

Our ref: 10-09-2021

10-09-2021

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**

**26th Monthly EM&A Report (Rev. 0)**

Reference is made to the submission of the 26th Monthly EM&A Report (Rev. 0) and provided to us via email dated on 8-9-2021 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 is **NOT ABLE TO FULLY VERIFY** the captioned submission based on the existing documents and responses provided by ET. Particular attentions are paid on Sections 1.7, 2.5, 2.11, 2.13-2.14, 3.2-3.5, 3.10, 3.15-3.19, 9.1, 9.3 and Appendices C, F, H. Recently, IEC observed ET did not strictly followed the requirements of EM&A manual during baseline monitoring. Please note that this is the third EM&A monthly report in this EIA project without fully verification.

- In Sections 1.7, 2.13 and 9.1 and Appendix C, IEC observed an unapproved water sample was used for baseline water sample collection. Please refer to Section 5.3.5 of EM&A manual and Section 2.11 of baseline monitoring report.
- In Sections 2.5, 3.15, 3.16, 3.18, 3.19 and 9.1 and Appendix F, IEC is not able to identify the actual water quality monitoring of D2a for each sampling event. No proper record of actual water quality monitoring of D2a was provided for IEC verification. Please refer to Section 5.4 of EM&A manual and Section 2.5 of baseline monitoring report.
- In Section 2.14 and 9.1 and Appendix H, IEC observed ET did not strictly followed Table B-2 of EM&A manual.
- In Sections 3.2, 3.4, no record of the field condition including weather conditions was provided for IEC verification.
- In Section 3.3, no record of the wind speed was provided for IEC verification.

- In Section 3.10, no appropriate reference of measured noise level adjustment was provided for IEC verification.
- In Sections 3.17, 9.1 and 9.3, the control point C1b was observed with very shallow flow on 1, 4, 11, 13, 15, 17, 19, 21, 24, 26 and 28 August 2021. The control point C2 was observed dried up on 1, 4, 6, 8, 11, 13, 15, 17, 21, 24, 26, 28 and 31 August 2021. Insufficient water was available for sample collection. The locations of monitoring stations for control points have not been properly reviewed according to Section 10.3.3 of EM&A manual. Please refer to Section 10.3.3 of EM&A manual. Please also refer to the attached.

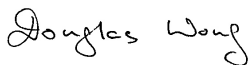
IEC hereby writes to **PARTIALLY VERIFY** the captioned submission in accordance with Condition 2.1 of the Environmental Permit No. EP-345/2009/A.

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



Dr. Wong

Independent Environmental Checker

Encl. An email communication subjected as "Alternative Water Quality Monitoring Control Station at KBR Raised Out by the Supervisor for IEC's Confirmation and Verification"

## RE: Alternative Water Quality Monitoring Control Station at KBR Raised Out by the Supervisor for IEC's Confirmation and Verification



**From** <ntsui@acuityhk.com>  
**To** <drwong@ka-shing.net>  
**Cc** <klau@acuityhk.com>, 'Irving Sze' <re.irvingsze@hkirts.com>, 'CHEUNG, Marcus (HKIRTS)' <marcus.cheung@dragageshk.com>, 'Carmen Cheuk' <are.carmencheuk@hkirts.com>, <iris.lai@dragageshk.com>, <philipchan@acuityhk.com>, <kli@acuityhk.com>  
**Date** 2021-08-26 21:47

Dear IEC,

We agree that the procedure according to the stipulated requirements should be followed. Therefore this alternative location will be regarded unsuitable according to the current EM&A Manual; and your concern over the review of monitoring location shall be closed.

Best regards,  
Nelson Tsui

-----Original Message-----

From: [drwong@ka-shing.net](mailto:drwong@ka-shing.net) <[drwong@ka-shing.net](mailto:drwong@ka-shing.net)>  
Sent: Thursday, August 26, 2021 8:40 PM  
To: [ntsui@acuityhk.com](mailto:ntsui@acuityhk.com)  
Cc: [klau@acuityhk.com](mailto:klau@acuityhk.com); 'Irving Sze' <[re.irvingsze@hkirts.com](mailto:re.irvingsze@hkirts.com)>; 'CHEUNG, Marcus (HKIRTS)' <[marcus.cheung@dragageshk.com](mailto:marcus.cheung@dragageshk.com)>; 'Carmen Cheuk' <[are.carmencheuk@hkirts.com](mailto:are.carmencheuk@hkirts.com)>; [iris.lai@dragageshk.com](mailto:iris.lai@dragageshk.com); [philipchan@acuityhk.com](mailto:philipchan@acuityhk.com); [kli@acuityhk.com](mailto:kli@acuityhk.com)  
Subject: Re: Alternative Water Quality Monitoring Control Station at KBR Raised Out by the Supervisor for IEC's Confirmation and Verification

Dear ET,

Please be reminded that the procedure according to the stipulated requirements should be followed. Can you kindly advise the requirements for "advance confirmation" in EM&A manual or other stipulated requirements?

Regards,  
IEC

On 2021-08-26 20:24, [ntsui@acuityhk.com](mailto:ntsui@acuityhk.com) wrote:

Dear IEC,

As this alternative location involve another EM&A change and multiple considerations described in our preceding email, your advance confirmation and verification is needed. Otherwise, this alternative location will be regarded unsuitable according to the current EM&A Manual; and your concern over the review of monitoring location shall be closed.

Best regards,  
Nelson Tsui

-----Original Message-----

From: drwong@ka-shing.net <drwong@ka-shing.net>

Sent: Thursday, August 26, 2021 6:55 PM

To: klau@acuityhk.com

Cc: 'Irving Sze' <re.irvingsze@hkirts.com>; 'CHEUNG, Marcus (HKIRTS)' <marcus.cheung@dragageshk.com>; 'Carmen Cheuk' <are.carmencheuk@hkirts.com>;

iris.lai@dragageshk.com; philipchan@acuityhk.com; 'Nelson Tsui' <ntsui@acuityhk.com>; kli@acuityhk.com

Subject: Re: Alternative Water Quality Monitoring Control Station at KBR Raised Out by the Supervisor for IEC's Confirmation and Verification

Dear ET,

Can you kindly follow the procedure in EM&A manual?

Regards,  
IEC

On 2021-08-26 18:07, klau@acuityhk.com wrote:

Dear IEC,

During site inspection on Tuesday (24/8), a possible upstream sampling location was raised out by the Supervisor as an alternative control station for KBR (please see the attached photo). The small waterflow starts from the woods behind the country park, passes through a barbecue site at drainage channel, then enter the construction site and ends in the KBR. According to the discussion made on site, we were suggested that this waterflow was observed to be more stable and safely accessible than the Station C1b.

However, the below was observed for this newly proposed location:

\* An alternative tool other than a water sampler and a plastic bucket

would be needed in order to collect enough volume of sample for SS testing due to the very shallow water level. Moreover, the sampling methodology would be needed to change to composite sampling instead of grab sampling when using the alternative tool for very shallow water level.

\* The channel was observed with quite a lot of fallen leaves and other detached compositions from plants, which might affect the water quality measurement due to the very shallow water level.

\* The adjacent barbecue site was not closed permanently, publics might use the barbecue site and affect the monitoring event in the future.

As such, the alternative monitoring location and the change of sampling equipment would lead to change of the EM&A programme, which shall subject to EPD's approval. The following requirements are highlighted:

\* According to EP Condition 4.1, such changes shall be verified by the IEC;

\* According to EM&A Manual Section 5.5.1, a baseline measurement shall be taken for 3 days per week for 4 consecutive weeks; and

\* According to EM&A Manual Section 5.5.2, there shall not be any construction activities in the vicinity of the monitoring stations during the baseline monitoring..

Please confirm and verify the suitability of the alternative control station in consideration of the above on or before 27/8/2021 to promptly tackle your concerns on the current EM&A programme.

If confirmed and verified by IEC, a proposal will be prepared for your issuance of verification letter and for submission to the EPD for approval.

Thank you and please let me know if you need any further information.

Best regards,

Kelvin Lau

Acuity Sustainability Consulting Limited

O: 2698-9097 F: 2698-9383



**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 26<sup>th</sup> Monthly EM&A Report (August 2021)

**Document Ref. No.:**

**Date of Issue of Comments:** 10/9/2021

| ITEM NO. | REVIEWER'S COMMENT  | ET'S RESPONSE  | CLOSE DATE |
|----------|---|--|------------|
| 1.       | In Sections 1.7, 2.13 and 9.1 and Appendix C, IEC observed an unapproved water sample was used for baseline water sample collection. Please refer to Section 5.3.5 of EM&A manual and Section 2.11 of baseline monitoring report.   | As far as we observed and noted, IEC or IEC's representative was required to conduct spot check on our monitoring event at monthly interval since the Project commencement. The monitoring practice with use of water bucket was witnessed; and discussed with IEC's representative as reported by our monitoring personnel. Please check with your supporting team members.<br><br>Moreover, IEC's verification on the proposed change of EM&A programme, which included justification of usage of water bucket to suit with the monitoring environment, was pending, please consider to verify the document for Authority's official review to settle this dispute ASAP. |            |
| 2.       | In Sections 2.5, 3.15, 3.16, 3.18, 3.19 and 9.1 and Appendix F, IEC is not able to identify the actual water quality monitoring of D2a for each sampling event. No proper record of actual water quality monitoring of D2a was provided for IEC verification. Please refer to Section 5.4 of EM&A manual and Section 2.5 of baseline monitoring report. | The sampling location of D2a was identified in Table 2.4 and described in Section 3.18 of the Report. Moving forward, ET is willing to take a step in additional to the requirement of the EM&A Manual as discussed in the post-inspection meeting among IEC, ET, Supervisor and Contractor on 7/9/21, which a site photo will be taken at sampling location at D2a and be sent through internal electronic communication group for all parties' information in the future monitoring event.   |            |
| 3.       | In Section 2.14 and 9.1 and Appendix H, IEC observed ET did not strictly followed Table B-2 of EM&A manual.   | No exceedance was recorded in the reporting period, thus actions listed in Section 2.4 and Appendix H were not triggered according to the EM&A Manual.   |            |
| 4.       | In Sections 3.2, 3.4, no record of the field condition including weather conditions was provided for IEC verification.  | IEC has raised the same comment against the August 2020 EM&A Report. The same response we provided 1 year ago was quoted. For weather condition, please refer to the data table of Appendix E of the EM&A report and the 4th column of the data table with title "Weather" to check our technician's field observation of weather condition.   |            |
| 5.       | In Section 3.3, no record of the wind speed was provided for IEC verification.  | IEC has raised the same comment against the August 2020 EM&A Report. The same response we provided 1 year ago was quoted. Wind speed was checked on site as described in Section 3.3 of the report. Monitoring and reporting of wind speed is not required according to the EM&A Manual.   |            |

**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 26<sup>th</sup> Monthly EM&A Report (August 2021)

**Document Ref. No.:**

**Date of Issue of Comments:** 10/9/2021

| ITEM NO. | REVIEWER'S COMMENT  | ET'S RESPONSE   | CLOSE DATE |
|----------|---|---|------------|
| 6.       | In Section 3.10, no appropriate reference of measured noise level adjustment was provided for IEC verification.   | No measured noise above baseline level was recorded in the reporting period. Thus, no correction was made to the noise level. Correction of measurement result against the corresponding baseline noise level was according to basic acoustic principle that was also used in other major EM&A projects like the Shatin to Central Link.  |            |
| 7.       | In Sections 3.17, 9.1 and 9.3, the control point C1b was observed with very shallow flow on 1, 4, 11, 13, 15, 17, 19, 21, 24, 26 and 28 August 2021. The control point C2 was observed dried up on 1, 4, 6, 8, 11, 13, 15, 17, 21, 24, 26, 28 and 31 August 2021. Insufficient water was available for sample collection. The locations of monitoring stations for control points have not been properly reviewed according to Section 10.3.3 of EM&A manual. Please refer to Section 10.3.3 of EM&A manual. Please also refer to the attached. | <p>The EM&amp;A Manual, including Section 10.3.3, was followed and executed. The monitoring locations were reviewed and reported in the 25<sup>th</sup> IRTS Monthly EM&amp;A Report, which fulfilled the stipulated requirement of "...every 6 months or on a needed basis in order to cater for the changes in surrounding environment and nature of works in progress." No change in surrounding environment and nature of works in progress was noted upon inquiry by ET.</p> <p>To settle IEC's vaguely expressed concern, ET has also reviewed an alternative location that involve another EM&amp;A change and multiple considerations, which rendered the location unsuitable according to the stipulated requirements in the EM&amp;A Manual. As IEC refused to verify and confirm these EM&amp;A change and multiple considerations for the alternative location, no follow up action was taken by any party.</p> |            |



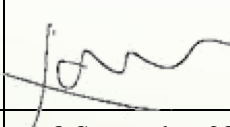
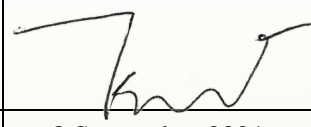
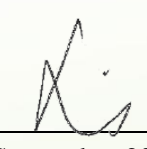


## 26<sup>th</sup> Monthly EM&A Report (Rev. 0)

August 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>      | 8 September 2021  | 8 September 2021   | 8 September 2021  |

**Revision History**

| <b>Rev.</b> | <b>Description</b>                      | <b>Date</b>      |
|-------------|---|------------------|
| 0           | 1 <sup>st</sup> Submission for Comments | 8 September 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 26<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report presents EM&A works undertaken in the period of 1 to 31 August 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. Four (4) sessions of construction noise impact monitoring at NM1 and NM2 for daytime except general holidays and Sundays; five (5) sessions of construction noise impact monitoring at NM1 for daytime during general holidays and Sundays; four (4) sessions of construction noise impact monitoring at NM1 for all days during evening and four (4) sessions of construction noise impact monitoring at NM1 for all days during night time were conducted during the reporting period. Fourteen (14) 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 1, 4, 11, 13, 15, 17, 19, 21, 24, 26 and 28 August 2021. The control point C2 was observed dried up on 1, 4, 6, 8, 11, 13, 15, 17, 21, 24, 26, 28 and 31 August 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 3, 9, 17, 24 and 31 August 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 26<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 August 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.

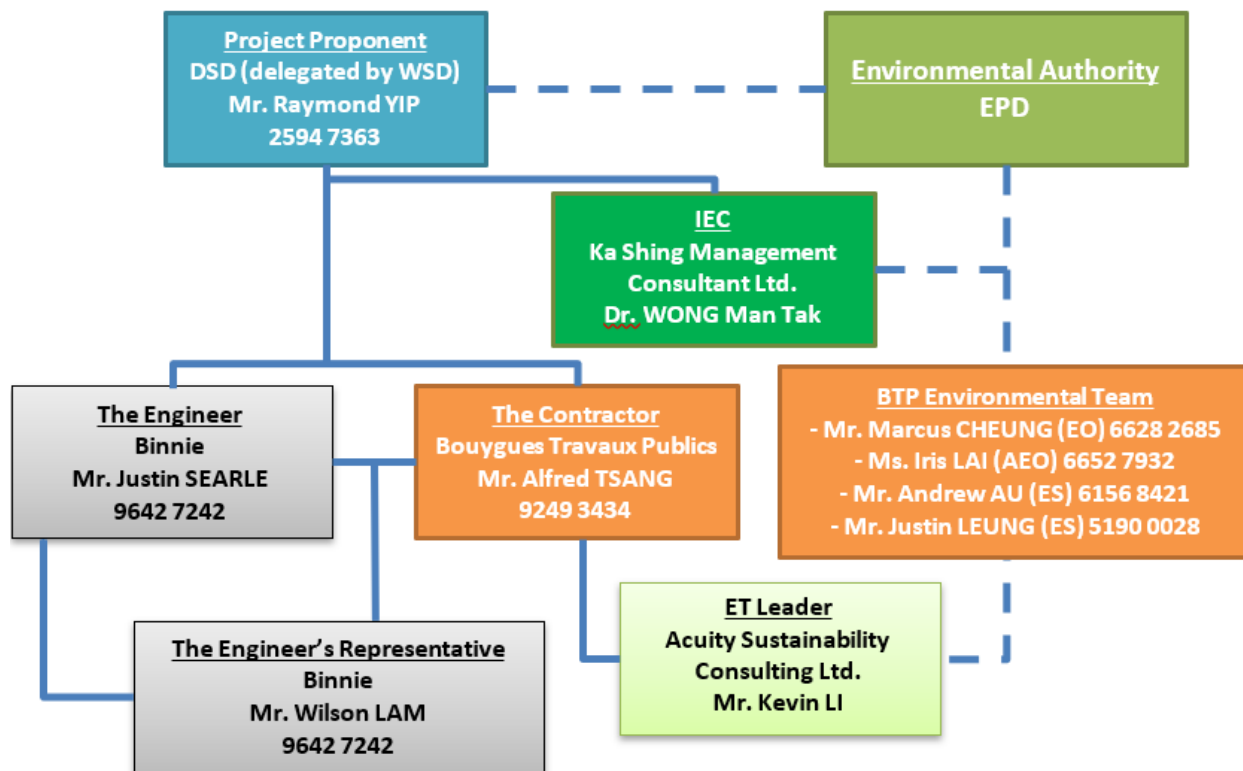


Figure 1.1 Project Organization Chart

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        | 9-Jul-2021          | GW-RN0507-21         | Approved                         | 06-Aug-2021 to 05 Feb-2022 |
| 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 (<math>^{\circ}C</math>)</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 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.
- 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><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><br><i>*Measurements in <math>L_{eq}</math> (5min)</i> |   | 60                 |
| Night-time (2300 – 0700 hrs)<br><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            | Svantek 33B  |
|                      | 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 6, 13, 19 and 28 August 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) | 42.1             | 43.4 | 41.3 | 60                 |

3.10 Night time construction work has been conducted since 6 April 2020. Night time monitoring was conducted 6, 13, 19 and 28 August 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) | 41.9-44.1        | 51.9     | Below Baseline           | 45                 |

