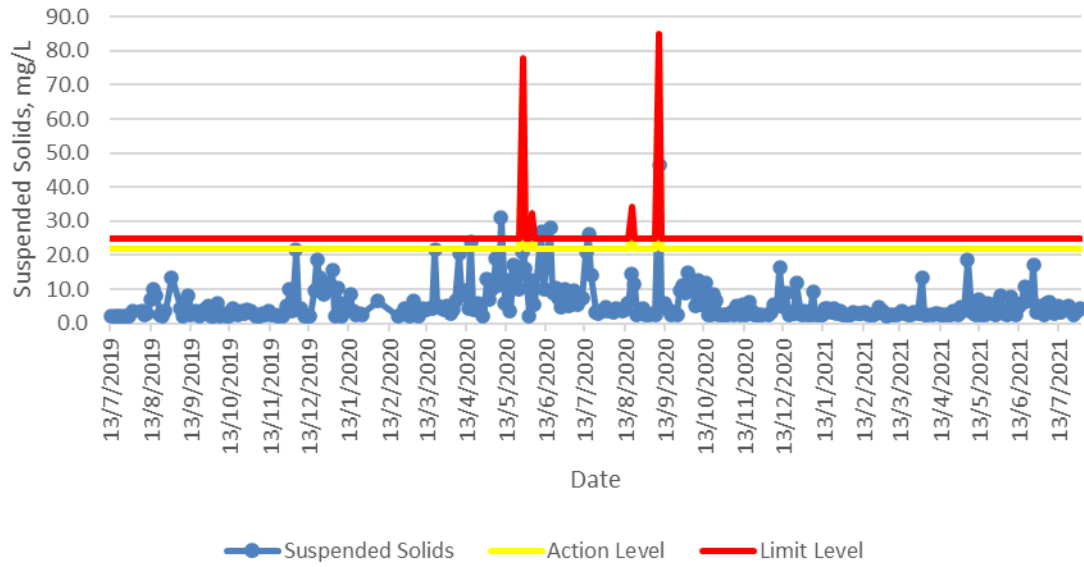
### Water Quality Monitoring at D2a - Dissolved Oxygen



### Water Quality Monitoring at D2a - Turbidity



### Water Quality Monitoring at D2a - Suspended Solids



Appendix G  
Supplementary Meteorological Data

**EXTRACT OF METEOROLOGICAL OBSERVATIONS FOR HONG KONG,  
JULY 2021 (Table 1)**

| Date<br>July   | Mean<br>Pressure<br>(hPa) | Air Temperature     |                  |                     | Mean<br>Dew Point<br>Temperature<br>(deg. C) | Mean<br>Relative<br>Humidity<br>(%) | Mean<br>Amount<br>of Cloud<br>(%) | Total<br>Rainfall<br>(mm) |
|----------------|---------------------------|---------------------|------------------|---------------------|--|-------------------------------------|-----------------------------------|---------------------------|
|                |                           | Maximum<br>(deg. C) | Mean<br>(deg. C) | Minimum<br>(deg. C) |  |                                     |                                   |                           |
| 1              | 1006.3                    | 32.4                | 30.3             | 29.2                | 25.9   | 78                                  | 88                                | Trace                     |
| 2              | 1006.7                    | 32.8                | 30.6             | 29.3                | 26.1   | 77                                  | 87                                | -                         |
| 3              | 1006.4                    | 33.0                | 30.4             | 29.1                | 26.3   | 79                                  | 85                                | Trace                     |
| 4              | 1007.2                    | 33.2                | 30.4             | 28.9                | 26.3   | 79                                  | 81                                | -                         |
| 5              | 1007.4                    | 33.8                | 30.2             | 28.0                | 26.2   | 79                                  | 68                                | 2.3                       |
| 6              | 1006.4                    | 32.7                | 29.4             | 26.7                | 25.6   | 80                                  | 74                                | 18.4                      |
| 7              | 1009.1                    | 33.1                | 29.4             | 26.6                | 25.8   | 81                                  | 73                                | 11.7                      |
| 8              | 1011.4                    | 32.8                | 29.8             | 28.4                | 25.7   | 79                                  | 49                                | 1.5                       |
| 9              | 1010.3                    | 34.8                | 30.5             | 28.2                | 25.6   | 76                                  | 28                                | -                         |
| 10             | 1010.4                    | 34.0                | 30.5             | 28.2                | 25.8   | 76                                  | 60                                | -                         |
| 11             | 1011.1                    | 33.6                | 30.6             | 28.8                | 26.0   | 77                                  | 84                                | Trace                     |
| 12             | 1010.2                    | 34.8                | 30.9             | 28.7                | 25.8   | 75                                  | 73                                | 0.1                       |
| 13             | 1008.5                    | 35.3                | 31.1             | 28.8                | 25.2   | 72                                  | 55                                | -                         |
| 14             | 1008.3                    | 34.1                | 30.7             | 29.1                | 25.7   | 75                                  | 47                                | 1.5                       |
| 15             | 1008.9                    | 35.4                | 31.3             | 28.9                | 25.3   | 71                                  | 41                                | -                         |
| 16             | 1008.5                    | 30.9                | 29.6             | 28.7                | 25.3   | 78                                  | 81                                | Trace                     |
| 17             | 1005.8                    | 31.2                | 28.8             | 26.9                | 25.0   | 80                                  | 88                                | 0.2                       |
| 18             | 1003.3                    | 28.8                | 26.9             | 24.9                | 25.1   | 90                                  | 88                                | 42.4                      |
| 19             | 1002.3                    | 27.9                | 26.5             | 25.0                | 25.1   | 93                                  | 93                                | 117.2                     |
| 20             | 1002.6                    | 27.1                | 26.2             | 25.3                | 25.2   | 94                                  | 95                                | 87.8                      |
| 21             | 1003.0                    | 27.8                | 26.8             | 25.3                | 25.7   | 94                                  | 88                                | 28.4                      |
| 22             | 1001.0                    | 32.8                | 29.3             | 26.9                | 25.3   | 80                                  | 66                                | -                         |
| 23             | 998.3                     | 34.1                | 30.3             | 27.4                | 25.8   | 77                                  | 40                                | -                         |
| 24             | 998.0                     | 33.2                | 29.8             | 26.5                | 26.4   | 82                                  | 70                                | 26.5                      |
| 25             | 999.4                     | 33.6                | 29.6             | 25.9                | 25.8   | 81                                  | 55                                | 8.9                       |
| 26             | 998.1                     | 33.9                | 30.7             | 28.7                | 26.4   | 78                                  | 53                                | -                         |
| 27             | 996.8                     | 35.3                | 31.3             | 29.5                | 26.4   | 75                                  | 67                                | Trace                     |
| 28             | 997.5                     | 34.1                | 30.8             | 29.1                | 26.8   | 79                                  | 76                                | Trace                     |
| 29             | 1000.1                    | 32.3                | 29.5             | 28.3                | 26.0   | 82                                  | 84                                | 7.8                       |
| 30             | 1001.4                    | 30.5                | 28.8             | 26.5                | 25.7   | 83                                  | 85                                | 7.9                       |
| 31             | 1000.3                    | 32.2                | 29.7             | 27.0                | 26.6   | 84                                  | 88                                | 16.9                      |
| Mean/Total     | 1004.7                    | 32.6                | 29.7             | 27.7                | 25.8   | 80                                  | 71                                | 379.5                     |
| Climatological | 1005.6                    | 31.6                | 28.9             | 26.9                | 25.2   | 81                                  | 72                                | 385.8                     |



|                                  |                       |      |      |      |      |    |    |       |
|----------------------------------|-----------------------|------|------|------|------|----|----|-------|
| Normal(1991-2020)                |                       |      |      |      |      |    |    |       |
| Climatological Normal(1981-2010) | 1005.7                | 31.4 | 28.8 | 26.8 | 25.1 | 81 | 69 | 376.5 |
| Station                          | Hong Kong Observatory |      |      |      |      |    |    |       |

**EXTRACT OF METEOROLOGICAL OBSERVATIONS FOR HONG KONG,  
JULY 2021 (Table 2)**

| Date July | Number of hours of Reduced Visibility <sup>#</sup> (hours) | Total Bright Sunshine (hours) | Daily Global Solar Radiation (MJ/m <sup>2</sup> ) | Total Evaporation (mm) | Prevailing Wind Direction (degrees) | Mean Wind Speed (km/h) |
|-----------|--|-------------------------------|---|------------------------|-------------------------------------|------------------------|
| 1         | 0  | 7.5                           | 21.48   | 5.2                    | 200                                 | 29.6                   |
| 2         | 0  | 8.0                           | 21.74   | 5.5                    | 220                                 | 28.5                   |
| 3         | 0  | 5.4                           | 17.36   | 4.0                    | 200                                 | 20.5                   |
| 4         | 0  | 7.5                           | 18.87   | 4.3                    | 130                                 | 11.3                   |
| 5         | 0  | 6.5                           | 21.23   | 5.2                    | 080                                 | 24.8                   |
| 6         | 0  | 6.1                           | 20.47   | 4.4                    | 090                                 | 20.4                   |
| 7         | 0  | 5.8                           | 19.86   | 3.5                    | 130                                 | 28.9                   |
| 8         | 0  | 7.0                           | 19.73   | 4.9                    | 130                                 | 19.8                   |
| 9         | 0  | 9.7                           | 24.46   | 5.3                    | 110                                 | 7.2                    |
| 10        | 0  | 11.7                          | 28.35   | 6.3                    | 100                                 | 12.6                   |
| 11        | 0  | 9.8                           | 25.10   | 6.3                    | 110                                 | 11.6                   |
| 12        | 0  | 10.2                          | 25.83   | 6.4                    | 150                                 | 12.3                   |
| 13        | 0  | 11.7                          | 28.04   | 6.3                    | 200                                 | 8.6                    |
| 14        | 0  | 8.0                           | 16.38   | 4.1                    | 130                                 | 8.0                    |
| 15        | 0  | 12.0                          | 28.51   | 6.6                    | 160                                 | 10.9                   |
| 16        | 0  | 0.5                           | 7.92  | 2.4                    | 070                                 | 8.1                    |
| 17        | 0  | 5.6                           | 17.05   | 3.0                    | 080                                 | 19.7                   |
| 18        | 0  | 0.4                           | 6.17  | 0.5                    | 070                                 | 32.7                   |
| 19        | 0  | 0.3                           | 5.06  | 0.4                    | 090                                 | 42.8                   |
| 20        | 0  | -                             | 1.78  | 0.3                    | 090                                 | 32.0                   |
| 21        | 0  | 0.2                           | 4.36  | 1.0                    | 100                                 | 25.1                   |
| 22        | 0  | 11.7                          | 26.56   | 4.8                    | 060                                 | 12.0                   |
| 23        | 0  | 10.7                          | 24.27   | 4.9                    | 240                                 | 16.4                   |
| 24        | 0  | 6.3                           | 17.91   | 3.5                    | 240                                 | 16.4                   |
| 25        | 0  | 9.6                           | 24.46   | 5.9                    | 230                                 | 18.8                   |
| 26        | 0  | 9.9                           | 21.93   | 5.1                    | 240                                 | 19.9                   |
| 27        | 0  | 8.5                           | 21.47   | 5.3                    | 240                                 | 20.2                   |

|                                  |                                 |             |       |       |                            |      |
|----------------------------------|---------------------------------|-------------|-------|-------|----------------------------|------|
| 28                               | 0                               | 6.4         | 18.38 | 4.7   | 240                        | 27.9 |
| 29                               | 0                               | 1.8         | 9.80  | 3.7   | 230                        | 12.3 |
| 30                               | 0                               | 0.6         | 10.56 | 2.8   | 230                        | 15.0 |
| 31                               | 0                               | 4.1         | 16.32 | 3.9   | 230                        | 31.2 |
| Mean/Total                       | 0                               | 203.5       | 18.43 | 130.5 | 090                        | 19.5 |
| Climatological Normal(1991-2020) | 12.5 <sup>§</sup>               | 197.3       | 17.22 | 142.0 | 230                        | 21.3 |
| Climatological Normal(1981-2010) | 12.5 <sup>§</sup>               | 212.0       | 17.17 | 146.2 | 230                        | 21.3 |
| Station                          | Hong Kong International Airport | King's Park |       |       | Waglan Island <sup>^</sup> |      |

The minimum pressure recorded at the Hong Kong Observatory was 994.6 hectopascals at 1428 HKT on 27 July.

The maximum air temperature recorded at the Hong Kong Observatory was 35.4 degrees C at 1512 HKT on 15 July.

The minimum air temperature recorded at the Hong Kong Observatory was 24.9 degrees C at 0805 HKT on 18 July.

The maximum gust peak speed recorded at Waglan Island was 79 kilometres per hour from 320 degrees at 0710 HKT on 31 July.

The maximum 1-minute mean rainfall rate recorded at King's Park was 133 millimetres per hour at 0831 HKT on 20 July.

# Reduced visibility refers to visibility below 8 kilometres when there is no fog, mist or precipitation.

- The visibility readings at the Hong Kong International Airport are based on hourly observations by professional meteorological observers in 2004 and before, and average readings over the 10-minute period before the clock hour of the visibility meter near the middle of the south runway from 2005 onwards. The change of the data source in 2005 is an improvement of the visibility assessment using instrumented observations following the international trend.

- Before 10 October 2007, the number of hours of reduced visibility at the Hong Kong International Airport in 2005 and thereafter displayed in this web page was based on hourly visibility observations by professional meteorological observers. Since 10 October 2007, the data have been revised using the average visibility readings over the 10-minute period before the clock hour, as recorded by the visibility meter near the middle of the south runway.

<sup>^</sup> In case the data are not available from Waglan Island, observations of Cheung Chau or other nearby weather stations will be incorporated in computing the Prevailing Wind Direction and Mean Wind Speed.