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

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

3.11 Daytime during general holidays and Sundays construction work was conducted on 1, 8, 15, 22 and 29 August 2021. Construction noise monitoring was also conducted in the same days. 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 | 52.1             | 53.2 | 51.0 | 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  | L <sub>eq</sub> (30min), dB(A) |      |      | Limit Level, dB(A) |
|---------------------|--|--------------------------------|------|------|--------------------|
|                     |  | Mean                           | Max  | Min  |                    |
| NM1                 | Daytime (0700 – 1900) except general holidays and Sunday | 50.8                           | 52.3 | 48.6 | 75                 |
| NM2                 |  | 52.7                           | 54.3 | 51.5 |                    |

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 Fourteen (14) 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   |
|---|-------------|-------|-------|-------|-------|
| <b>Dissolved Oxygen (mg/L)</b>              | <b>Min</b>  | 7.7   | 7.3   | 8.7   | 7.4   |
|   | <b>Max</b>  | 9.2   | 9.3   | 8.9   | 10.0  |
|   | <b>Mean</b> | 8.3   | 8.2   | 8.8   | 8.4   |
| <b>Dissolved Oxygen Saturation (%)</b>      | <b>Min</b>  | 90.9  | 92.1  | 115.1 | 93.6  |
|   | <b>Max</b>  | 117.8 | 120.3 | 119.2 | 133.9 |
|   | <b>Mean</b> | 103.9 | 106.0 | 117.2 | 107.0 |
| <b>pH Value</b>                             | <b>Min</b>  | 6.6   | 6.6   | 7.5   | 6.8   |
|   | <b>Max</b>  | 8.1   | 8.3   | 7.6   | 8.4   |
|   | <b>Mean</b> | 7.2   | 7.3   | 7.6   | 7.2   |
| <b>Turbidity (NTU)</b>                      | <b>Min</b>  | 1.2   | 1.1   | 5.8   | 0.9   |
|   | <b>Max</b>  | 4.3   | 10.7  | 6.6   | 8.2   |
|   | <b>Mean</b> | 2.3   | 5.7   | 6.2   | 3.9   |
| <b>Suspended Solids <sup>1</sup> (mg/L)</b> | <b>Min</b>  | 2.5   | 2.5   | 2.5   | 2.5   |
|   | <b>Max</b>  | 2.5   | 7.4   | 2.5   | 5.4   |
|   | <b>Mean</b> | 2.5   | 4.1   | 2.5   | 3.5   |

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 1, 4, 11, 13, 15, 17, 19, 21, 24, 26 and 28 August 2021. The control point C2 was observed dried up on 1, 4, 6, 8, 11, 13, 15, 17, 21, 24, 26, 28 and 31 August 2021. Insufficient water was available for sample collection.
- 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 August 2021; and the natural stream where C1b and C2 located were found with very shallow flow and dried up respectively during water monitoring event in August 2021. The abnormal stream conditions for the natural stream where C1b and C2 located were considered possibly due to controlled upstream water flow or cut off of upstream water course. 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 August 2021. 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.

| C1b   | C2   |
|---|--|
|  |  |
| *Photo taken on 28 August 2021  | *Photo taken on 28 August 2021   |

- 3.19 As a result, some Action and Limit levels of water quality monitoring at D1b and D2a in August 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.<br>General Refuse<br>disposed at<br>Landfill<br>(in'000m <sup>3</sup> ) | Recycled materials             |                        |                      |
|                  |  |                             |  | Paper/card board<br>(in'000kg) | Plastics<br>(in'000kg) | Metals<br>(in'000kg) |
| August 2021      | 6.0636   | 1                           | 0.01173  | 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 3 August 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>  |
|----------------|-----------------|--|--|
| 3 August 2021  | KBR             | No environmental deficiency was observed.                | N.A.   |
| 9 August 2021  | KBR             | 1. The condition of the silt curtain should be reviewed. | 1. The condition of the silt curtain was reviewed and made appropriate adjustment. |
| 17 August 2021 | LSMR            | No environmental deficiency was observed.                | N.A.   |
| 24 August 2021 | KBR             | No environmental deficiency was observed.                | N.A.   |
| 31 August 2021 | LSMR            | 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 There was no environmental related complaint received in the reporting period.
- 6.3 There was no notification of summon and successful prosecution for breaches of current environmental protection/pollution control legislation in the reporting period.
- 6.4 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. September 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. September 2021, is presented in **Appendix K**. Monitoring will be performed at same locations presented in above sections.

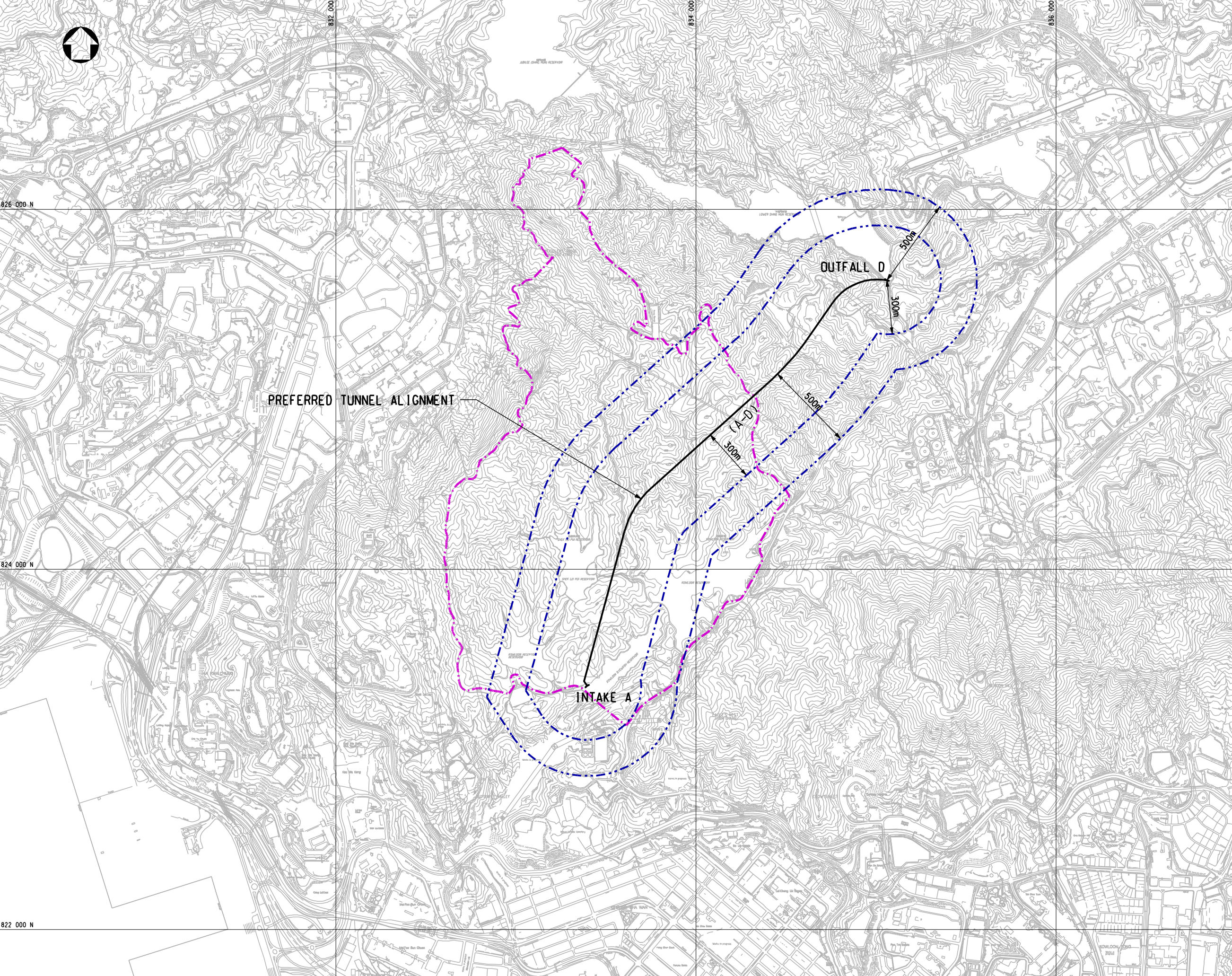
## **9. CONCLUSION AND RECOMMENDATIONS**

- 9.1 This is the 26<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report presents EM&A works undertaken in the period of 1 to 31 August 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 1, 4, 11, 13, 15, 17, 19, 21, 24, 26 and 28 August 2021. The control point C2 was observed dried up on 1, 4, 6, 8, 11, 13, 15, 17, 21, 24, 26, 28 and 31 August 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 Weekly site inspections were performed during the reporting period.
- 9.6 No complaint regarding environmental issue was received in the reporting period.
- 9.7 No notification of summons nor prosecution have been received since the commencement of the Project.
- 9.8 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.
- 9.9 Concrete Structures, 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

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 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 (Aug 21 ~ Oct 21)

Layout : 4 -IRT-Rolling Y21M06D30a  
TASK filters: 3 Month Rolling, Level of Effort.  
Data Date : 03-Aug-21

| Activity ID  | Activity Name   | Dur | Start      | Finish     | 2021      |           |           |  |           |
|--|---|-----|------------|------------|-----------|-----------|-----------|--|-----------|
|  |   |     |            |            | Jul<br>29 | Aug<br>30 | Sep<br>31 | Oct<br>32  | Nov<br>33 |
| <b>IRTS - 3M Rolling Programme (Y21M08D24a)</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   |            | 09-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  | 23-Aug-21  | 07-Oct-21  |           |           |           | Subcontract Enhancement works at Kam Shan Country park works *(P3)           |           |
| <b>Tai Po Road Site (TGLA No. TST453)</b>                                      |   |     |            |            |           |           |           |  |           |
| TPR_GW-1040  | General Site Storage  | 891 | 02-Jul-19A | 22-Aug-22  |           |           |           |  |           |
| <b>CSD Submission</b>  |   |     |            |            |           |           |           |  |           |
| <b>CSD 1 - Outfall Structure</b>   |   |     |            |            |           |           |           |  |           |
| <b>Alternative Works (Subject to approval of Structure Design)</b>             |   |     |            |            |           |           |           |  |           |
| CSD1_OF_1000   | Pre-bored H pile *(link changed: erector removal to concurrent gripper dismantle) | 54  | 13-Oct-21  | 15-Dec-21  |           |           |           |  |           |
| CSD1_OF_3000   | Pipe pile Wall Stage 2B   | 40  | 19-Oct-21  | 03-Dec-21  |           |           |           |  |           |
| <b>CSD 2 - Alternative Alignment &amp; Intake Structure</b>                    |   |     |            |            |           |           |           |  |           |
| <b>Alternative Works (Subject to approval of alternative tunnel alignment)</b> |   |     |            |            |           |           |           |  |           |
| CSD_FF_2210-20   | Mined Tunnel Construction - Excavation (Stage 1 - 2.0m)                           | 12  | 29-Sep-21  | 13-Oct-21  |           |           |           | Mined Tunnel Construction - Excavation (Stage 1 - 2.0m)                      |           |
| CSD_FF_2210-30   | Mined Tunnel Construction - Lining (Stage 2 - 0.7555m-Tunnel Breakthrough)        | 43  | 28-Oct-21  | 16-Dec-21  |           |           |           |  |           |
| CSD_FF_2225  | Internal Staircase Construction *(1month Design+2m Fabricate+2weeks Install)      | 47  | 04-Aug-21  | 28-Sep-21  |           |           |           | Internal Staircase Construction *(1month Design+2m Fabricate+2weeks Install) |           |
| CSD_FF_2230  | E&M Installation  | 79  | 29-Sep-21  | 04-Jan-22  |           |           |           |  |           |
| TB_Ds_1600   | Remove Bulkhead and Cutterhead  | 11  | 15-Oct-21  | 27-Oct-21  |           |           |           | Remove Bulkhead and Cutterhead   |           |
| <b>Feasibility Study for Maintenance Walkway at KBR (CE-054)</b>               |   |     |            |            |           |           |           |  |           |
| <b>Design Submissions</b>  |   |     |            |            |           |           |           |  |           |
| CSD_FF_3210  | DDAComment/ Approval for Extension of Spillage Drainage Channel                   | 24  | 04-Aug-21  | 31-Aug-21  |           |           |           | DDAComment/ Approval for Extension of Spillage Drainage Channel              |           |
| CSD_FF_3270  | DDAComment/ Approval for Ladder & Platform at Intake Structure                    | 28  | 17-Aug-21  | 17-Sep-21  |           |           |           | DDAComment/ Approval for Ladder & Platform at Intake Structure               |           |
| CSD_FF_3290  | Ready for Procurement   | 0   |            | 17-Sep-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_4000  | Review and Acceptance (GEO)   | 18  | 07-Aug-21  | 27-Aug-21  |           |           |           | Review and Acceptance (GEO)  |           |
| <b>Mined Tunnel Permanent Works Design</b>                                     |   |     |            |            |           |           |           |  |           |
| MTD_KB_4020  | Review and Comments   | 18  | 10-Aug-21  | 30-Aug-21  |           |           |           | Review and Comments  |           |
| MTD_KB_4030  | 2nd Submission - Mined Tunnel Design Preparation & Submission with ICE            | 20  | 31-Aug-21  | 23-Sep-21  |           |           |           | 2nd Submission - Mined Tunnel Design Preparation & Submission with ICE       |           |
| MTD_KB_4040  | Review and Acceptance   | 15  | 24-Sep-21  | 12-Oct-21  |           |           |           | Review and Acceptance  |           |
| <b>Lining Mould Procurement, Manufacture and Delivery</b>                      |   |     |            |            |           |           |           |  |           |
| TBM_Ln_1510  | Segment Delivery to Site  | 434 | 30-Jun-20A | 06-Sep-21  |           |           |           | Segment Delivery to Site   |           |
| <b>Site Works</b>  |   |     |            |            |           |           |           |  |           |
| <b>LSMR (North Portal) &amp; TBM</b>   |   |     |            |            |           |           |           |  |           |

█ 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 |
|-----------|--------------------|----------|----------|
| 17-Aug-21 | Rolling Y21M08D17a | A. Tsang |          |
| 24-Aug-21 | Rolling Y21M08D24a | A. Tsang |          |

# IRTS: 3 Month Rolling Programme (Aug 21 ~ Oct 21)

Layout : 4 -IRT-Rolling Y21M06D30a  
TASK filters: 3 Month Rolling, Level of Effort.  
Data Date : 03-Aug-21

| Activity ID   | Activity Name  | Dur | Start      | Finish     | 2021      |           |                            |                                |  |
|---|--|-----|------------|------------|-----------|-----------|----------------------------|--------------------------------|--|
|   |  |     |            |            | Jul<br>29 | Aug<br>30 | Sep<br>31                  | Oct<br>32                      | Nov<br>33  |
| <b>LSMR : TBM Tunnel Excavation</b>   |  |     |            |            |           |           |                            |                                |  |
| <b>TBM Excavation</b>   |  |     |            |            |           |           |                            |                                |  |
| TBM_Exc_2500  | PL8 (CH2345 to CH2686)   | 22  | 06-Aug-21  | 31-Aug-21  |           |           | PL8 (CH2345 to CH2686)     |                                |  |
| TBM_Exc_2550  | Grouting for PL8 at CH2686   | 2   | 01-Sep-21  | 02-Sep-21  |           |           | Grouting for PL8 at CH2686 |                                |  |
| TBM_Exc_2800  | CH2686 to CH2951 to CH2973.935   | 20  | 03-Sep-21  | 25-Sep-21  |           |           |                            | CH2686 to CH2951 to CH2973.935 |  |
| <b>TBM Dismantling</b>  |  |     |            |            |           |           |                            |                                |  |
| TB_Ds_1000  | Pull Back Gantries 1-13  | 14  | 26-Sep-21  | 09-Oct-21  |           |           |                            |                                | Pull Back Gantries 1-13  |
| TB_Ds_1010  | Noise Enclosure Removal  | 18  | 27-Sep-21  | 19-Oct-21  |           |           |                            |                                | Noise Enclosure Removal  |
| TB_Ds_1100  | Remove Erector   | 4   | 10-Oct-21  | 13-Oct-21  |           |           |                            |                                | Remove Erector   |
| TB_Ds_1200  | Dismantle from inside Talskin (ie rams)  | 5   | 14-Oct-21  | 18-Oct-21  |           |           |                            |                                | Dismantle from inside Talskin (ie rams)                                |
| TB_Ds_1300  | Dismantle Within Gripper Shield  | 6   | 19-Oct-21  | 24-Oct-21  |           |           |                            |                                | Dismantle Within Gripper Shield  |
| TB_Ds_1400  | Dismantle Within Shield and Telescopic   | 6   | 25-Oct-21  | 30-Oct-21  |           |           |                            |                                | Dismantle Within Shield and Telescopic                                 |
| TB_Ds_1500  | Remove Main Drive  | 4   | 31-Oct-21  | 03-Nov-21  |           |           |                            |                                | Remove Main Drive  |
| TB_Ds_1700  | Tunnel Services Removal and Tunnel Cleaning  | 30  | 04-Nov-21  | 03-Dec-21  |           |           |                            |                                |  |
| <b>Intake Structure at Kowloon Byewash Reservoir</b>  |  |     |            |            |           |           |                            |                                |  |
| <b>KBR Intake : E&amp;M for Electric Actuated Penstocks and Automatic Flow Control System</b> |  |     |            |            |           |           |                            |                                |  |
| <b>KBR Intake : E&amp;M Installation of Automatic Flow Control System &amp; Others</b>        |  |     |            |            |           |           |                            |                                |  |
| KB_ISW_3600   | Supply and Delivery of E&M Materials / Equipments *(P1a)   | 120 | 04-Aug-21  | 24-Dec-21  |           |           |                            |                                |  |
| KB_ISW_3610   | Excavation Permit Application & Works for Power Supply Cables                                    | 77  | 04-Aug-21  | 04-Nov-21  |           |           |                            |                                | Excavation Permit Application & Work                                   |
| <b>KBR Intake : E&amp;M Installation of Electrical Actuated Penstocks</b>                     |  |     |            |            |           |           |                            |                                |  |
| KB_ISW_3830   | Penstock Installation (2nos.) *(P1a)   | 56  | 04-Aug-21  | 09-Oct-21  |           |           |                            |                                | Penstock Installation (2nos.) *(P1a)                                   |
| KB_ISW_3840   | Testing and Commissioning of Penstock *(P1a)   | 26  | 11-Oct-21  | 10-Nov-21  |           |           |                            |                                | Testing and Commissioning  |
| <b>KBR Intake : E&amp;M Desing for Lifting Crane</b>  |  |     |            |            |           |           |                            |                                |  |
| KBR_EMD_1370  | 2nd Submission -Lifting Crane Design Preparation & Submission with ICE                           | 28  | 05-Aug-21  | 06-Sep-21  |           |           |                            |                                | 2nd Submission -Lifting Crane Design Preparation & Submission with ICE |
| KBR_EMD_1380  | Review and Acceptance  | 18  | 07-Sep-21  | 28-Sep-21  |           |           |                            |                                | Review and Acceptance  |
| <b>KBR Intake : E&amp;M Installation of Lifting Crane</b>                                     |  |     |            |            |           |           |                            |                                |  |
| KB_ISW_3850   | Supply and Delivery of Lifting Crane *(P1a)  | 56  | 29-Sep-21  | 04-Dec-21  |           |           |                            |                                |  |
| <b>Outfall Structure at Lower Shing Mun Reservoir (Conforming Design)</b>                     |  |     |            |            |           |           |                            |                                |  |
| <b>LSMR Stage 2 - Outfall Structure &amp; Remaining C&amp;C Tunnel.</b>                       |  |     |            |            |           |           |                            |                                |  |
| <b>LSMR Outfall Excavation</b>  |  |     |            |            |           |           |                            |                                |  |
| LSM_OSW_1380  | Pipe Pile Wall Stage 2B (180 Piles/3 rigs/ 6 piles/day)  | 40  | 13-Oct-21  | 29-Nov-21  |           |           |                            |                                |  |
| <b>Slope Upgrading Works</b>  |  |     |            |            |           |           |                            |                                |  |
| <b>KBR Slope Stabilization Works.</b>   |  |     |            |            |           |           |                            |                                |  |
| KBR_Slp_Slp_0990  | Dry Season Start   | 0   | 01-Nov-21* |            |           |           |                            |                                | ◆ Dry Season Start, 01-Nov-21*   |
| KBR_Slp_Slp_1000  | Cut Slope for Intake   | 18  | 01-Nov-21* | 20-Nov-21  |           |           |                            |                                | Cut Slope for  |
| KBR_Slp_Slp_1100  | Fill Slope for Intake Structure  | 12  | 22-Nov-21  | 04-Dec-21  |           |           |                            |                                |  |
| <b>Landscaping Works</b>  |  |     |            |            |           |           |                            |                                |  |
| <b>Enhancement Works of Kam Shan Country Park-Design</b>                                      |  |     |            |            |           |           |                            |                                |  |
| KBR_EHW_1300  | 1st Submission-Enhancement works at Kam Shan Country Park-Design Preparation & Submission *(P1c) | 28  | 08-Oct-21  | 10-Nov-21* |           |           |                            |                                | 1st Submission-Enhanceme   |
| KBR_EHW_1400  | Review and Comments *(P1c)   | 18  | 11-Nov-21  | 01-Dec-21  |           |           |                            |                                |  |