§ 1997-2020 Mean value

Appendix H  
Event / Action Plans

**Table B-1 Event/ Action Plan for Noise Impact**

| Event and Action Plan for Noise Impact |  |  |   |  |
|--|--|--|---|--|
| Event                                  | Action   |  |   |  |
|  | ET Leader  | IEC  | ER  | Contractor   |
| Action Level is reached                | <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 the investigation to the IEC and Contractor</li> <li>4. Discuss with the Contractor and formulate remedial measures</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 failure in writing</li> <li>2. Notify Contractor</li> <li>3. Require Contractor to propose remedial measures for the analyzed noise problem</li> <li>4. Ensure remedial measures are properly implemented</li> <li>5.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Submit noise mitigation proposal to IEC</li> <li>2. Implement noise mitigation proposals</li> </ol>  |
| Limit Level is reached                 | <ol style="list-style-type: none"> <li>1. Notify IEC, ER, EPD and Contractor</li> <li>2. Identify source</li> <li>3. Repeat measurement to confirm findings</li> <li>4. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</li> <li>5. Inform IEC, ER and EPD the causes &amp; actions taken for the exceedances</li> <li>6. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results</li> <li>7. 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 failure in writing</li> <li>2. Notify Contractor</li> <li>3. Require Contractor to propose remedial measures for the analyzed noise problem</li> <li>4. Ensure remedial measures are properly implemented</li> <li>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion or 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> |

**Table B-2 Event/ Action Plan for Water Quality Impact**

| EVENT   | ACTION  |  |   |   |
|---|---|--|---|---|
|   | ET  | IEC  | ER  | CONTRACTOR  |
| Action level being exceeded by one sampling day                       | <ol style="list-style-type: none"> <li>1. Repeat in-situ measurement to confirm findings and repeat measurement on next day of exceedance being recorded;</li> <li>2. Identify source(s) of impact;</li> <li>3. Inform IEC, contractor, ER and EPD;</li> <li>4. Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>5. Discuss mitigation measures with IEC, ER and Contractor;</li> </ol>   | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor's working methods.</li> <li>2. Discuss with ET and Contractor on possible mitigation measures;</li> <li>3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly;</li> </ol>  | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing</li> <li>2. Discuss with IEC, ET and Contractor on the proposed mitigation.</li> <li>3. Request Contractor to view the working methods.</li> <li>4. Ensure mitigation measures are properly implemented.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Inform the ER and confirm notification of the non-compliance in writing;</li> <li>2. Rectify unacceptable practice;</li> <li>3. Check all plant and equipment and consider changes of working methods;</li> <li>4. Discuss with ET, IEC and ER and propose mitigation measures to ER and IEC within 3 working days;</li> <li>5. Implement the agreed mitigation measures.</li> </ol>  |
| Limit level being exceeded by more than one consecutive sampling days | <ol style="list-style-type: none"> <li>1. Repeat in-situ measurement to confirm findings and repeat measurement on next day of exceedance being recorded;</li> <li>2. Identify source(s) of impact;</li> <li>3. Inform IEC, Contractor, ER and EPD;</li> <li>4. Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>5. Discuss mitigation measures with IEC, ER and Contractor;</li> <li>6. Ensure mitigation measures are implemented;</li> <li>7. Increase the monitoring frequency</li> </ol> | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor's working methods.</li> <li>2. Discuss with ET and Contractor on possible mitigation measures;</li> <li>3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>4. Supervise the implementation of mitigation measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Discuss with IEC, ET and Contractor on the proposed mitigation measures;</li> <li>2. Request Contractor to critically review the working methods;</li> <li>3. Make agreement on the mitigation measures to be implemented;</li> <li>4. Ensure mitigation measures are properly implemented;</li> <li>5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.</li> </ol> | <ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance</li> <li>2. Discuss with ET, IEC and ER and propose mitigation measures to ER and IEC;</li> <li>3. Implement the agreed mitigation measures;</li> <li>4. Resubmit proposals of mitigation measures if problem still not under control;</li> <li>5. As directed by the Engineer, to slow down or to stop all or part of the construction activities until no exceedance of Limit level.</li> </ol> |

|  |   |  |  |  |
|--|---|--|--|--|
|  | to daily until no exceedance of<br>Limit level for two consecutive<br>days. |  |  |  |
|--|---|--|--|--|

Appendix I  
Monthly Waste Flow Table



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

Contract No.: DC/2018/08

### Monthly Summary Waste Flow Table for 2021 (year)

| Month     | Actual Quantities of Inert C&D Materials Generated Monthly |                                     |                          |                          |                          |                          | Actual Quantities of C&D Wastes Generated Monthly |                            |                       |                |                             |
|-----------|--|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|----------------------------|-----------------------|----------------|-----------------------------|
|           | Total Quantity Generated                                   | Hard Rock and Large Broken Concrete | Reused in the Contract   | Reused in other Projects | Disposed as Public Fill  | Imported Fill            | Metals  | Paper/ cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
|           | (in '000m <sup>3</sup> )                                   | (in '000m <sup>3</sup> )            | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000 kg)                                      | (in '000kg)                | (in '000kg)           | (in '000kg)    | (in '000m <sup>3</sup> )    |
| Jan       | 6.334  | 0                                   | 0                        | 3.028                    | 3.306                    | 0                        | 0   | 0                          | 0                     | 0.4            | 0.00847                     |
| Feb       | 4.008  | 0                                   | 0                        | 1.461                    | 2.547                    | 0                        | 0   | 0                          | 0                     | 1.4            | 0.01195                     |
| Mar       | 6.096  | 0                                   | 0                        | 0                        | 6.096                    | 0                        | 0   | 0                          | 0                     | 0              | 0.00638                     |
| Apr       | 4.013  | 0                                   | 0                        | 0                        | 4.013                    | 0                        | 0   | 0                          | 0                     | 4.2            | 0.00612                     |
| May       | 4.096  | 0                                   | 0                        | 1.130                    | 2.966                    | 0                        | 0   | 0                          | 0                     | 0              | 0.00769                     |
| June      | 5.882  | 0                                   | 0                        | 5.212                    | 0.670                    | 0                        | 0   | 0                          | 0                     | 0              | 0.00533                     |
| Sub-total | 30.429   | 0                                   | 0                        | 10.831                   | 19.598                   | 0                        | 0   | 0                          | 0                     | 6.0            | 0.04594                     |
| July      | 4.0758   | 0                                   | 0                        | 3.188                    | 1.0059                   | 0                        | 0   | 0                          | 0                     | 0.05           | 0.02628                     |
| Aug       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Sept      |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Oct       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Nov       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Dec       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Total     | 34.5048  | 0                                   | 0                        | 14.019                   | 20.604                   | 0                        | 0   | 0                          | 0                     | 6.05           | 0.07222                     |

Remark: Use of conversion factors: density of inert C&D materials (2 ton/m<sup>3</sup>) and general refuse (1 ton/m<sup>3</sup>)





| Forecast of Total Quantities of C&D Materials to be Generated from the Contract* |                                     |                          |                          |                          |                          |              |                            |                       |                |                             |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------|----------------------------|-----------------------|----------------|-----------------------------|
| Total Quantity Generated   | Hard Rock and Large Broken Concrete | Reused in the Contract   | Reused in other Projects | Disposed as Public Fill  | Imported Fill            | Metals       | Paper/ cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
| (in '000m <sup>3</sup> )   | (in '000m <sup>3</sup> )            | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000 kg) | (in '000kg)                | (in '000kg)           | (in '000kg)    | (in '000m <sup>3</sup> )    |
| 37.523   | 37.2                                | 0                        | 0                        | 5.92                     | 0                        | 0            | 0                          | 0                     | 4.8            | 0.323                       |

- Notes:
- (1) The performance targets are given in PS Clause 1.104(14).
  - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material

Appendix J  
Implementation Schedule of  
Recommended Mitigation Measures

**Table A-1 Air Quality Impact – Implementation Schedule of Recommended Mitigation Measures**

| EIA Ref.                  | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures   | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location / Timing of<br>implementation of<br>Measures                       | What requirements or<br>standards for the<br>measures to achieve? |
|---------------------------|-----------|---|---|--------------------------------------|---|---|
| <b>Construction Phase</b> |           |   |   |                                      |   |   |
| S.3.5.9                   | S.3.2.2   | All the dust control measures as recommended in the Air Pollution Control (Construction Dust) Regulation, where applicable, should be implemented. Typical dust control measures include:   | Air Quality (fugitive dust) Control during Construction Phase           | Contractors                          | At all construction areas of the site during the entire construction period | EIAO -TM, Air Pollution Control (Construction Dust) Regulation    |
| S.3.5.9                   | S.3.2.2   | <ul style="list-style-type: none"> <li>The works area for site clearance shall be sprayed with water before, during and after the operation so as to maintain the entire surface wet</li> </ul>   | Air Quality (fugitive dust) Control during Construction Phase           | Contractors                          | Ditto   | EIAO -TM, Air Pollution Control (Construction Dust) Regulation    |
| S.3.5.9                   | S.3.2.2   | <ul style="list-style-type: none"> <li>Restricting heights from which materials are to be dropped, as far as practicable to minimise the fugitive dust arising from unloading/ loading</li> </ul>   | Air Quality (fugitive dust) Control during Construction Phase           | Contractors                          | Ditto   | EIAO -TM, Air Pollution Control (Construction Dust) Regulation    |
| S.3.5.9                   | S.3.2.2   | <ul style="list-style-type: none"> <li>Immediately before leaving a construction site, all vehicles shall be washed to remove any dusty materials from the bodies and wheels. However, all spraying of materials and surfaces should avoid excessive water usage</li> </ul> | Air Quality (fugitive dust) Control during Construction Phase           | Contractors                          | Ditto   | EIAO -TM, Air Pollution Control (Construction Dust) Regulation    |
| S.3.5.9                   | S.3.2.2   | <ul style="list-style-type: none"> <li>Where a vehicle leaving a construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting to ensure that the dusty materials will not leak from the vehicle</li> </ul>      | Air Quality (fugitive dust) Control during Construction Phase           | Contractors                          | Ditto   | EIAO -TM, Air Pollution Control (Construction Dust) Regulation    |
| S.3.5.9                   | S.3.2.2   | <ul style="list-style-type: none"> <li>Erection of hoarding of not less than 2.4 m high from ground level along the site boundary, where appropriate</li> </ul>   | Air Quality (fugitive dust) Control during Construction Phase           | Contractors                          | Ditto   | EIAO -TM, Air Pollution Control (Construction Dust) Regulation    |
| S.3.5.9                   | S.3.2.2   | <ul style="list-style-type: none"> <li>Any stockpile of dusty materials shall be covered entirely by impervious sheeting; and/or placed in an area sheltered on the top and 4 sides</li> </ul>  | Air Quality (fugitive dust) Control during Construction Phase           | Contractors                          | Ditto   | EIAO -TM, Air Pollution Control (Construction Dust) Regulation    |
| S.3.5.9                   | S.3.2.2   | <ul style="list-style-type: none"> <li>All dusty materials shall be sprayed with water immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet</li> </ul>   | Air Quality (fugitive dust) Control during Construction Phase           | Contractors                          | Ditto   | EIAO -TM, Air Pollution Control (Construction Dust) Regulation    |
| <b>Operational Phase</b>  |           |   |   |                                      |   |   |
| N/A                       | N/A       | N/A   | N/A   | N/A                                  | N/A   | N/A   |

**Table A-2 Noise Impact – Implementation Schedule of Recommended Mitigation Measures**

| EIA Ref.                  | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures   | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location / Timing of<br>implementation of<br>Measures                       | What requirements or<br>standards for the<br>measures to achieve? |
|---------------------------|-----------|---|---|--------------------------------------|---|---|
| <b>Construction Phase</b> |           |   |   |                                      |   |   |
| S.4.8.2                   | S.4.8.1   | <ul style="list-style-type: none"> <li>The Contractor shall adopt the Code of Practice on Good Management Practice to Prevent Violation of the Noise Control Ordinance (Chapter 400) (for Construction Industry) published by EPD</li> </ul>                                    | Noise control during construction                                       | Contractors                          | At all construction areas of the site during the entire construction period | Annex 5 of EIAO-TM  |
| S.4.8.2                   | S.4.8.1   | <ul style="list-style-type: none"> <li>The Contractor shall observe and comply with the statutory and non-statutory requirements and guidelines</li> </ul>  | Noise control during construction                                       | Contractors                          | Ditto   | Annex 5 of EIAO-TM  |
| S.4.8.2                   | S.4.8.1   | <ul style="list-style-type: none"> <li>Before commencing any work, the Contractor shall submit to the Engineer Representative for approval the method of working, equipment and noise mitigation measures intended to be used at the site</li> </ul>                            | Noise control during construction                                       | Contractors                          | Ditto   | Annex 5 of EIAO-TM  |
| S.4.8.2                   | S.4.8.1   | <ul style="list-style-type: none"> <li>The Contractor shall devise and execute working methods to minimise the noise impact on the surrounding sensitive uses, and provide experienced personnel with suitable training to ensure that those methods are implemented</li> </ul> | Noise control during construction                                       | Contractors                          | Ditto   | Annex 5 of EIAO-TM  |
| S.4.8.2                   | S.4.8.1   | <ul style="list-style-type: none"> <li>Noisy equipment and noisy activities should be located as far away from the NSRs as is practical</li> </ul>  | Noise control during construction                                       | Contractors                          | Ditto   | Annex 5 of EIAO-TM  |
| S.4.8.2                   | S.4.8.1   | <ul style="list-style-type: none"> <li>Unused equipment should be turned off. PME should be kept to a minimum and the parallel use of noisy equipment / machinery should be avoided</li> </ul>  | Noise control during construction                                       | Contractors                          | Ditto   | Annex 5 of EIAO-TM  |
| S.4.8.2                   | S.4.8.1   | <ul style="list-style-type: none"> <li>Regular maintenance of all plant and equipment</li> </ul>  | Noise control during construction                                       | Contractors                          | Ditto   | Annex 5 of EIAO-TM  |
| S.4.8.2                   | S.4.8.1   | <ul style="list-style-type: none"> <li>Material stockpiles and other structures should be effectively utilised as noise barriers, where practicable</li> </ul>  | Noise control during construction                                       | Contractors                          | Ditto   | Annex 5 of EIAO-TM  |
| <b>Operational Phase</b>  |           |   |   |                                      |   |   |
| N/A                       | N/A       | N/A   | N/A   | N/A                                  | N/A   | N/A   |