█ 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 |
|-----------|--------------------|----------|----------|
| 17-Aug-21 | Rolling Y21M08D17a | A. Tsang |          |
| 24-Aug-21 | Rolling Y21M08D24a | A. Tsang |          |

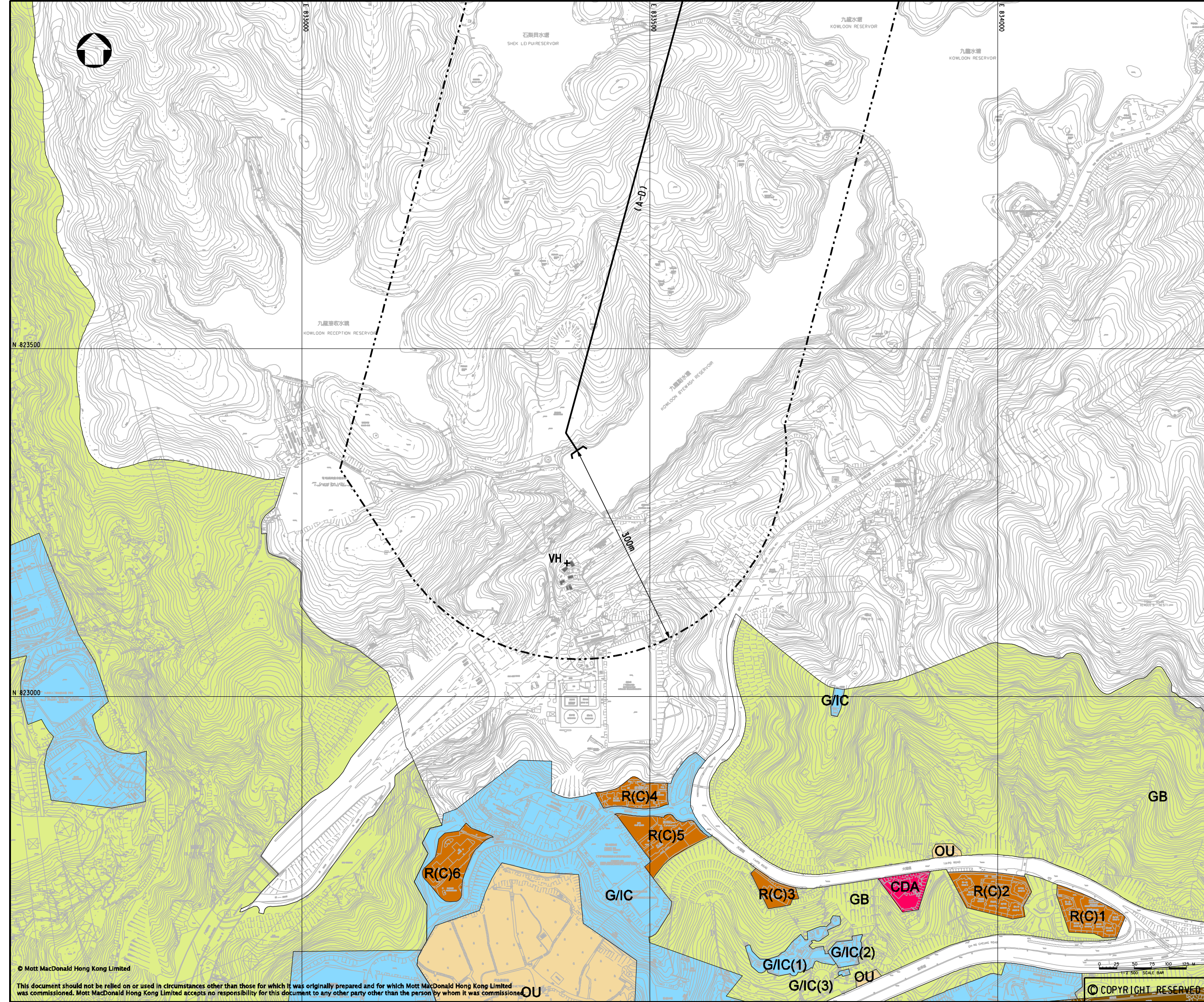


Appendix C  
Monitoring Locations




**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

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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 |

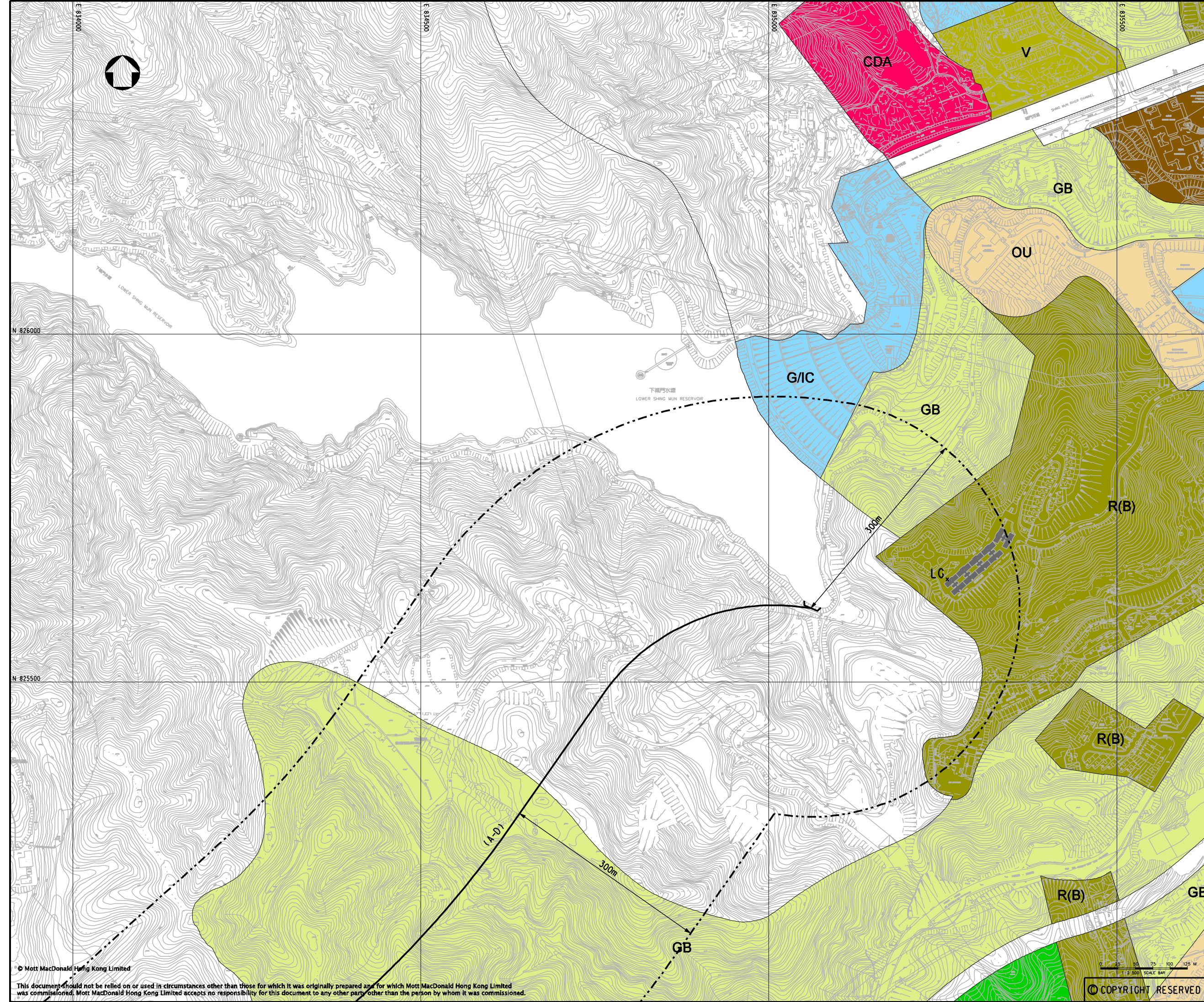
Scale

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

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SPECIAL ADMINISTRATIVE REGION  
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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

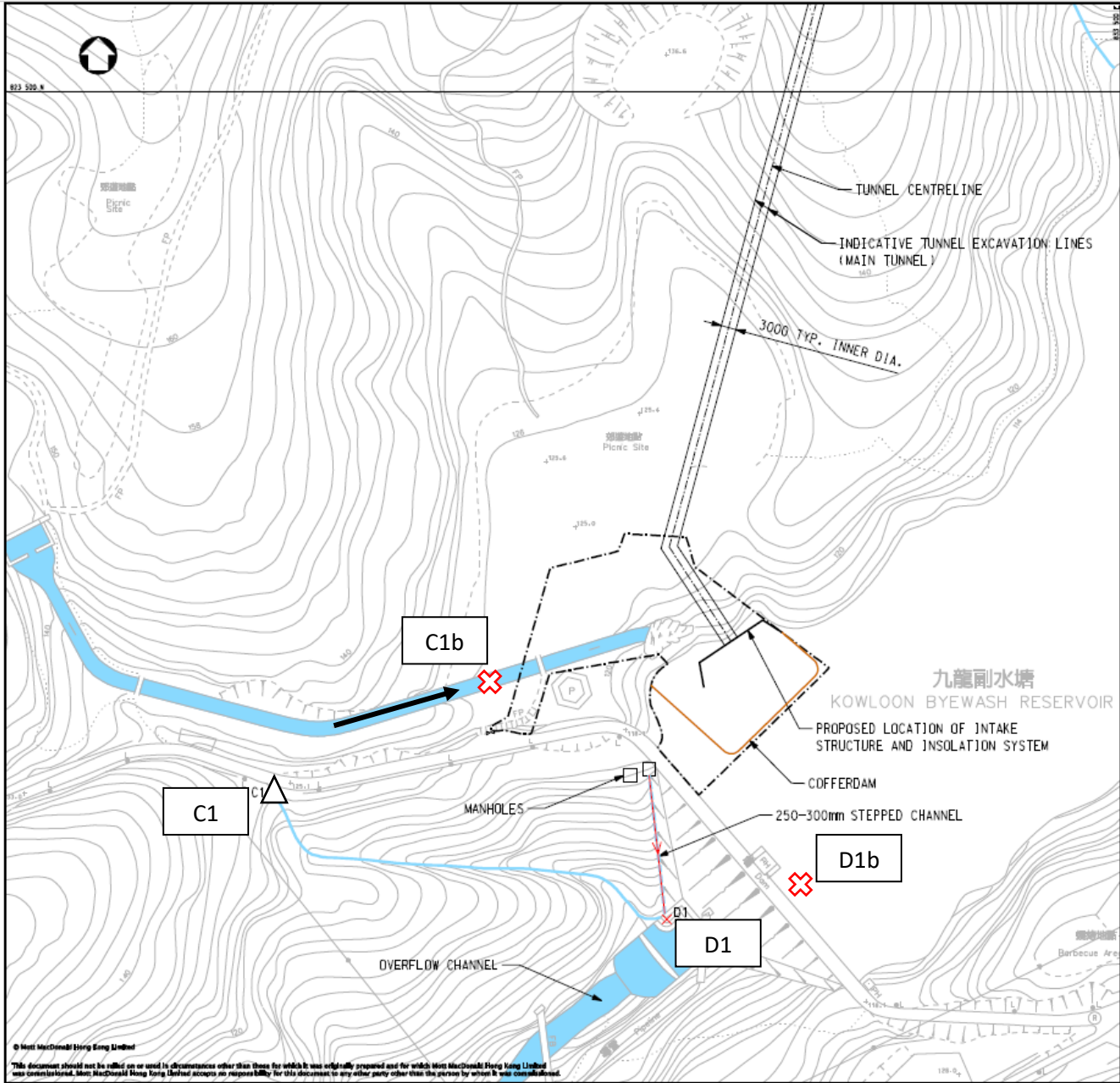
CAD File

Drawing No.

FIGURE 4-2

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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

|     |        |         |                 |          |
|-----|--------|---------|-----------------|----------|
| Rev | Drawn  | Checked | Discipline      | Date     |
| 01  | NYE 08 | WDG     | IGNOR AMENDMENT | 01/11/08 |
| 02  | NYE 08 | WDG     | IGNOR AMENDMENT | 01/11/08 |
| 03  | NYE 08 | YN      | FIRST ISSUE     | 01/11/08 |

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

THE  
PROPOSED WATER QUALITY MONITORING STATION AT INTAKE END

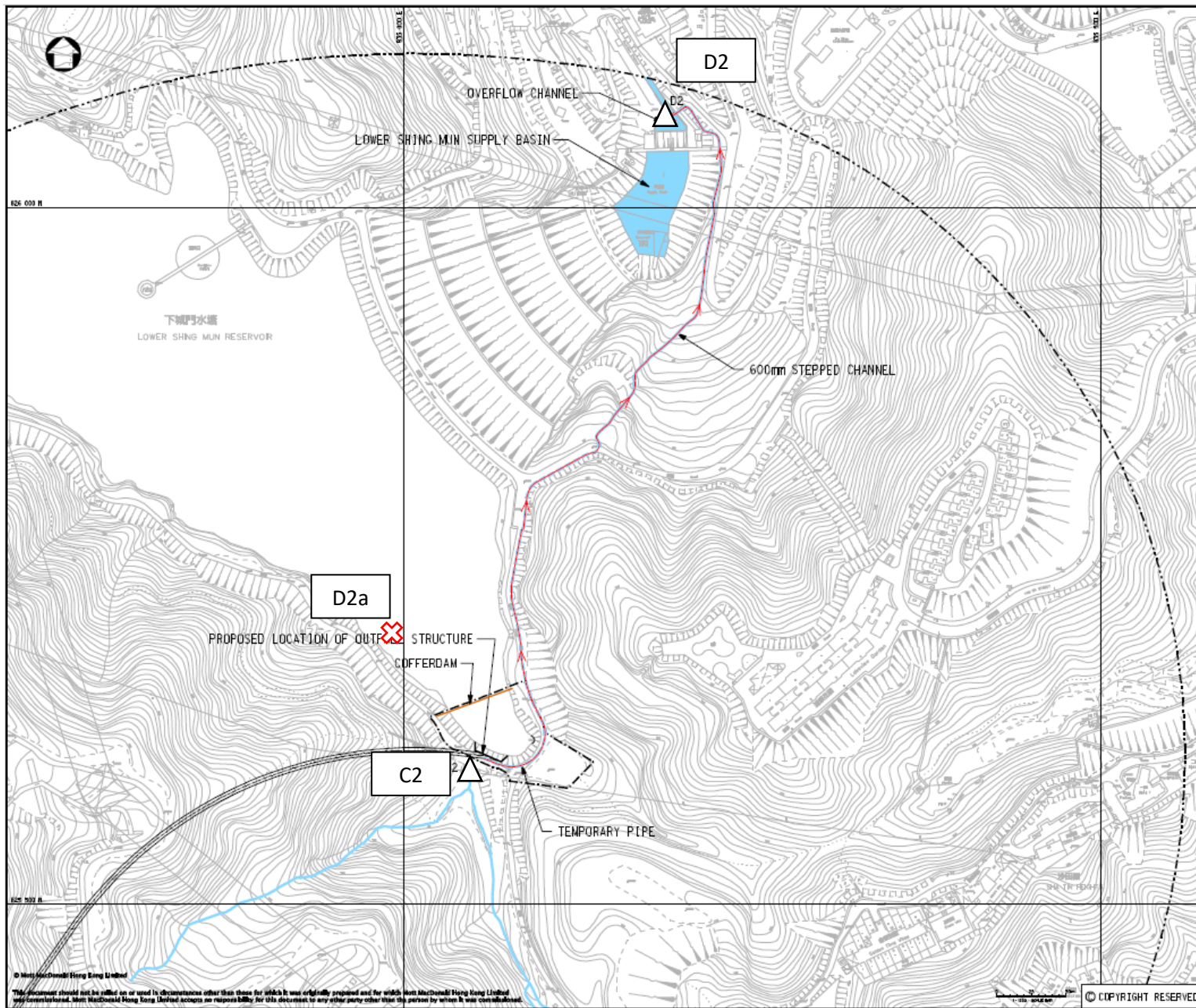
|            |     |          |         |     |
|------------|-----|----------|---------|-----|
| Designed   | NYE | WDG      | Checked | NYE |
| Drawn      | WDG | Approved | NYE     |     |
| Sup. Drawn | NYE | Approved | WDG     |     |

Scale: 1:5000A1  
Project No: 240564  
Sheet No: 2/2  
Date: 01/11/08

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Sheet No: P3

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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 C2
- △ CONTROL STATION AT OUTFALL SITE
- ⊗ Proposed Alternative Water Monitoring Station

|    |        |     |     |     |     |     |     |     |     |
|----|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| 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  
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Project:  
Agreement No. CES5/2006 (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 |

Scale: 1:125000  
Date: 24/05/14  
Drawing No: FIGURE 5-2  
Sheet: P3

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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            | Fast          | 94            | 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            | Fast          | 94            | 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            | Fast          | 94            | 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



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## 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,      | IEC 61672 Class 1 |
|----------------------------------|-----------------|----------------|-----------|---------------|------|-------------------|-------------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB | Frequency, Hz | dB   | Specification, dB |                   |
| 30-130                           | dBA SPL         | Fast           | 94        | 1000          | 94.1 | ±0.4              |                   |

Linearity

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



# MAXLAB

## CALIBRATION CERTIFICATE

| <i>Certificate Information</i>  |   |                    |                  |
|---|---|--------------------|------------------|
| Date of Issue   | 20-Mar-2021   | Certificate Number | MLCN210569S      |
| <i>Customer Information</i>   |   |                    |                  |
| Company Name  | Acuity Sustainability Consulting Limited  |                    |                  |
| Address   | Unit C, 11/F., Ford Glory Plaza,<br>Nos. 37-39 Wing Hing Street,<br>Cheung Sha Wan, Kowloon, HK                     |                    |                  |
| <i>Equipment-under-Test (EUT)</i>   |   |                    |                  |
| Description   | Sound Calibrator  |                    |                  |
| Manufacturer  | Svantek   |                    |                  |
| Model Number  | SV 33B  |                    |                  |
| Serial Number   | 83042   |                    |                  |
| Equipment Number  | --  |                    |                  |
| <i>Calibration Particular</i>   |   |                    |                  |
| Date of Calibration   | 20-Mar-2021   |                    |                  |
| Calibration Equipment   | 4231(MLTE008) / AV200063 / 23-Jun-23<br>1357(MLTE190) / MLEC20/05/02 / 26-May-21                                    |                    |                  |
| Calibration Procedure   | MLCG00, MLCG15  |                    |                  |
| Calibration Conditions  | Laboratory  | Temperature        | 23 °C ± 5 °C     |
|   |   | Relative Humidity  | 55% ± 25%        |
|   | EUT   | Stabilizing Time   | Over 3 hours     |
|   |   | Warm-up Time       | Not applicable   |
|   |   | Power Supply       | Internal battery |
| Calibration Results   | Calibration data were detailed in the continuation pages.<br>All calibration results were within EUT specification. |                    |                  |
| <i>Approved By &amp; Date</i>   |   |                    |                  |
|   |                                  | K.O. Lo            | 20-Mar-2021      |
| <i>Statements</i>   |   |                    |                  |
| <ul style="list-style-type: none"><li>* Calibration equipment used for this calibration are traceable to national / international standards.</li><li>* The results on this Calibration Certificate only relate to the values measured at the time of the calibration and the uncertainties quoted will not include allowance for the EUT long term drift, variation with environmental changes, vibration and shock during transportation, overloading, mishandling, misuse, and the capacity of any other laboratory to repeat the measurement.</li><li>* MaxLab Calibration Centre Limited shall not be liable for any loss or damage resulting from the use of the EUT.</li><li>* The copy of this Certificate is owned by MaxLab Calibration Centre Limited. No part of this Certificate may be reproduced without the prior written approval of MaxLab Calibration Centre Limited.</li></ul> |   |                    |                  |



# MAXLAB

Certificate No. MLCN210569S

| <i>Calibration Data</i> |                  |           |                         |                   |
|-------------------------|------------------|-----------|-------------------------|-------------------|
| EUT Setting             | Standard Reading | EUT Error | Calibration Uncertainty | EUT Specification |
| 114 dB                  | 114.0 dB         | 0.0 dB    | 0.15 dB                 | ± 0.3 dB          |

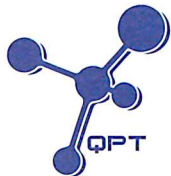
- END -

Calibrated By : Dan  
Date : 20-Mar-21

Checked : K.O. Lo  
Date : 20-Mar-21

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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 |

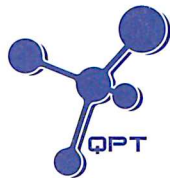
Tolerance limit of temperature should be less than  $\pm 2.0$  (°C)

~ 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.

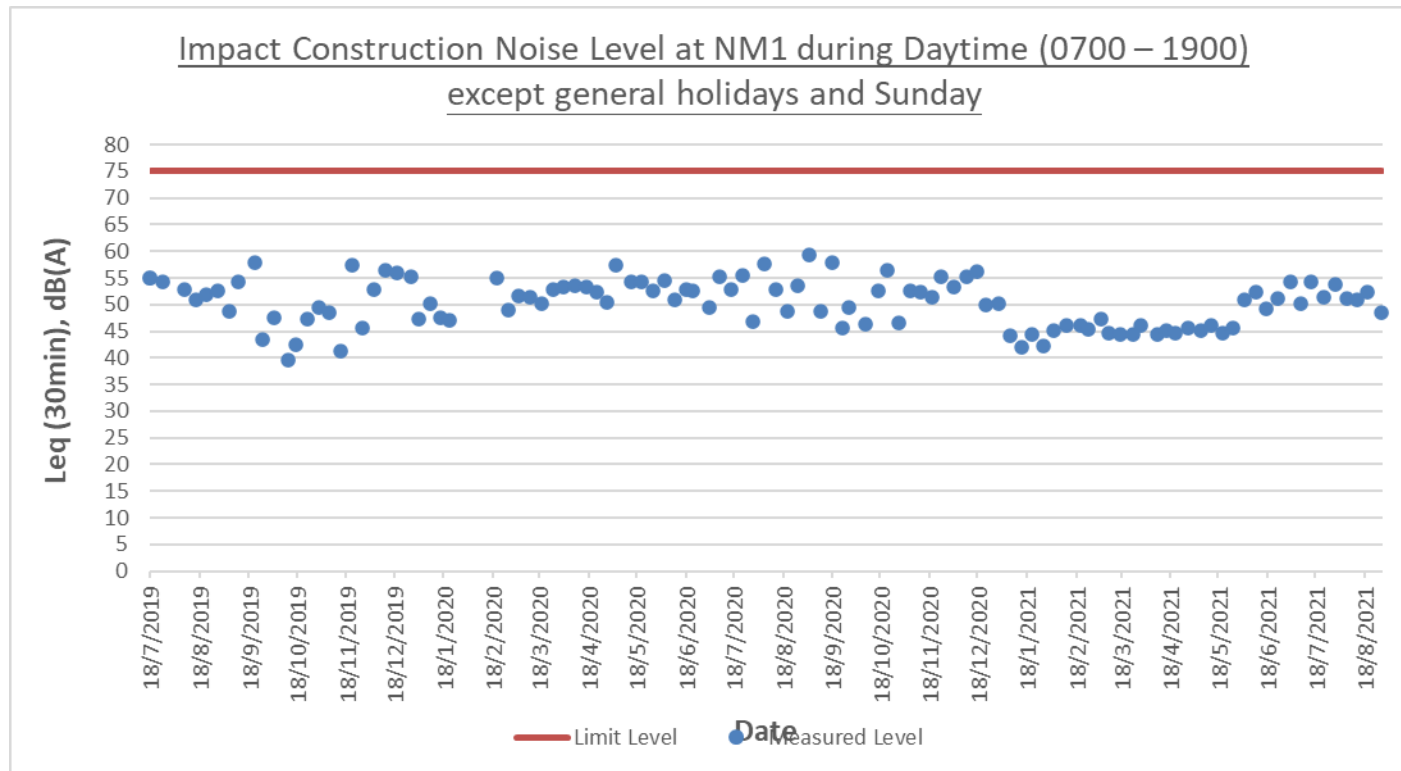
Appendix E  
Impact Noise Monitoring Data

## Impact Noise Monitoring Data

### NM1 – Lakeview Garden

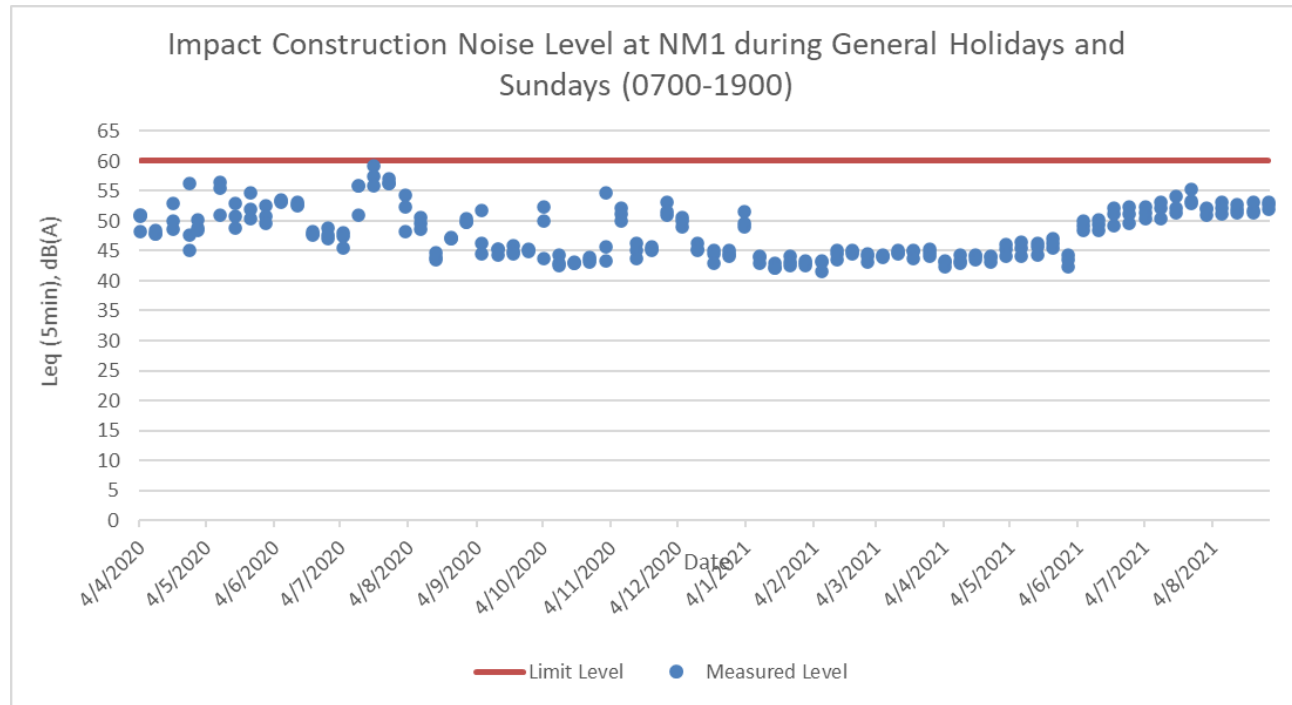
Daytime (0700 – 1900) except general holidays and Sunday

| Date      | Location | Time  |   |       | Weather | L <sub>eq</sub> (30min) | L <sub>10</sub> | L <sub>90</sub> | Remarks |
|-----------|----------|-------|---|-------|---------|-------------------------|-----------------|-----------------|---------|
| 6/8/2021  | NM1      | 14:55 | - | 15:25 | sunny   | 51.5                    | 54.5            | 45.8            | N.A.    |
| 13/8/2021 | NM1      | 8:00  | - | 8:30  | sunny   | 50.9                    | 54.3            | 45.6            | N.A.    |
| 19/8/2021 | NM1      | 15:30 | - | 16:00 | sunny   | 52.3                    | 55.3            | 46.7            | N.A.    |
| 28/8/2021 | NM1      | 8:10  | - | 8:40  | sunny   | 48.6                    | 54.5            | 44.1            | N.A.    |



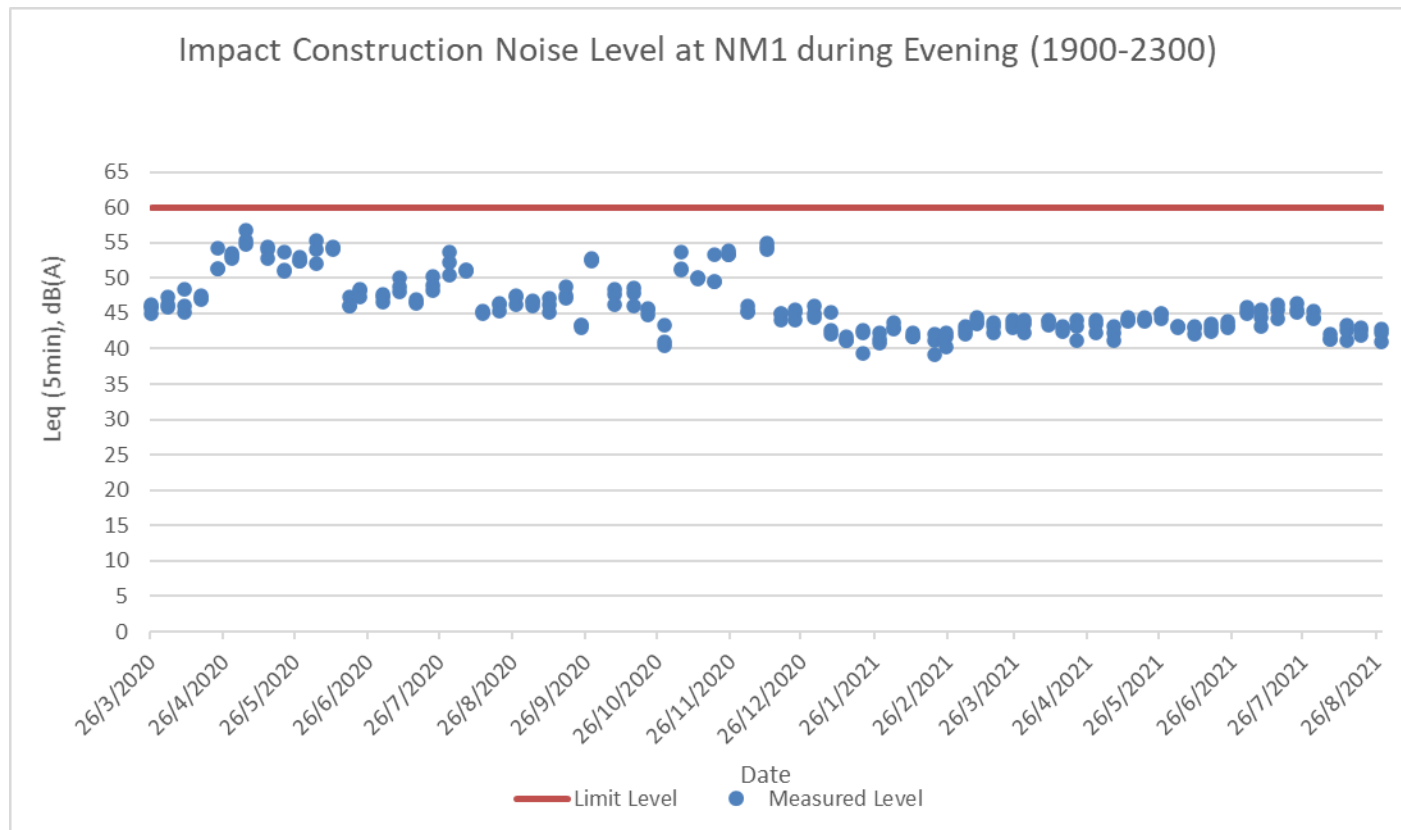
Daytime (0700-1900) during general holidays and Sundays

| Date      | Location | Time  |         | Weather | L <sub>eq</sub> (5min) | L <sub>10</sub> | L <sub>90</sub> | Remarks |
|-----------|----------|-------|---------|---------|------------------------|-----------------|-----------------|---------|
| 1/8/2021  | NM1      | 8:55  | - 9:00  | sunny   | 51.0                   | 54.3            | 50.3            | N.A.    |
| 1/8/2021  | NM1      | 9:00  | - 9:05  | sunny   | 52.1                   | 55.4            | 49.5            | N.A.    |
| 1/8/2021  | NM1      | 9:05  | - 9:10  | sunny   | 51.9                   | 54.6            | 50.6            | N.A.    |
| 8/8/2021  | NM1      | 16:30 | - 16:35 | sunny   | 53.1                   | 56.3            | 51.1            | N.A.    |
| 8/8/2021  | NM1      | 16:35 | - 16:40 | sunny   | 51.1                   | 54.6            | 49.3            | N.A.    |
| 8/8/2021  | NM1      | 16:40 | - 16:45 | sunny   | 52.2                   | 56.1            | 49.7            | N.A.    |
| 15/8/2021 | NM1      | 16:00 | - 16:05 | sunny   | 51.4                   | 55.1            | 48.3            | N.A.    |
| 15/8/2021 | NM1      | 16:05 | - 16:10 | sunny   | 52.0                   | 57.3            | 49.1            | N.A.    |
| 15/8/2021 | NM1      | 16:10 | - 16:15 | sunny   | 52.7                   | 58.3            | 50.2            | N.A.    |
| 22/8/2021 | NM1      | 16:00 | - 16:05 | sunny   | 51.8                   | 53.5            | 49.5            | N.A.    |
| 22/8/2021 | NM1      | 16:05 | - 16:10 | sunny   | 53.1                   | 58.4            | 50.3            | N.A.    |
| 22/8/2021 | NM1      | 16:10 | - 16:15 | sunny   | 51.4                   | 54.8            | 50.6            | N.A.    |
| 29/8/2021 | NM1      | 9:28  | - 9:33  | sunny   | 52.7                   | 57.6            | 49.5            | N.A.    |
| 29/8/2021 | NM1      | 9:33  | - 9:38  | sunny   | 53.2                   | 58.6            | 50.3            | N.A.    |
| 29/8/2021 | NM1      | 9:38  | - 9:43  | sunny   | 51.9                   | 54.3            | 48.8            | N.A.    |