**Table A-3 Water Quality Impact – Implementation Schedule of Recommended Mitigation Measures**

| EIA Ref.                  | EM&A Ref.         | Recommended Environmental Protection Measures/<br>Mitigation Measures  | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location / Timing of<br>implementation of<br>Measures   | What requirements or<br>standards for the<br>measures to achieve?          |
|---------------------------|-------------------|--|---|--------------------------------------|---|--|
| <b>Construction Phase</b> |                   |  |   |                                      |   |  |
| S.5.10.1<br>-5.10.2       | S.5.8.2<br>-5.8.3 | Construction for the desilting facilities at intake and outfall portals should be carried out behind a temporary cofferdam which is watertight enclosure built in the reservoirs and pumped dry to expose the bottom.  | Point Pollution Control   | Contractors                          | Before construction of intake and outfall portals and remain on site until completion of intake and outfall portals and tunnel construction | Water Pollution Control Ordinance  |
| S.5.10.3                  | S.5.8.4           | The cofferdams should be regularly inspected and maintained to ensure no spillage of waste or wastewater into the reservoirs.  | Point Pollution Control   | Contractors                          | Before construction of intake and outfall portals and remain on site until completion of intake and outfall portals and tunnel construction | Water Pollution Control Ordinance  |
| S. 5.10.4                 | S. 5.8.5          | Construction of desilting facilities within works areas capable of controlling discharge of SS to comply with WPCO/TM-DSS  | Point and Non-point Pollution Control                                   | Contractors                          | At all construction areas of the site during the entire construction period   | Water Pollution Control Ordinance  |
| S.5.10.5                  | S.5.8.6           | Construction runoff will be managed as per the Practice Note for Professional Persons ProPECC PN1/94 - Construction Site Drainage and the conditions of working within Water Gathering Grounds stipulated by WSD   | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance<br>Water Gathering Ground control by WSD |
| S.5.10.6                  | S. 5.8.7          | A Drainage Management Plan should be prepared by the Contractor for approval by the Engineer for each of the works areas, detailing the facilities and measures to manage pollution arising from surface runoff from those works areas   | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance<br>Water Gathering Ground control by WSD |
| S. 5.10.7                 | S. 5.8.8          | An Emergency Contingency Plan should also be prepared by the Contractor, detailing the response and procedures to contain and remove any accidental spillage along the temporary and permanent roads and at the site at short notice to prevent or minimize the quantities of contaminants from reaching the reservoirs and local streams leading to the reservoirs. The Emergency Contingency Plan should be submitted to the Engineer for approval | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance<br>Water Gathering Ground control by WSD |
| S. 5.10.8                 | S. 5.8.9          | ▪ Surface run-off and effluent from the construction sites at  | Stormwater and Non-point  | Contractors                          | Ditto   | Water Pollution Control  |

| EIA Ref.  | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures  | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location / Timing of<br>implementation of<br>Measures | What requirements or<br>standards for the<br>measures to achieve? |
|-----------|-----------|--|---|--------------------------------------|---|---|
|           |           | the intake at Kowloon Byewash Reservoir and outfall at the Lower Shing Mun Reservoir will be directed towards adequately designed sand/silt removal facilities such as sand/silt traps and sediment basins to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO before discharging to discharge points downstream of the Kowloon Byewash Reservoir Dam and Lower Shing Mun Reservoir Dam respectively. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1m <sup>3</sup> /s a sedimentation basin of 30m <sup>3</sup> would be required and for a flow rate of 0.5m <sup>3</sup> /s the basin would be 150m <sup>3</sup> . The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction | Source Pollution Control  |                                      |   | Ordinance   |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>Channels, earth bunds or sand bag barriers will be provided on-site to properly direct stormwater to the above-mentioned facilities</li> </ul>  | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>Existing on-site silt removal facilities, channels and manholes, if any, will be maintained and the deposited silt and grit will be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times</li> </ul>  | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>Other manholes, if any, including any newly constructed ones will be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system</li> </ul>   | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>Open stockpiles of materials on site will be avoided within water gathering grounds as far as practicable. All surplus spoil will be removed from water gathering grounds as soon as possible Measures will be taken to prevent the washing away of construction materials, soil, silt or debris</li> </ul>   | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>Where possible, works entailing soil excavation will be minimized during the rainy season (i.e. April to September). If excavation in soil could not be avoided in these months or</li> </ul>   | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |

| EIA Ref.  | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures  | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location / Timing of<br>implementation of<br>Measures | What requirements or<br>standards for the<br>measures to achieve? |
|-----------|-----------|--|---|--------------------------------------|---|---|
|           |           | at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest/edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm |   |                                      |   |   |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>Where applicable, final earthworks surfaces/ slopes will be well compacted and hydro-seeded following completion to prevent erosion</li> </ul>  | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>Where surface runoff or construction effluent is likely to be contaminated with oil, properly designed and maintained petrol interceptor will be provided to meet the WPCO/TM-DSS requirements. Oil leakage or spillage shall be contained and cleaned up immediately. Detailed design of the petrol interceptor shall be provided by the Contractor before commencement of construction</li> </ul>   | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>Sewage arising from the construction workers on site should be collected by temporary sanitary facilities e.g. portable chemical toilets. Portable toilets should be used coupled with tankering away services provided by a licensed collector</li> </ul>  | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>All site discharges within Inland Waters Group A must comply with the terms and conditions of a valid discharge licence issued by EPD</li> </ul>  | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>Vehicle wheel washing facilities should be provided, where applicable, at the site exit such that mud, debris, etc. deposited onto the vehicle wheels or body can be washed off before the vehicles are leaving the site area</li> </ul>  | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>Section of the road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains</li> </ul>  | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |

| EIA Ref.  | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures  | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location / Timing of<br>implementation of<br>Measures | What requirements or<br>standards for the<br>measures to achieve? |
|-----------|-----------|--|---|--------------------------------------|---|---|
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>▪ Vehicle washing facilities should be drained into desilting facilities before discharge. The water should be recycled on site wherever possible. It is suggested that the wash water from the wheel wash basin is either reused for site watering or pumped to the on-site desilting facilities for treatment</li> </ul>  | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>• Desilting facilities should be checked and the deposited silt and grit should be removed regularly to ensure they are working properly at all times</li> </ul>  | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>• To minimize water quality impact, recycled water should be used at the cutter face for cooling purposes. Used water should be collected and discharged to settling tank for settlement</li> </ul>   | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>• Excess water from the settling tank would be transferred to the desilting facilities for treatment before discharge. The Contractor should ensure that the discharge water from the desilting facilities and treated spent effluent arising from tunnel boring from the desilting facilities comply with the WPCO/TM-DSS requirements before discharge</li> </ul> | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>▪ Existing on-site silt removal facilities, channels and manholes, if any, would be maintained such that the deposited silt and grit will be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times;</li> </ul>  | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>▪ Desilting facilities should be checked and the deposited silt and grit should be removed regularly to ensure they are working properly at all times;</li> </ul>   | Stormwater and Non-point Source Pollution Control                       | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>▪ The project may occasionally involve the handling of fuel and generates chemical wastes. It must be ensured that all fuel tanks and chemical storage are sited on sealed and bunded areas, provided with locks and located outside water gathering grounds as far as practicable</li> </ul>   | Protection Against Accidental Spillage                                  | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8 | S. 5.8.9  | <ul style="list-style-type: none"> <li>▪ The storage areas will be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent accidentally spilled oil, fuel or chemicals from reaching the receiving waters</li> </ul>  | Protection Against Accidental Spillage                                  | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |



| EIA Ref.                 | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures  | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location / Timing of<br>implementation of<br>Measures | What requirements or<br>standards for the<br>measures to achieve? |
|--------------------------|-----------|--|---|--------------------------------------|---|---|
| S. 5.10.8                | S. 5.8.9  | <ul style="list-style-type: none"> <li>Oil and grease removal facilities will be provided where appropriate, for example, in area near plant workshop/maintenance areas, if any</li> </ul>   | Protection Against Accidental Spillage                                  | Contractors                          | Ditto   | Water Pollution Control Ordinance                                 |
| S. 5.10.8                | S. 5.8.9  | <ul style="list-style-type: none"> <li>Chemical waste arising from the site should be properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the Waste Disposal (Chemical Waste) (General) Regulation</li> </ul> | Protection Against Accidental Spillage                                  | Contractors                          | Ditto   | Waste Disposal (Chemical Waste) (General) Regulation              |
| <b>Operational Phase</b> |           |  |   |                                      |   |   |
| N/A                      | N/A       | N/A  | N/A   | N/A                                  | N/A   | N/A   |

**Table A-4 Waste Management Implication – Implementation Schedule of Recommended Mitigation Measures**

| EIA Ref.                  | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures  | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location/ Timing of<br>implementation of<br>Measures                        | What requirements or<br>standards for the<br>measures to achieve? |
|---------------------------|-----------|--|---|--------------------------------------|---|---|
| <b>Construction Phase</b> |           |  |   |                                      |   |   |
| S.6.7.1                   |           | Given the potential for secondary environmental impacts (dust, noise, water quality and visual impacts), mitigation measures are required to ensure proper handling, storage, transportation and disposal of materials at the outset and throughout the construction phase of the project  | Waste management during construction                                    | Contractors                          | At all construction areas of the site during the entire construction period | Waste Disposal Ordinance  |
| S.6.7.2                   | S. 6.2.5  | <ul style="list-style-type: none"> <li>An on-site environmental co-ordinator employed by the Contractor should be identified at the outset of the works. The co-ordinator shall prepare a Waste Management Plan ("WMP") in accordance with the requirements set out in the ETWB TCW No. 19/2005, Waste Management on Construction Sites. The WMP shall include monthly and yearly Waste Flow Tables ("WFT") that indicate the amounts of waste generated, recycled and disposed of (including final disposal site), and which should be regularly updated</li> </ul> | Waste management during construction                                    | Contractors                          | Ditto   | ETWB TCW No. 19/2005, Waste Management on Construction Sites      |
| S.6.7.2                   | S. 6.2.5  | <ul style="list-style-type: none"> <li>The reuse/ recycling of all materials on site shall be investigated and exhausted prior to treatment/ disposal off-site</li> </ul>  | Waste management during construction                                    | Contractors                          | Ditto   | Waste Disposal Ordinance  |
| S.6.7.2                   | S. 6.2.5  | <ul style="list-style-type: none"> <li>Good site practices shall be adopted from the commencement of works to avoid the generation of waste, reduce cross contamination of waste and to promote waste minimisation</li> </ul>  | Waste management during construction                                    | Contractors                          | Ditto   | Waste Disposal Ordinance  |
| S.6.7.2                   | S. 6.2.5  | <ul style="list-style-type: none"> <li>All waste materials shall be sorted on-site into inert and non-inert C&amp;D materials, and where the materials can be recycled or reused, they shall be further segregated. Inert material, or public fill will comprise stone, rock, concrete and soil which is suitable for land reclamation and site formation whilst non-inert materials include all other wastes generated from the construction process such as plastic packaging and vegetation (from site clearance)</li> </ul>                                      | Waste management during construction                                    | Contractors                          | Ditto   | Waste Disposal Ordinance  |
| S.6.7.2                   | S. 6.2.5  | <ul style="list-style-type: none"> <li>The Contractor shall be responsible for identifying what materials can be recycled/ reused, whether on-site or off-site. In the event of the latter, the Contractor shall make</li> </ul>   | Waste management during construction                                    | Contractors                          | Ditto   | Waste Disposal Ordinance  |

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures  | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location/<br>Timing of<br>implementation of<br>Measures | What requirements or<br>standards for the<br>measures to achieve?                      |
|----------|-----------|--|---|--------------------------------------|---|--|
|          |           | arrangements for the collection of the recyclable materials. Any remaining non-inert waste shall be collected and disposed of to the public fill reception facilities whilst any inert C&D materials shall be re-used on site as far as possible. Alternatively, if no use of the inert material can be found on-site, the materials can be delivered to a public fill reception facilities after obtaining the appropriate licence  |   |                                      |   |  |
| S.6.7.2  | S. 6.2.5  | <ul style="list-style-type: none"> <li>In order to monitor the disposal of C&amp;D material and solid wastes at public fill reception facilities and landfills, and control fly-tipping, a trip-ticket system shall be implemented by the Contractor, in accordance with the contract and the requirements of WBTC 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Material"</li> </ul>  | Waste management during construction                                    | Contractors                          | Ditto   | WBTC 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Material" |
| S.6.7.2  | S. 6.2.5  | <ul style="list-style-type: none"> <li>Under the Waste Disposal (Chemical Waste) (General) Regulation, the Contractor shall register as a Chemical Waste Producer if chemical wastes such as spent lubricants and paints are generated on site. Only licensed chemical waste collectors shall be employed to collect any chemical waste generated at site. The handling, storage, transportation and disposal of chemical wastes shall be conducted in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme both published by EPD</li> </ul> | Waste management during construction                                    | Contractors                          | Ditto   | Waste Disposal (Chemical Waste) (General) Regulation                                   |
| S.6.7.2  | S. 6.2.5  | <ul style="list-style-type: none"> <li>A sufficient number of covered bins shall be provided on site for the containment of general refuse to prevent visual impacts and nuisance to the sensitive surroundings. These bins shall be cleared daily and the collected waste disposed of to the refuse transfer station. Further to the issue of ETWB TCW No. 6/2002A, Enhanced Specification for Site Cleanliness and Tidiness, the Contractor is required to maintain a clean and hygienic site throughout the project works</li> </ul>  | Waste management during construction                                    | Contractors                          | Ditto   | Waste Disposal Ordinance   |
| S.6.7.2  | S. 6.2.5  | <ul style="list-style-type: none"> <li>All chemical toilets, if any, shall be regularly cleaned and the night-soil collected and transported by a licensed contractor to a Government Sewage Treatment Works facility for disposal</li> </ul>  | Waste management during construction                                    | Contractors                          | Ditto   | Waste Disposal Ordinance   |

| EIA Ref.                 | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures  | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location/ Timing of<br>implementation of<br>Measures | What requirements or<br>standards for the<br>measures to achieve? |
|--------------------------|-----------|--|---|--------------------------------------|--|---|
| S.6.7.2                  | S. 6.2.5  | <ul style="list-style-type: none"> <li>▪ Toolbox talks should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling</li> </ul> | Waste management during construction                                    | Contractors                          | Ditto  | Waste Disposal Ordinance  |
| S.6.7.2                  | S. 6.2.5  | <ul style="list-style-type: none"> <li>▪ The Contractor shall comply with all relevant statutory requirements and guidelines and their updated versions that may be issued during the course of project construction</li> </ul>    | Waste management during construction                                    | Contractors                          | Ditto  | Waste Disposal Ordinance  |
| <b>Operational Phase</b> |           |  |   |                                      |  |   |
| N/A                      | N/A       | N/A  | N/A   | N/A                                  | N/A  | N/A   |