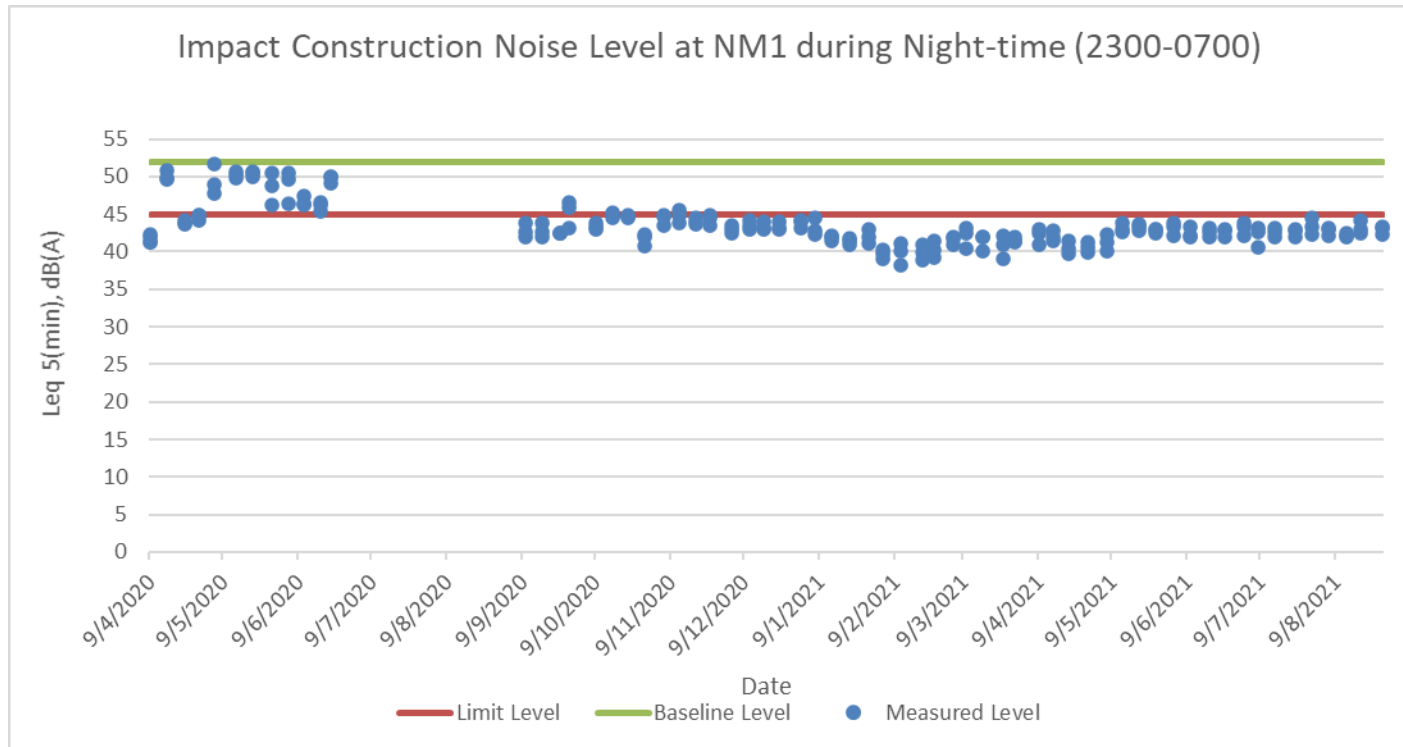
All days during Evening (1900-2300)

| Date      | Location | Time  |   |       | Weather | Leq (5min) | L10  | L90  | Remarks |
|-----------|----------|-------|---|-------|---------|------------|------|------|---------|
| 6/8/2021  | NM1      | 22:30 | - | 22:35 | cloudy  | 41.4       | 45.1 | 40.5 | N.A.    |
| 6/8/2021  | NM1      | 22:35 | - | 22:40 | cloudy  | 42.1       | 44.3 | 39.5 | N.A.    |
| 6/8/2021  | NM1      | 22:40 | - | 22:45 | cloudy  | 41.4       | 45.5 | 40.4 | N.A.    |
| 13/8/2021 | NM1      | 22:36 | - | 22:41 | cloudy  | 41.4       | 44.5 | 39.7 | N.A.    |
| 13/8/2021 | NM1      | 22:41 | - | 22:46 | cloudy  | 42.7       | 45.6 | 40.7 | N.A.    |
| 13/8/2021 | NM1      | 22:46 | - | 22:51 | cloudy  | 43.4       | 46.2 | 41.4 | N.A.    |
| 19/8/2021 | NM1      | 22:30 | - | 22:35 | cloudy  | 42.6       | 45.3 | 40.5 | N.A.    |
| 19/8/2021 | NM1      | 22:35 | - | 22:40 | cloudy  | 43.0       | 45.7 | 40.2 | N.A.    |
| 19/8/2021 | NM1      | 22:40 | - | 22:45 | cloudy  | 41.9       | 44.5 | 39.1 | N.A.    |
| 28/8/2021 | NM1      | 19:18 | - | 19:23 | cloudy  | 41.0       | 45.0 | 38.9 | N.A.    |
| 28/8/2021 | NM1      | 19:23 | - | 19:28 | cloudy  | 42.8       | 44.9 | 39.1 | N.A.    |
| 28/8/2021 | NM1      | 19:28 | - | 19:33 | cloudy  | 42.2       | 45.3 | 39.0 | N.A.    |



All days during Night-time (2300-0700)

| Date      | Location | Time  |   |       | Weather | L <sub>eq</sub> (5min) | L <sub>10</sub> | L <sub>90</sub> | Remarks |
|-----------|----------|-------|---|-------|---------|------------------------|-----------------|-----------------|---------|
| 6/8/2021  | NM1      | 23:00 | - | 23:05 | cloudy  | 43.2                   | 45.4            | 40.3            | N.A.    |
| 6/8/2021  | NM1      | 23:05 | - | 23:10 | cloudy  | 42.2                   | 46.1            | 41.1            | N.A.    |
| 6/8/2021  | NM1      | 23:10 | - | 23:15 | cloudy  | 42.9                   | 45.5            | 39.5            | N.A.    |
| 13/8/2021 | NM1      | 23:08 | - | 23:13 | cloudy  | 42.1                   | 44.9            | 40.2            | N.A.    |
| 13/8/2021 | NM1      | 23:13 | - | 23:18 | cloudy  | 41.9                   | 45.1            | 39.1            | N.A.    |
| 13/8/2021 | NM1      | 23:18 | - | 23:23 | cloudy  | 42.5                   | 46.1            | 39.0            | N.A.    |
| 19/8/2021 | NM1      | 23:09 | - | 23:14 | cloudy  | 42.4                   | 45.7            | 38.8            | N.A.    |
| 19/8/2021 | NM1      | 23:14 | - | 23:19 | cloudy  | 43.0                   | 46.4            | 40.2            | N.A.    |
| 19/8/2021 | NM1      | 23:19 | - | 23:24 | cloudy  | 44.1                   | 47.2            | 41.2            | N.A.    |
| 28/8/2021 | NM1      | 23:00 | - | 23:05 | cloudy  | 43.1                   | 46.3            | 40.3            | N.A.    |
| 28/8/2021 | NM1      | 23:05 | - | 23:10 | cloudy  | 42.3                   | 45.1            | 39.7            | N.A.    |
| 28/8/2021 | NM1      | 23:10 | - | 23:15 | cloudy  | 43.4                   | 45.5            | 41.4            | N.A.    |

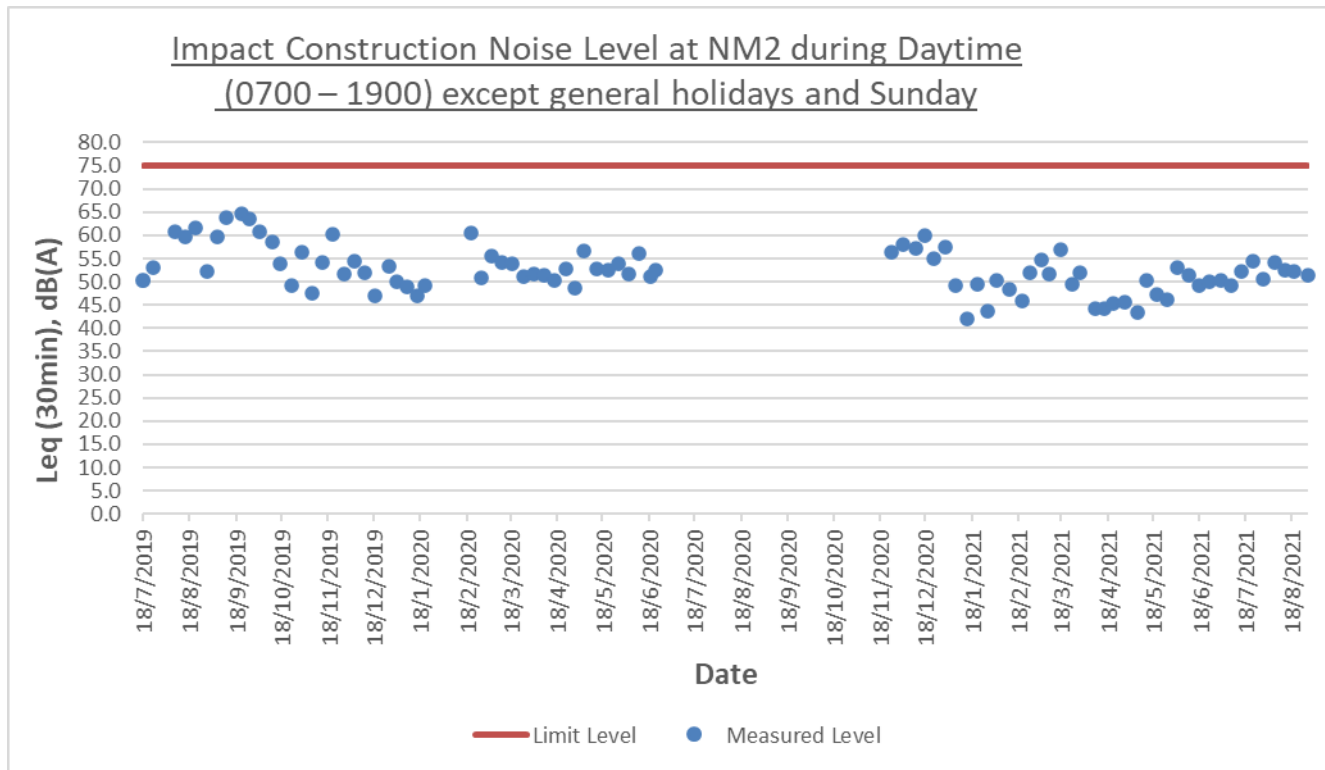


## Impact Noise Monitoring Data

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> | Remarks |
|-----------|----------|-------|---------|---------|-------------------------|-----------------|-----------------|---------|
| 6/8/2021  | NM2      | 15:55 | - 16:25 | sunny   | 54.3                    | 58.2            | 50.3            | N.A.    |
| 13/8/2021 | NM2      | 14:00 | - 14:30 | sunny   | 52.5                    | 55.5            | 50.3            | N.A.    |
| 19/8/2021 | NM2      | 16:30 | - 17:00 | sunny   | 52.3                    | 56.1            | 46.7            | N.A.    |
| 28/8/2021 | NM2      | 15:00 | - 15:30 | sunny   | 51.5                    | 54.4            | 48.5            | N.A.    |



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



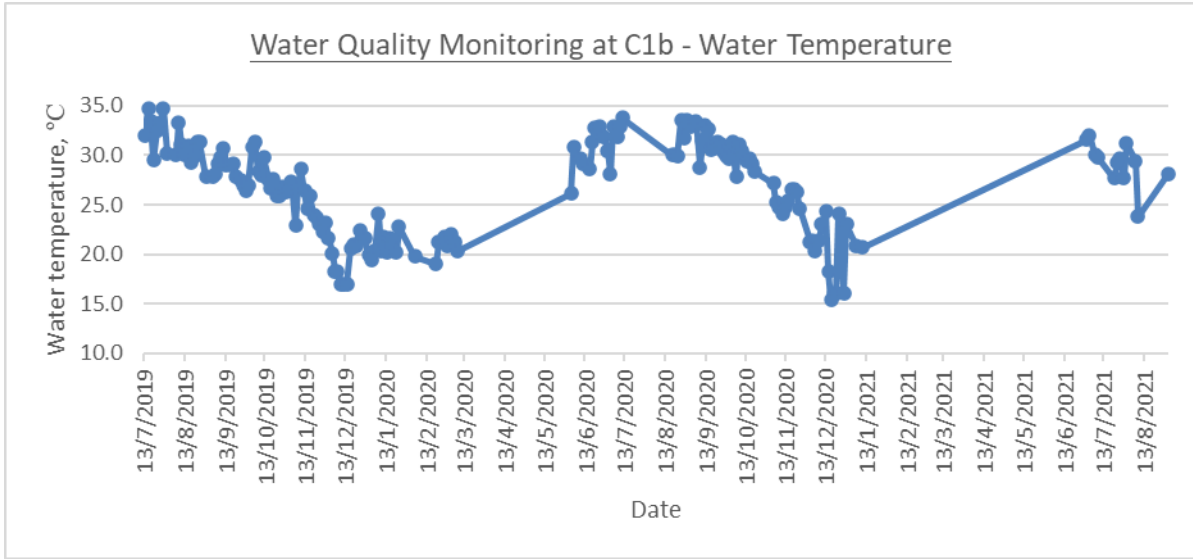
## Appendix F

# Impact Water Quality Monitoring Data

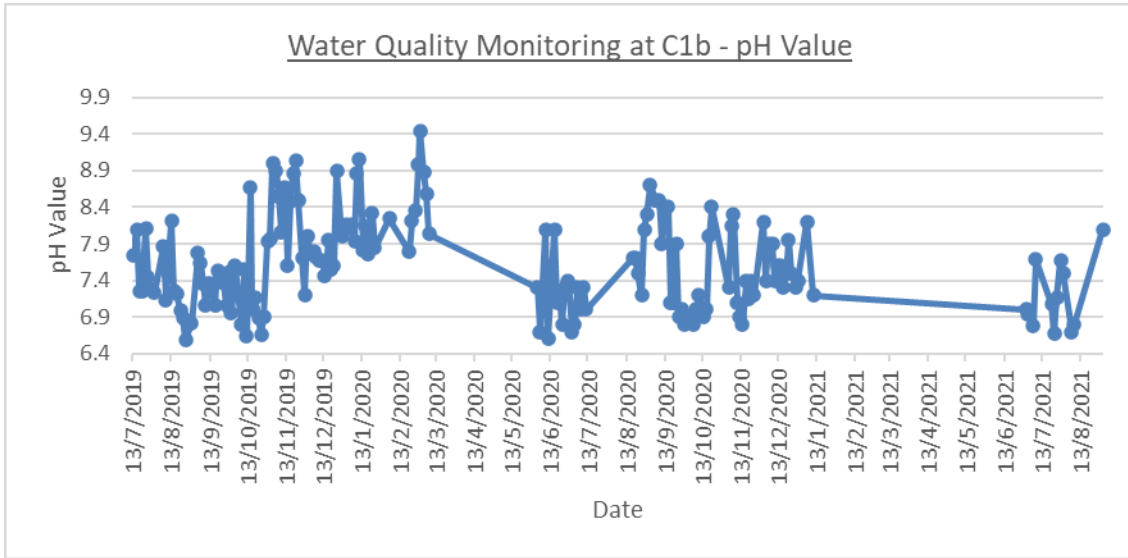
| Location | Date      | Sample ID | Time  | Temp (°C) | pH  | DO (mg/L) | DO%   | Turbidity (NTU) | SS (mg/L) |
|----------|-----------|-----------|-------|-----------|-----|-----------|-------|-----------------|-----------|
| C1b      | 1/8/2021  | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 1/8/2021  | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 4/8/2021  | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 4/8/2021  | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 6/8/2021  | C1b       | 9:10  | 29.4      | 6.7 | 7.7       | 100.7 | 1.2             | 2.5       |
|          | 6/8/2021  | C1b#      | 9:13  | 29.4      | 6.7 | 8.0       | 104.8 | 1.5             | 2.5       |
|          | 8/8/2021  | C1b       | 9:15  | 23.8      | 6.9 | 7.9       | 93.2  | 4.3             | 2.5       |
|          | 8/8/2021  | C1b#      | 9:18  | 23.7      | 6.6 | 7.7       | 90.9  | 4.3             | 2.5       |
|          | 11/8/2021 | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 11/8/2021 | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 13/8/2021 | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 13/8/2021 | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 15/8/2021 | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 15/8/2021 | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 17/8/2021 | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 17/8/2021 | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 19/8/2021 | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 19/8/2021 | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 21/8/2021 | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 21/8/2021 | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 24/8/2021 | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 24/8/2021 | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 26/8/2021 | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 26/8/2021 | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 28/8/2021 | C1b       | /     | /         | /   | /         | /     | /               | /         |
|          | 28/8/2021 | C1b#      | /     | /         | /   | /         | /     | /               | /         |
|          | 31/8/2021 | C1b       | 11:30 | 28.1      | 8.1 | 9.2       | 117.8 | 1.5             | 2.5       |
|          | 31/8/2021 | C1b#      | 11:33 | 28.0      | 8.1 | 9.1       | 115.9 | 1.3             | 2.5       |