**Table A-5 Ecological Impact – Implementation Schedule of Recommended Mitigation Measures**

| EIA Ref.                  | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures   | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location/ Timing of<br>implementation of<br>Measures   | What requirements or<br>standards for the<br>measures to achieve? |
|---------------------------|-----------|---|---|--------------------------------------|--|---|
| <b>Construction Phase</b> |           |   |   |                                      |  |   |
| S 8.8                     | N/A       | Minimise the habitat loss of secondary woodland / plantation and grassland as far as possible   | Reduce habitat and vegetation loss                                      | Contractors                          | At all construction areas of the site during the entire construction period  | Annex 16 of EIAO-TM   |
| S 8.8                     | N/A       | Disturbed secondary woodland / plantation and grassland should be reinstated after the completion of works  | Reinstate disturbed habitats  | Contractors                          | Worksite areas at the two portals / after completion of construction works   | Annex 16 of EIAO-TM   |
| S 8.8                     | N/A       | Provide clear definition of site boundary   | Prevent impact on offsite habitats                                      | Contractors                          | At all construction areas of the site during the entire construction period  | Annex 16 of EIAO-TM   |
| S 8.8                     | N/A       | Protect the protected plant <i>Pavetta hongkongensis</i> on its existing location;<br>Transplant the <i>Pavetta hongkongensis</i> to other suitable location if onsite protection is not feasible.  | Preserve the protected plant species                                    | Contractors                          | On the vegetated slope along the existing vehicle access at worksite area at Lower Shing Mun Reservoir / Construction period | Annex 16 of EIAO-TM   |
| S 8.8                     | N/A       | Carry out compensatory planting if the individual of <i>Artocarpus hypargyreus</i> cannot be retained onsite  | Mitigate the tree removal   | Contractors                          | worksite area at Kwoloon Byewash Reservoir / Construction Period   | ETWB TCW No. 3/2006   |
| S 8.8                     | N/A       | Workers should avoid eating and leave food in works area and avoid feeding the wildlife;<br>Fishes observed remaining at the proposed works area during the draining down process should be translocated to the portion of the reservoir outside the cofferdam. | Avoidance of injury to wildlife   | Contractors                          | At all construction areas of the site during the entire construction period  | Annex 16 of EIAO-TM   |
| S 8.8                     | N/A       | Implement standard good site practices for dust suppression   | Avoid dust deposition on vegetation                                     | Contractors                          | At all construction areas of the site during the entire construction period  | EIAO -TM, Air Pollution Control (Construction Dust) Regulation    |
| S 8.8                     | N/A       | Implement standard good site practices for water quality control  | Avoid site runoff to nearby habitats                                    | Contractors                          | At all construction areas of the site during the entire construction period  | Water Pollution Control Ordinance                                 |
| S 8.8                     | N/A       | Workers shall not disturb birds and other wildlife;<br>Litter shall not be burned on-site but shall be removed off-site;  | Avoid disturbance to wildlife   | Contractors                          | At all construction areas of the site during the entire construction period  | Annex 16 of EIAO-TM   |

| EIA Ref.                 | EM&A Ref. | Recommended Environmental Protection Measures/<br>Mitigation Measures   | Objectives of the<br>recommended measures &<br>main concerns to address | Who to<br>implement the<br>measures? | Location/ Timing of<br>implementation of<br>Measures  | What requirements or<br>standards for the<br>measures to achieve? |
|--------------------------|-----------|---|---|--------------------------------------|---|---|
|                          |           | Machinery not in use should be switched off to minimize the noise nuisance;<br>No fishing is allowed in the reservoir without permission.                                     |   |                                      |   |   |
| <b>Operational Phase</b> |           |   |   |                                      |   |   |
| S 8.8                    | N/A       | Compensate the habitat loss (grassland and woodland) by restoration of same type of habitats to be lost. The compensatory ratio should not be less than 1:1 in terms of area. | Mitigate the temporary habitat loss                                     | Contractors                          | Woodland at worksite area at Kowloon Byewash Reservoir and Grassland at worksite area at Lower Shing Mun Reservoir / Operational period | Annex 16 of EIAO-TM   |

**Table A-6 Landscape and Visual Impact – Implementation Schedule of Recommended Mitigation Measures**

| Id No. | Landscape and Visual Mitigation Measures   | Location | Funding | Implementation/ Maintenance Agent | Relevant Standard or Requirement                           | Implementation Stage |   |   | Timing of Implementation                 | Objectives of the Recommended Measure and Main Concern to address  |
|--------|--|----------|---------|-----------------------------------|--|----------------------|---|---|--|--|
| LMM1   | Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical | Site     | WSD     | Contractor                        | TM-EIA Annex 18  |                      | √ |   | Throughout construction phase            | To provide a viable growing medium suited to the existing conditions and reduce the need for the importation of top soil   |
| LMM2   | Existing Trees to be retained on site should be carefully protected during construction  | Site     | WSD     | Contractor                        | TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006 |                      | √ |   | Throughout construction phase            | To ensure the success of the tree preservation proposal  |
| LMM3   | Compensatory tree planting should be provided to compensate for felled trees   | Site     | WSD     | Contractor                        | TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006 |                      | √ |   | Throughout design and construction phase | The planting proposal seeks to compensate for the predicted tree loss resulting from the construction, visually integrate the proposals within its existing landscape framework and provide an improved visual amenity |
| LMM4   | Erection of decorative screen hoarding compatible with surrounding setting   | Site     | WSD     | Contractor                        | TM-EIA Annex 18 and BD                                     |                      | √ |   | Throughout construction phase            | To integrate the construction site with the existing environment   |
| LMM5   | Locations of the site office, storage or workshops should be carefully adjusted to areas out of tree protection zones.               | Site     | WSD     | Contractor                        | TM-EIA Annex 18 and BD                                     | √                    |   |   | Throughout design phase                  | To avoid unnecessary felling of trees  |
| LMM6   | Selection of intake and outfall portals to areas enclosed by existing topography or vegetation                                       | Site     | WSD     | Contractor                        | TM-EIA Annex 18 and BD                                     | √                    |   |   | Throughout design phase                  | To preserve the existing topography and as many as trees as possible   |
| LMM7   | Appearance of the water intake and outfall structures  | Site     | WSD     | Contractor                        | TM-EIA Annex 18 and BD                                     | √                    |   |   | Throughout design phase                  | To reduce the apparent visual mass of water intake and outfall structures  |
| LMM8   | Reinstatement of disturbed vegetation at both portal   | Site     | WSD     | Contractor                        | TM-EIA Annex 18  |                      |   | √ | After the completion of construction     | To mitigate disturbance to vegetation arising from the proposed construction   |

| Id No. | Landscape and Visual Mitigation Measures | Location | Funding | Implementation/ Maintenance Agent | Relevant Standard or Requirement | Implementation Stage | Timing of Implementation | Objectives of the Recommended Measure and Main Concern to address |
|--------|--|----------|---------|-----------------------------------|----------------------------------|----------------------|--------------------------|---|
|        | areas                                    |          |         |                                   |                                  |                      | works                    |   |

**Table A-7 Cultural Heritage – Implementation Schedule of Recommended Mitigation Measures**

| EIA Ref.                  | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures                                 | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location/ Timing of implementation of Measures   | What requirements or standards for the measures to achieve? |
|---------------------------|-----------|--|---|--------------------------------|--|---|
| <b>Construction Phase</b> |           |  |   |                                |  |   |
| S 10.7                    | S8.1.2    | Condition Survey for the identified historic items and monitoring of vibration levels if required. | Prevention of structural damage to the identified historic items  | Contractors                    | Condition survey to be undertaken prior to the construction phase and vibration monitoring to be undertaken during the construction phase if required. | None  |
| <b>Operational Phase</b>  |           |  |   |                                |  |   |
| N/A                       | N/A       | None   | None  | None                           | None   | None  |



## Appendix K

# Tentative Monitoring Schedule of Next Reporting Period

**IRTS – EM&A Monitoring & Inspection Schedule**

**August 2021**

| Sun  | Mon                         | Tue  | Wed                                   | Thur  | Fri   | Sat                                   |
|--|-----------------------------|--|---------------------------------------|---|---|---------------------------------------|
| <b>1</b><br>Impact Water Quality Monitoring & Noise Monitoring at NM1 (09:00-19:00)  | 2                           | 3<br>Weekly Site Inspection                                    | 4<br>Impact Water Quality Monitoring  | 5   | 6<br>Impact Water Quality Monitoring & Noise Monitoring at NM1 & NM2 (09:00-19:00); NM1 (19:00-23:00, 23:00-07:00)  | 7                                     |
| <b>8</b><br>Impact Water Quality Monitoring & Noise Monitoring at NM1 (09:00-19:00)  | 9<br>Weekly Site Inspection | 10   | 11<br>Impact Water Quality Monitoring | 12  | 13<br>Impact Water Quality Monitoring & Noise Monitoring at NM1 & NM2 (09:00-19:00); NM1 (19:00-23:00, 23:00-07:00) | 14                                    |
| <b>15</b><br>Impact Water Quality Monitoring & Noise Monitoring at NM1 (09:00-19:00) | 16                          | 17<br>Weekly Site Inspection & Impact Water Quality Monitoring | 18                                    | 19<br>Impact Water Quality Monitoring & Noise Monitoring at NM1 & NM2 (09:00-19:00); NM1 (19:00-23:00, 23:00-07:00) | 20  | 21<br>Impact Water Quality Monitoring |
| <b>22</b><br>Noise Monitoring at NM1 (09:00-19:00)                                   | 23                          | 24<br>Weekly Site Inspection & Impact Water Quality Monitoring | 25                                    | 26<br>Impact Water Quality Monitoring & Noise Monitoring at NM1 & NM2 (09:00-19:00); NM1 (19:00-23:00, 23:00-07:00) | 27  | 28<br>Impact Water Quality Monitoring |
| <b>29</b><br>Noise Monitoring at NM1 (09:00-19:00)                                   | 30                          | 31<br>Weekly Site Inspection & Impact Water Quality Monitoring |                                       |   |   |                                       |

 = General Holiday

## Appendix L

# Cumulative Statistics on Complaints, Notifications of Summons And Successful Prosecutions

Statistical Summary of Environmental Complaints

| <b>Reporting Period</b>     | <b>Environmental Complaint Statistics</b> |                   |                         |
|-----------------------------|---|-------------------|-------------------------|
|                             | <b>Frequency</b>                          | <b>Cumulative</b> | <b>Complaint Nature</b> |
| 1 Jul 2021 -<br>31 Jul 2021 | 0   | 1                 | N/A                     |

Statistical Summary of Environmental Summons

| <b>Reporting Period</b>     | <b>Environmental Summons Statistics</b> |                   |                |
|-----------------------------|---|-------------------|----------------|
|                             | <b>Frequency</b>                        | <b>Cumulative</b> | <b>Details</b> |
| 1 Jul 2021 -<br>31 Jul 2021 | 0                                       | 0                 | N/A            |

Statistical Summary of Environmental Prosecution

| <b>Reporting Period</b>     | <b>Environmental Prosecution Statistics</b> |                   |                |
|-----------------------------|---|-------------------|----------------|
|                             | <b>Frequency</b>                            | <b>Cumulative</b> | <b>Details</b> |
| 1 Jul 2021 -<br>31 Jul 2021 | 0   | 0                 | N/A            |

**CONTRACT NO. DC/2018/08 - INTER-RESERVOIRS TRANSFER SCHEME  
- WATER TUNNEL BETWEEN KOWLOON BYEWASH RESERVOIR AND LOWER SHING MUN RESERVOIR**

Document Title: IRTS 25<sup>th</sup> Monthly EM&A Report (July 2021) (Rev. 4)

| Section                | Changes   |
|------------------------|---|
| Executive Summary – E4 | Texts “The control point C1b was observed dried up” and “The control point C2 was observed dried up” were changed to “The control point C1b was observed with very shallow flow” and “The control point C2 was observed with very shallow flow”.  |
| Section 2.11           | Text “During baseline and impact water quality monitoring” and a summary table under Section 2.11 was added.  |
| Section 3.10           | Text “Reference from other EIA Project which uses such formula is presented below: Contract No. DC/2007/10 – Design and Construction of Hong Kong West Drainage Tunnel” was added below Table 3.3.  |
| Section 3.17           | Texts “The control point C1b was observed dried up” and “The control point C2 was observed dried up” were changed to “The control point C1b was observed with very shallow flow” and “The control point C2 was observed with very shallow flow”.<br>Text “Alternative sampling methods are being constructed to tackle the issue” was also added. |
| Section 9.3            | Texts “The control point C1b was observed dried up” and “The control point C2 was observed dried up” were changed to “The control point C1b was observed with very shallow flow” and “The control point C2 was observed with very shallow flow”.  |
| Section 9.5            | Section 9.5 was added.  |
| Section 9.10           | Description was changed to “Maintenance walkway connecting Cheung Yuen Road and intake structure, which were not shown in the EIA Report (AEIAR-135/2009), were observed inside the site boundary at the KBR area. Such structures shall be included in the latest Landscape Plan for authorities’ approval.”                                     |
| Appendix C             | Approximate locations of sampling at D2a were added.  |
| Appendix E             | Column “Remarks” was changed to “Wind Speed” and column “Temperature” was added.  |
| Appendix F             | Column “Sampling Equipment” was added to all locations.<br>Table “C1b on Days with Insufficient Water Available for Sample Collection” was added.<br>“Approximate Sampling Location Coordinates” was added to Summary Table D2a.  |

**CONTRACT NO. DC/2018/08 - INTER-RESERVOIRS TRANSFER SCHEME  
- WATER TUNNEL BETWEEN KOWLOON BYEWASH RESERVOIR AND LOWER SHING MUN RESERVOIR  
IEC's COMMENTS**

**Document Title:** IRTS 25<sup>th</sup> Monthly EM&A Report (July 2021)

**Document Ref. No.:**

**Date of Issue of Comments:** 13/8/2021

| ITEM NO. | REVIEWER'S COMMENT   | ET'S RESPONSE  | CLOSE DATE |
|----------|--|--|------------|
| 1.       | <p>Repeatedly, IEC would like to draw your attention on a long turnaround time (3-5 days) for the SS result. This long time lap may affect any immediate remedial measures if there is exceedance due to the construction works. Similar comments have been provided in the verification letters of 13th, 15th, 23rd and 24th Monthly EM&amp;A Report. This is the fifth gentle reminder for your kind consideration. IEC would like to clarify that IEC did not endorse the current procedure of investigating SS-induced exceedance.</p> | <p>The EM&amp;A Manual did not specify the SS turnaround time. The current water quality impact monitoring is undertaken three times per week according to Section 5.6.1 of the EM&amp;A Manual of the Project. The change of SS level at the monitoring stations over different days of a month could be effectively monitored.</p> <p>EM&amp;A Manuals from other contemporary EIA studies are referred, SS test result were required to be provided within 5 working days:</p> <ul style="list-style-type: none"> <li>• Desalination Plant at TKO (EP-503/2015)</li> <li>• Sha Tau Kok Sewage Treatment Works (EP-517/2017)</li> <li>• Outlying Islands Sewerage Stage 2 – South Lantau Sewerage Works (EP-538/2017)</li> <li>• Additional Gas-fired Generation Units Project at the Black Point Power Station (EP-507/2016)</li> </ul> <p>Construction methods and surrounding settings of these projects were found with multiple similarities to the IRTS Project, including the use of tunnel boring machine for construction of channels, the construction of temporary cofferdam, the adjacency of construction to ecological important region like Country Park or Marine Park, etc.</p> |            |