| Location | Date      | Sample ID | Time  | Temp (°C) | pH  | DO (mg/L) | DO%   | Turbidity (NTU) | SS (mg/L) |
|----------|-----------|-----------|-------|-----------|-----|-----------|-------|-----------------|-----------|
| D1b      | 1/8/2021  | D1b       | 10:00 | 30.4      | 8.3 | 9.0       | 120.3 | 10.1            | 5.5       |
|          | 1/8/2021  | D1b#      | 10:03 | 30.5      | 8.2 | 8.9       | 118.2 | 9.5             | 2.6       |
|          | 4/8/2021  | D1b       | 10:22 | 29.0      | 7.4 | 7.7       | 100.0 | 7.8             | 4.4       |
|          | 4/8/2021  | D1b#      | 10:25 | 29.1      | 7.1 | 8.1       | 105.1 | 7.2             | 3.9       |
|          | 6/8/2021  | D1b       | 9:15  | 28.9      | 6.9 | 8.1       | 105.1 | 1.7             | 4.6       |
|          | 6/8/2021  | D1b#      | 9:18  | 28.8      | 6.8 | 7.7       | 99.9  | 1.1             | 3.5       |
|          | 8/8/2021  | D1b       | 9:25  | 23.1      | 6.6 | 7.9       | 92.1  | 5.8             | 2.5       |
|          | 8/8/2021  | D1b#      | 9:28  | 23.0      | 6.7 | 8.0       | 93.0  | 5.3             | 2.5       |
|          | 11/8/2021 | D1b       | 9:12  | 28.6      | 7.3 | 8.0       | 102.8 | 6.0             | 4.5       |
|          | 11/8/2021 | D1b#      | 9:15  | 28.6      | 7.4 | 7.9       | 102.2 | 6.0             | 5.4       |
|          | 13/8/2021 | D1b       | 9:23  | 30.2      | 7.5 | 7.6       | 100.5 | 4.4             | 2.5       |
|          | 13/8/2021 | D1b#      | 9:26  | 30.0      | 7.4 | 8.0       | 106.5 | 3.5             | 2.5       |
|          | 15/8/2021 | D1b       | 10:13 | 26.6      | 7.1 | 7.9       | 98.3  | 9.2             | 2.5       |
|          | 15/8/2021 | D1b#      | 10:16 | 26.5      | 6.9 | 8.0       | 99.5  | 10.7            | 2.5       |
|          | 17/8/2021 | D1b       | 9:16  | 28.8      | 7.4 | 7.6       | 97.8  | 7.3             | 3.8       |
|          | 17/8/2021 | D1b#      | 9:19  | 28.7      | 7.3 | 8.0       | 103.2 | 7.4             | 3.6       |
|          | 19/8/2021 | D1b       | 16:13 | 31.2      | 7.6 | 8.7       | 117.5 | 5.8             | 5.6       |
|          | 19/8/2021 | D1b#      | 16:16 | 30.6      | 7.6 | 8.9       | 119.2 | 5.8             | 5.2       |
|          | 21/8/2021 | D1b       | 9:08  | 29.6      | 6.9 | 7.4       | 97.8  | 4.8             | 7.4       |
|          | 21/8/2021 | D1b#      | 9:11  | 29.6      | 6.9 | 7.3       | 95.6  | 4.7             | 5.2       |
|          | 24/8/2021 | D1b       | 11:00 | 29.9      | 7.1 | 8.6       | 112.9 | 6.5             | 6.4       |
|          | 24/8/2021 | D1b#      | 11:03 | 29.9      | 7.1 | 9.0       | 119.5 | 6.2             | 6.1       |
|          | 26/8/2021 | D1b       | 16:14 | 32.8      | 7.5 | 8.3       | 115.5 | 5.3             | 5.7       |
|          | 26/8/2021 | D1b#      | 16:17 | 32.8      | 7.6 | 8.3       | 115.5 | 5.0             | 3.6       |
|          | 28/8/2021 | D1b       | 13:03 | 26.7      | 6.7 | 7.7       | 96.0  | 2.6             | 2.5       |
|          | 28/8/2021 | D1b#      | 13:00 | 26.7      | 6.9 | 7.7       | 96.6  | 1.8             | 2.5       |
|          | 31/8/2021 | D1b       | 12:00 | 28.3      | 7.8 | 9.2       | 118.2 | 3.8             | 3.6       |
|          | 31/8/2021 | D1b#      | 12:03 | 28.5      | 7.7 | 9.3       | 119.8 | 3.9             | 2.8       |

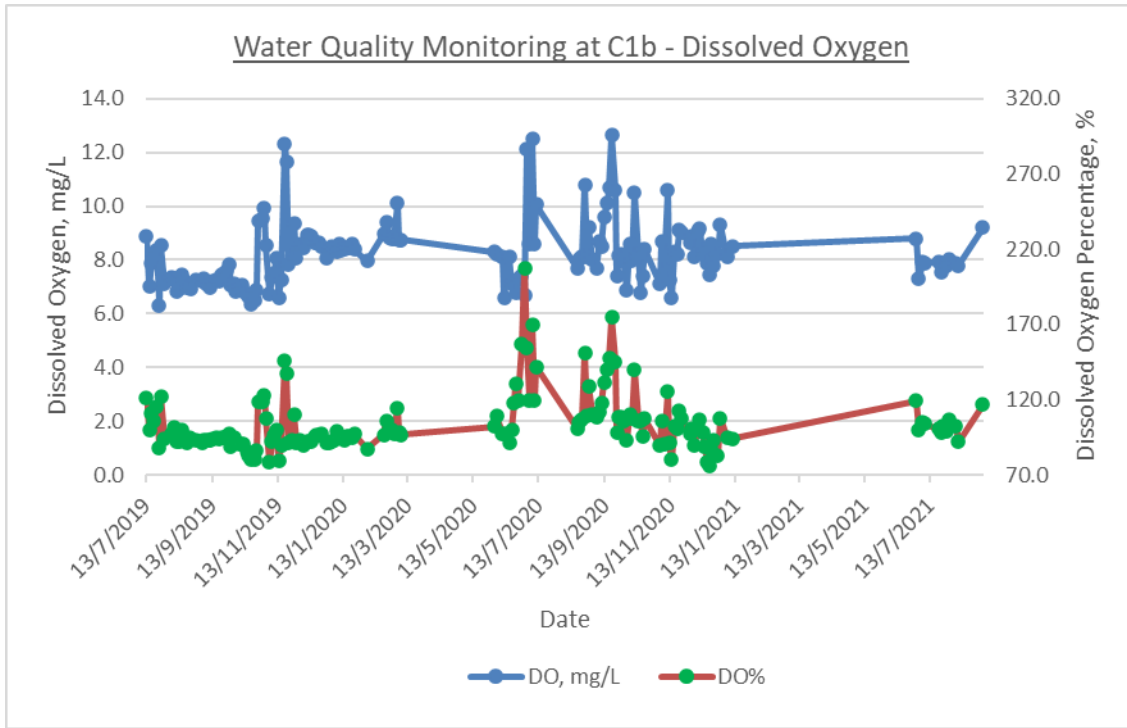
C1b



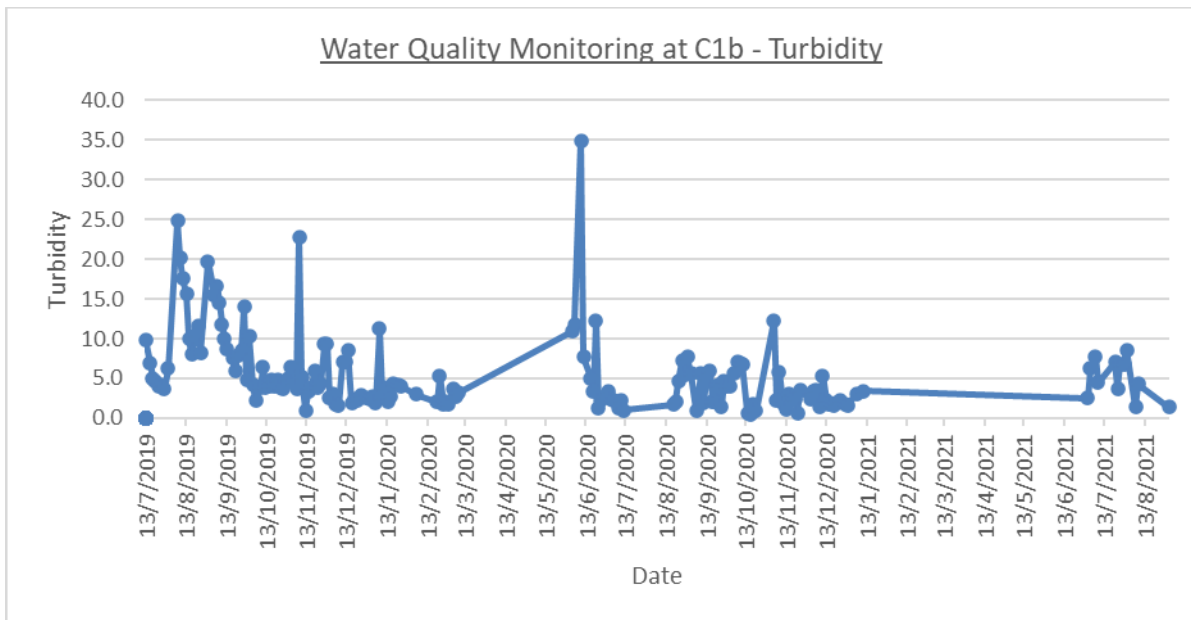
Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection



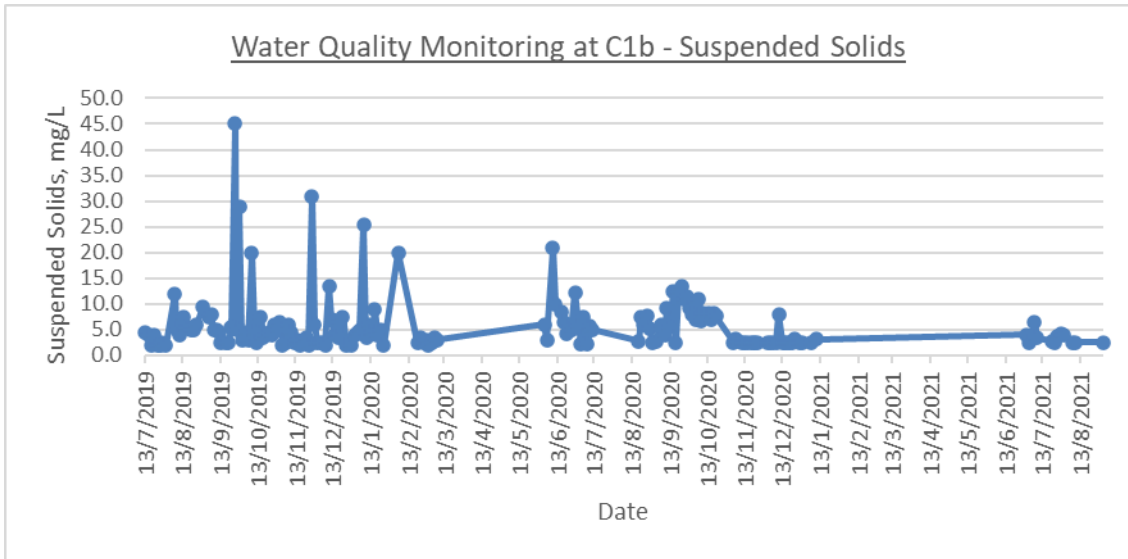
Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection



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

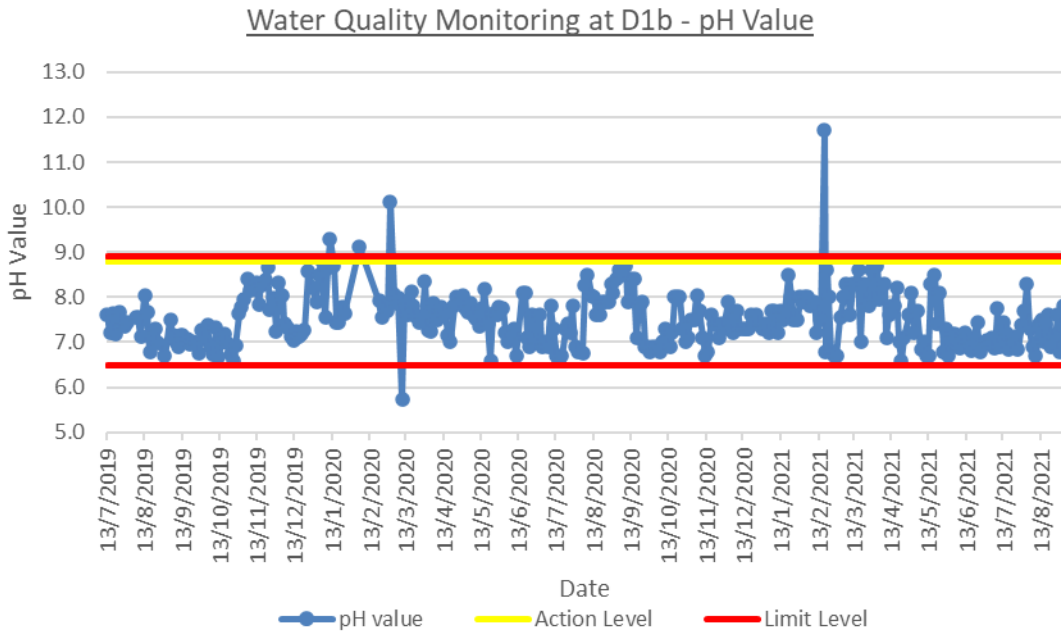
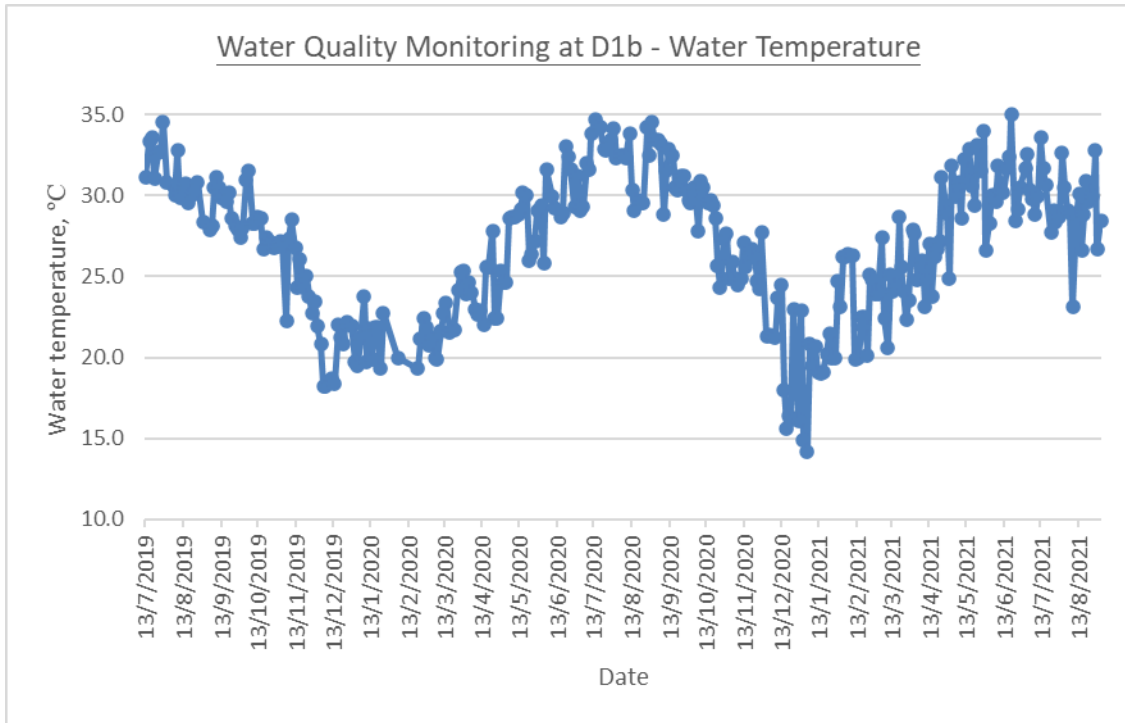


Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection

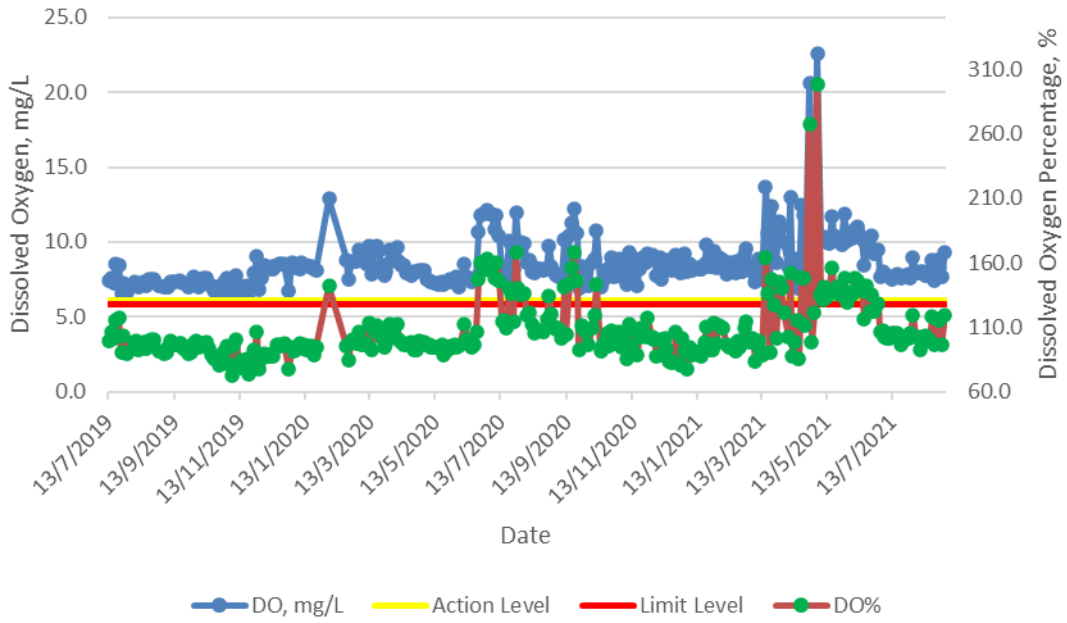


Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection

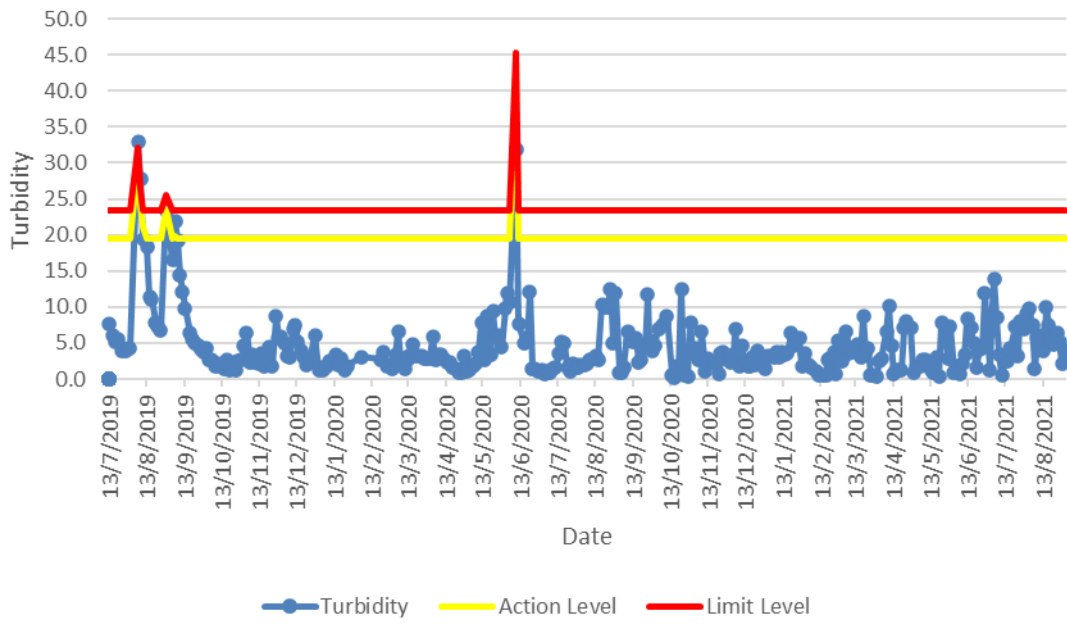
D1b



### Water Quality Monitoring at D1b - Dissolved Oxygen

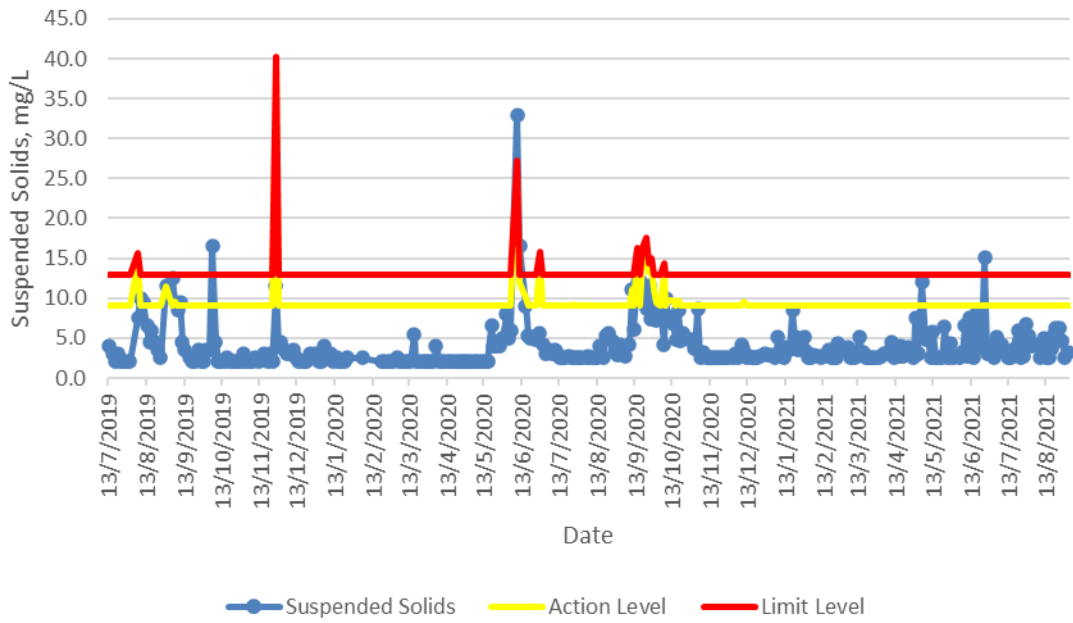


### Water Quality Monitoring at D1b - Turbidity





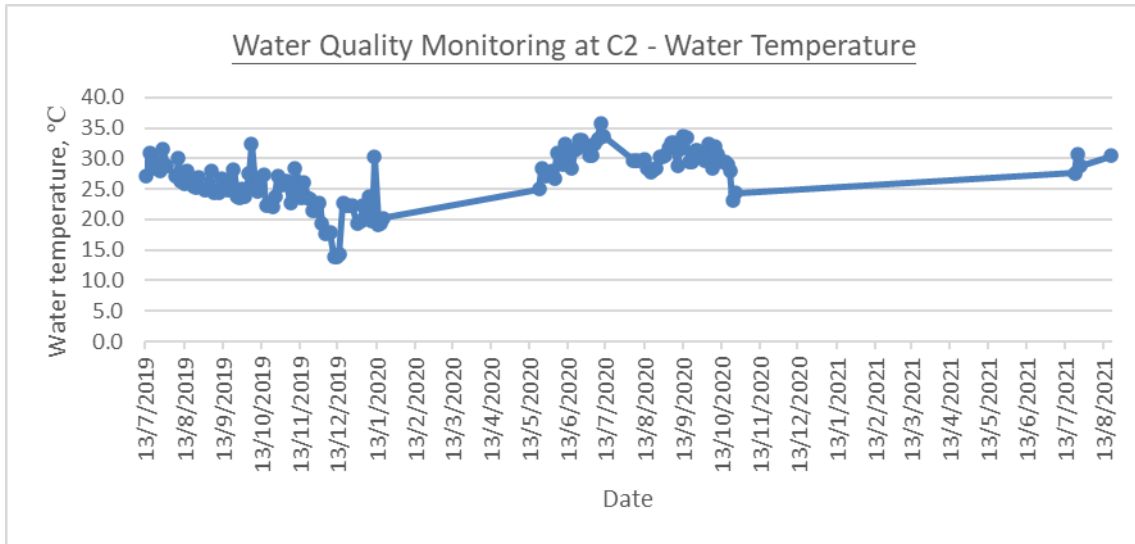
### Water Quality Monitoring at D1b - Suspended Solids



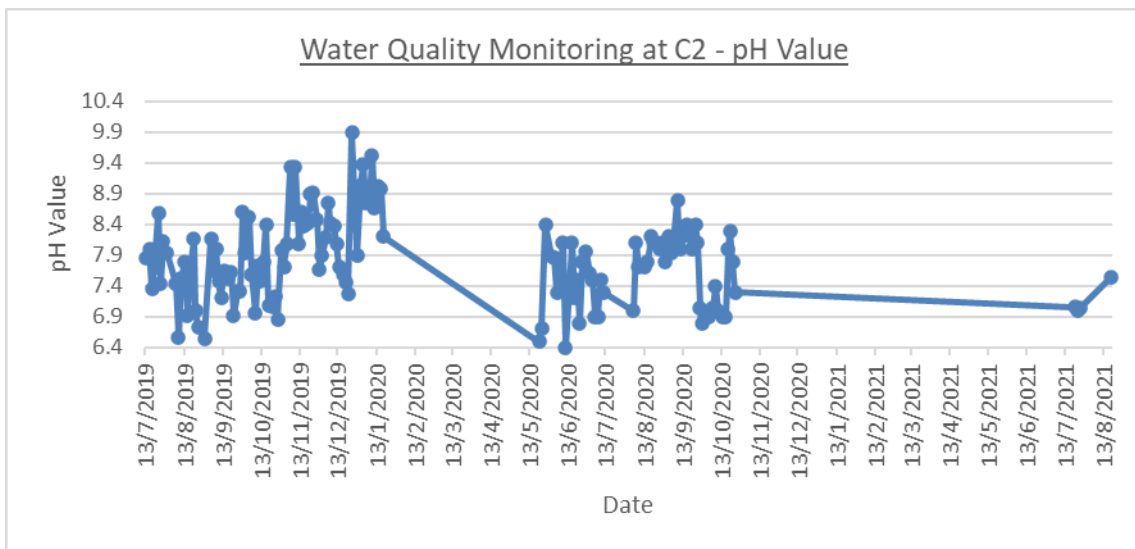


| Location | Date      | Sample ID | Time  | Temp (°C) | pH  | DO (mg/L) | DO%   | Turbidity (NTU) | SS (mg/L) |
|----------|-----------|-----------|-------|-----------|-----|-----------|-------|-----------------|-----------|
| D2a      | 1/8/2021  | D2a       | 9:20  | 28.6      | 8.8 | 8.5       | 109.8 | 5.5             | 4.1       |
|          | 1/8/2021  | D2a#      | 9:23  | 28.7      | 8.7 | 9.1       | 118.0 | 5.1             | 3.1       |
|          | 4/8/2021  | D2a       | 8:04  | 28.2      | 6.7 | 7.9       | 101.2 | 4.6             | 2.5       |
|          | 4/8/2021  | D2a#      | 8:07  | 27.3      | 7.4 | 7.5       | 94.6  | 5.6             | 2.5       |
|          | 6/8/2021  | D2a       | 8:00  | 29.4      | 7.4 | 7.5       | 98.0  | 5.9             | 2.5       |
|          | 6/8/2021  | D2a#      | 8:03  | 29.5      | 7.1 | 7.7       | 101.2 | 6.2             | 2.5       |
|          | 8/8/2021  | D2a       | 8:00  | 25.5      | 7.2 | 7.5       | 91.8  | 6.1             | 2.5       |
|          | 8/8/2021  | D2a#      | 8:03  | 25.4      | 7.1 | 7.6       | 92.2  | 6.3             | 2.5       |
|          | 11/8/2021 | D2a       | 8:03  | 28.8      | 7.2 | 7.9       | 102.7 | 8.2             | 3.3       |
|          | 11/8/2021 | D2a#      | 8:06  | 28.7      | 7.2 | 7.7       | 99.1  | 8.2             | 5.4       |
|          | 13/8/2021 | D2a       | 8:08  | 30.5      | 7.3 | 8.0       | 107.3 | 3.2             | 2.5       |
|          | 13/8/2021 | D2a#      | 8:11  | 30.3      | 7.2 | 7.9       | 104.6 | 4.5             | 2.5       |
|          | 15/8/2021 | D2a       | 8:00  | 27.6      | 7.0 | 8.0       | 101.4 | 3.5             | 3.1       |
|          | 15/8/2021 | D2a#      | 8:03  | 27.3      | 7.1 | 7.8       | 98.6  | 3.2             | 2.5       |
|          | 17/8/2021 | D2a       | 8:00  | 27.7      | 7.2 | 7.4       | 93.6  | 2.7             | 3.7       |
|          | 17/8/2021 | D2a#      | 8:03  | 26.9      | 6.9 | 7.7       | 95.9  | 2.9             | 4.4       |
|          | 19/8/2021 | D2a       | 15:20 | 30.8      | 8.4 | 10.0      | 133.9 | 4.9             | 4.2       |
|          | 19/8/2021 | D2a#      | 15:23 | 30.9      | 8.3 | 9.7       | 130.0 | 5.2             | 2.9       |
|          | 21/8/2021 | D2a       | 8:03  | 24.6      | 8.1 | 8.0       | 96.6  | 4.9             | 5.2       |
|          | 21/8/2021 | D2a#      | 8:00  | 25.2      | 7.0 | 7.7       | 93.7  | 5.2             | 4.3       |
|          | 24/8/2021 | D2a       | 10:00 | 27.8      | 7.0 | 8.8       | 111.5 | 5.8             | 5.3       |
|          | 24/8/2021 | D2a#      | 10:03 | 27.8      | 7.0 | 8.4       | 107.2 | 4.7             | 3.6       |
|          | 26/8/2021 | D2a       | 15:03 | 31.7      | 6.8 | 8.8       | 113.5 | 4.3             | 3.3       |
|          | 26/8/2021 | D2a#      | 15:06 | 32.1      | 6.8 | 8.3       | 113.3 | 4.6             | 2.8       |
|          | 28/8/2021 | D2a       | 8:00  | 26.4      | 6.8 | 7.8       | 97.3  | 0.9             | 2.5       |
|          | 28/8/2021 | D2a#      | 8:03  | 26.4      | 6.8 | 7.8       | 96.9  | 0.9             | 2.5       |
|          | 31/8/2021 | D2a       | 11:00 | 27.1      | 7.0 | 9.7       | 121.7 | 2.9             | 2.6       |
|          | 31/8/2021 | D2a#      | 11:03 | 27.0      | 6.9 | 9.3       | 116.4 | 2.7             | 2.5       |

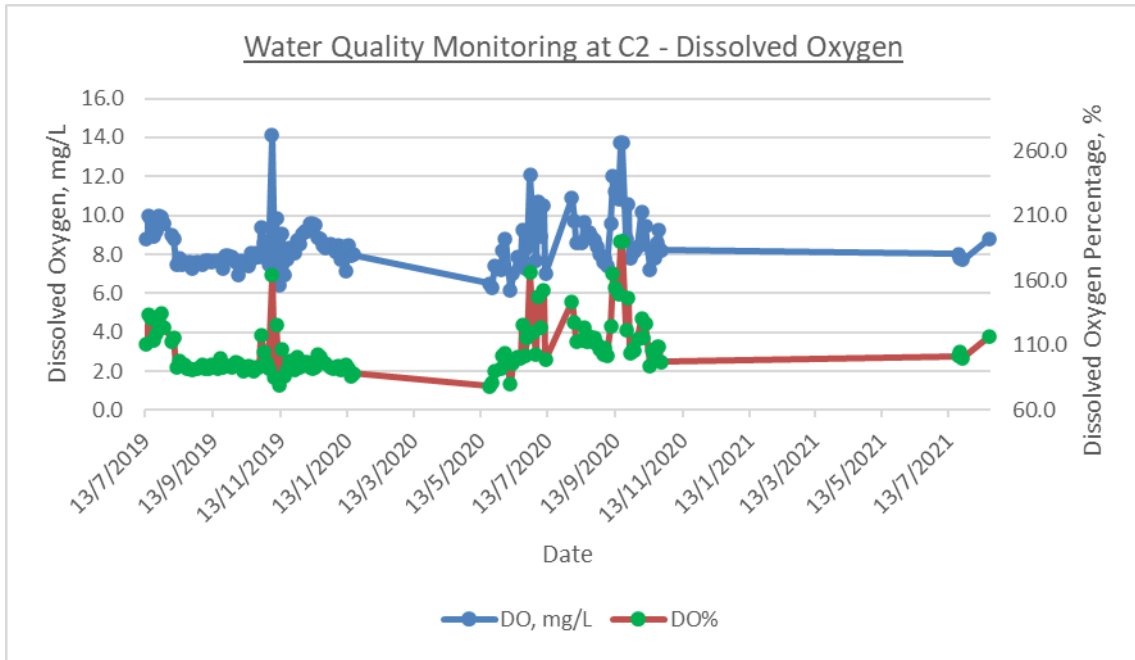
C2



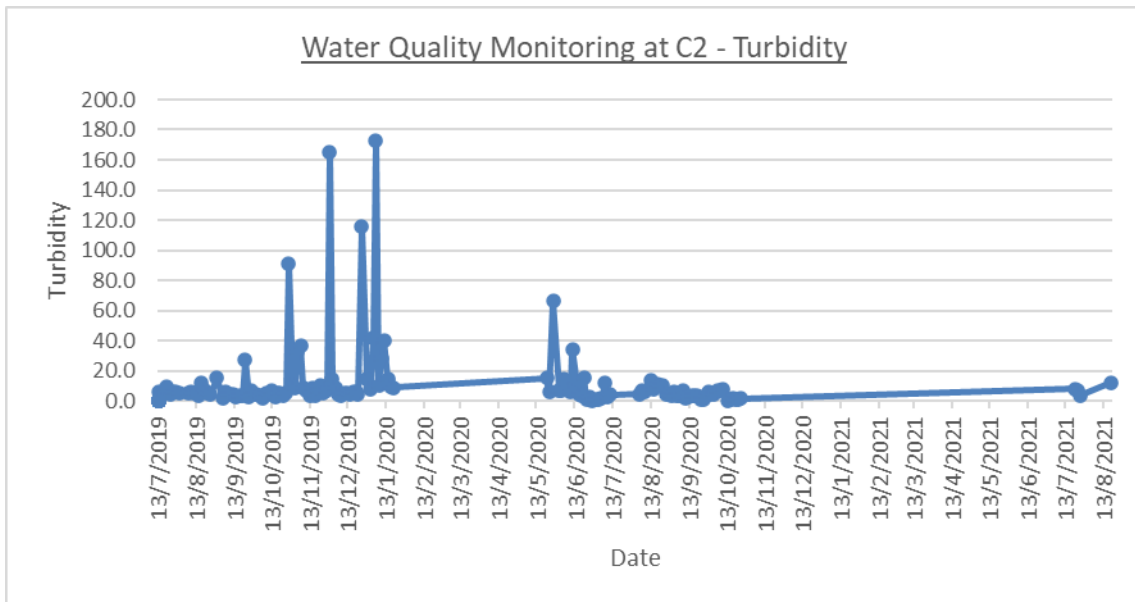
Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection



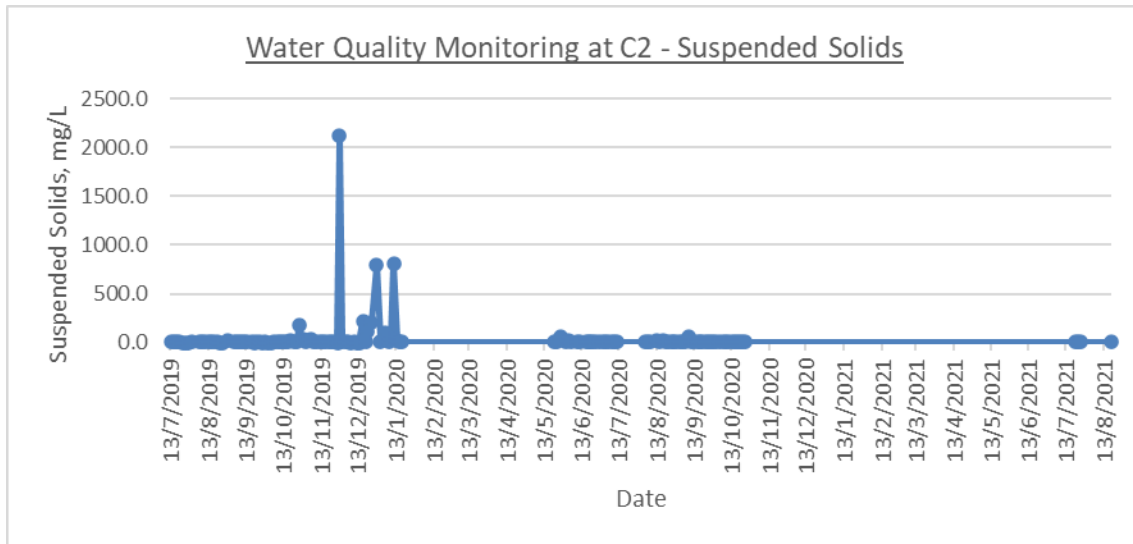
Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection



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

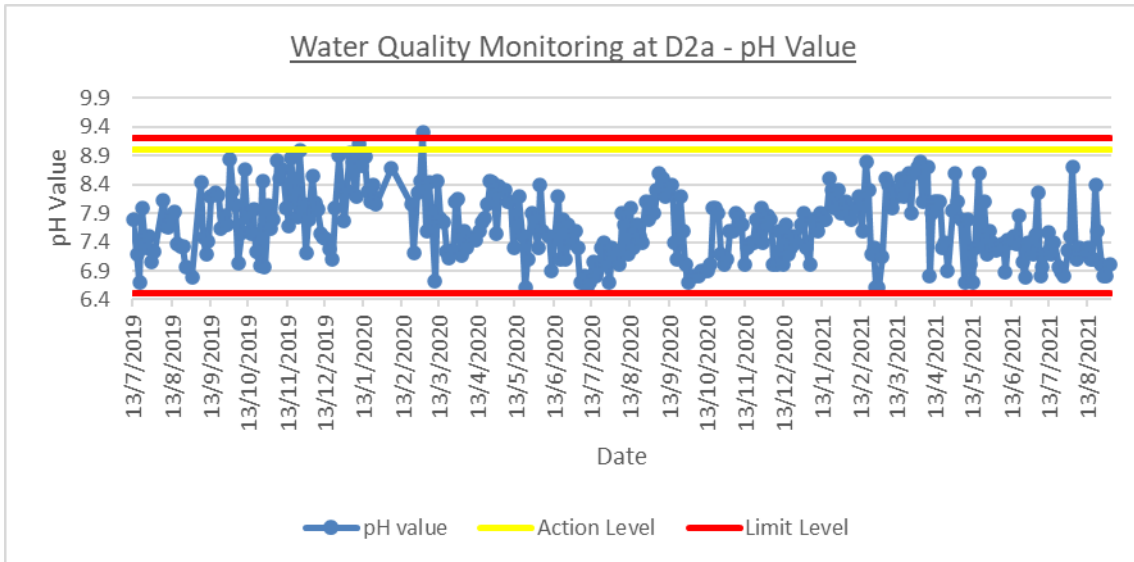
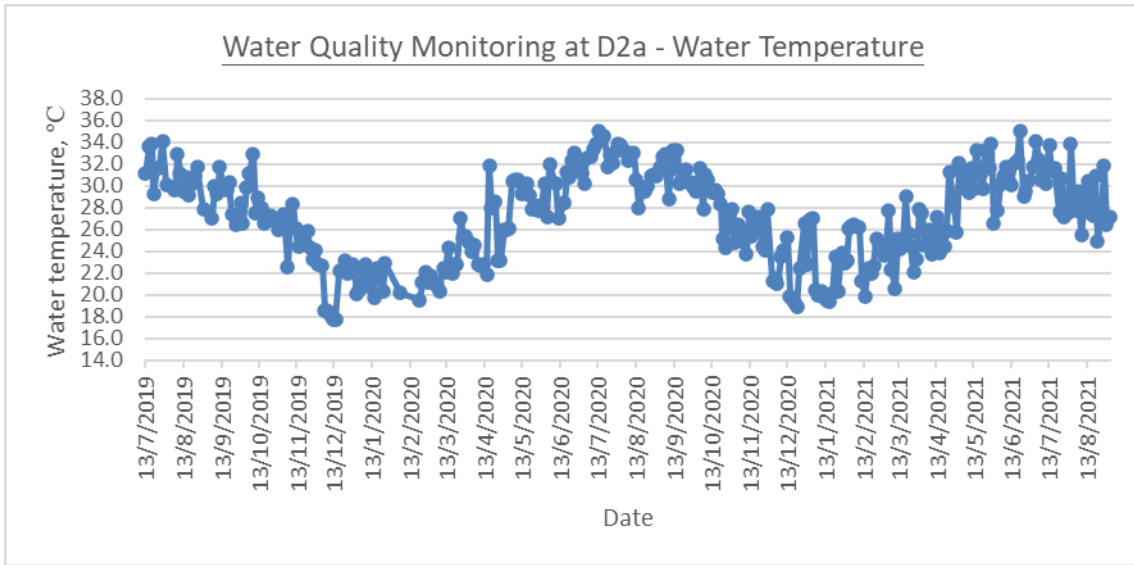


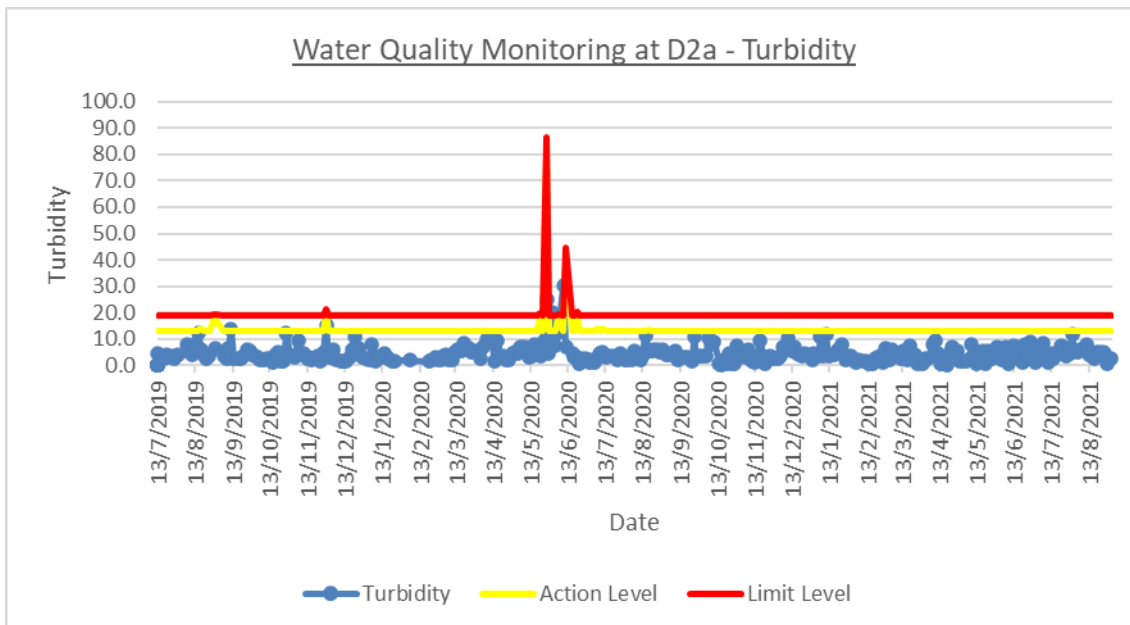
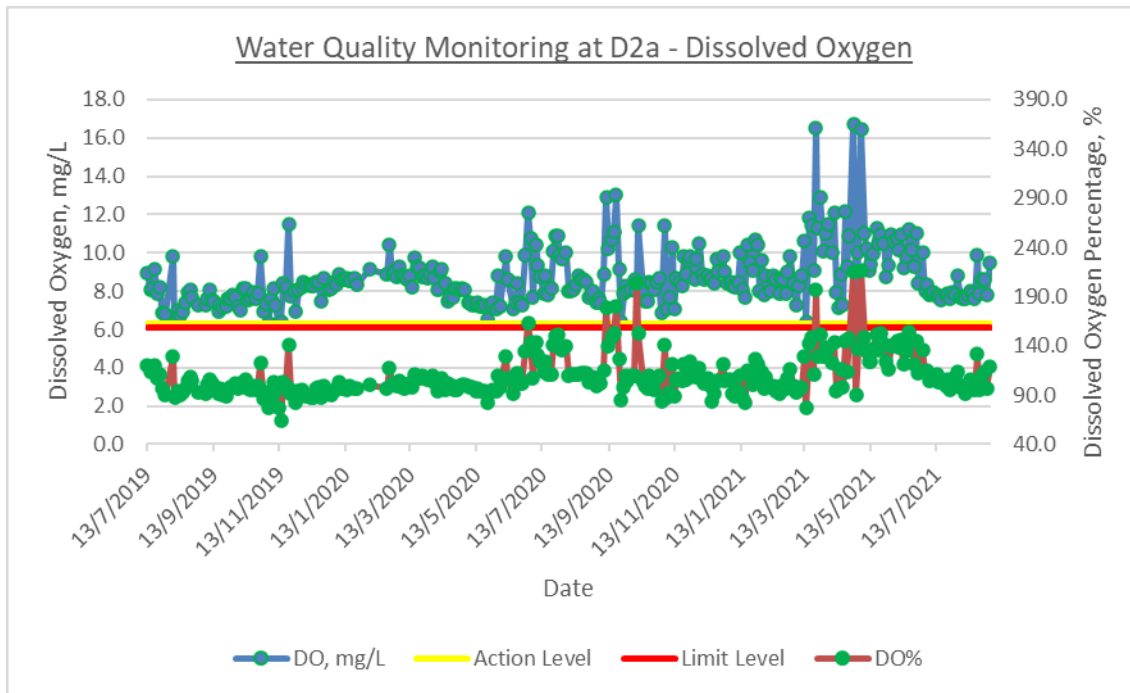
Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection



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

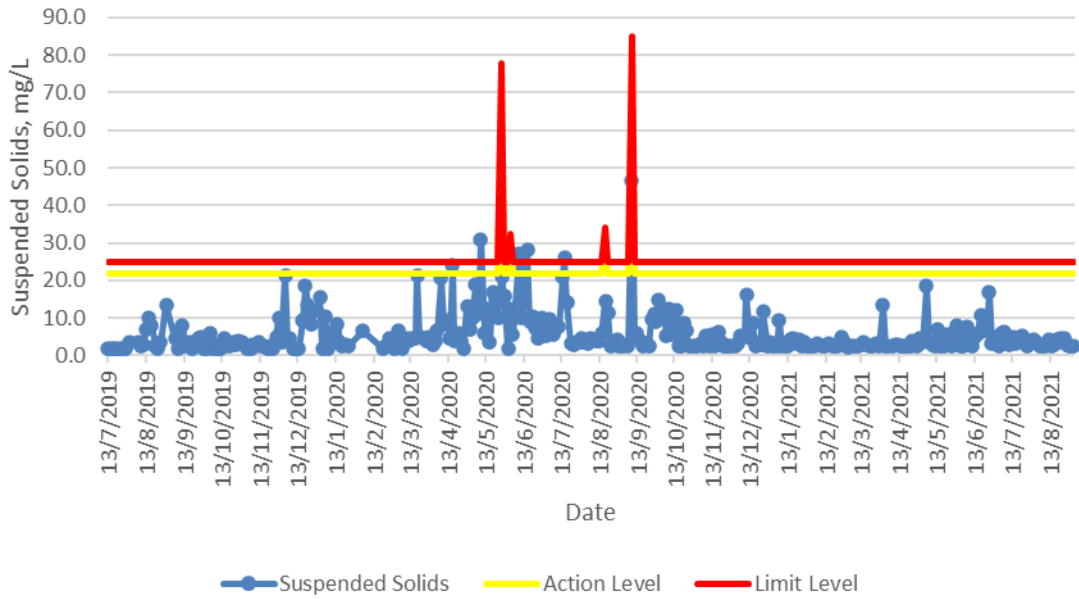
D2a







### Water Quality Monitoring at D2a - Suspended Solids



Appendix G  
Supplementary Meteorological Data

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

| Date<br>August | 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              | 998.5                     | 32.5                | 29.4             | 27.1                | 26.0   | 83                                  | 83                                | 11.6                      |
| 2              | 998.3                     | 33.9                | 30.0             | 28.5                | 26.0   | 80                                  | 84                                | Trace                     |
| 3              | 997.2                     | 29.7                | 28.2             | 27.1                | 26.0   | 88                                  | 82                                | 19.7                      |
| 4              | 995.6                     | 31.3                | 28.2             | 25.9                | 25.3   | 85                                  | 84                                | 41.9                      |
| 5              | 996.0                     | 28.6                | 27.6             | 26.2                | 25.9   | 90                                  | 88                                | 28.1                      |
| 6              | 998.0                     | 29.7                | 28.3             | 26.4                | 26.2   | 89                                  | 89                                | 31.0                      |
| 7              | 1001.3                    | 30.9                | 28.8             | 27.6                | 25.9   | 85                                  | 86                                | -                         |
| 8              | 1004.3                    | 31.5                | 29.3             | 27.8                | 26.5   | 85                                  | 86                                | 3.1                       |
| 9              | 1005.4                    | 31.3                | 29.1             | 27.2                | 26.2   | 85                                  | 88                                | 36.3                      |
| 10             | 1005.9                    | 30.4                | 29.0             | 27.5                | 26.6   | 87                                  | 88                                | 17.3                      |
| 11             | 1008.3                    | 32.1                | 29.5             | 27.1                | 26.4   | 84                                  | 87                                | 3.0                       |
| 12             | 1008.9                    | 33.0                | 29.0             | 26.8                | 25.5   | 82                                  | 78                                | 1.0                       |
| 13             | 1006.2                    | 30.7                | 28.6             | 26.6                | 25.3   | 83                                  | 80                                | 5.4                       |
| 14             | 1006.4                    | 29.2                | 28.0             | 26.6                | 25.1   | 85                                  | 87                                | 2.2                       |
| 15             | 1010.2                    | 30.0                | 27.3             | 25.7                | 25.0   | 87                                  | 83                                | 5.7                       |
| 16             | 1012.5                    | 31.0                | 28.3             | 26.2                | 25.1   | 83                                  | 56                                | 3.9                       |
| 17             | 1010.5                    | 32.5                | 29.5             | 27.4                | 25.1   | 78                                  | 42                                | -                         |
| 18             | 1008.2                    | 32.3                | 29.5             | 28.1                | 24.9   | 77                                  | 80                                | -                         |
| 19             | 1008.6                    | 31.0                | 28.6             | 26.2                | 25.7   | 84                                  | 72                                | 34.6                      |
| 20             | 1009.5                    | 32.5                | 29.5             | 27.3                | 24.9   | 77                                  | 47                                | Trace                     |
| 21             | 1008.6                    | 32.5                | 29.8             | 28.0                | 25.0   | 76                                  | 68                                | -                         |
| 22             | 1007.4                    | 33.1                | 30.1             | 28.3                | 24.8   | 74                                  | 63                                | -                         |
| 23             | 1007.2                    | 33.2                | 30.2             | 28.4                | 25.1   | 75                                  | 61                                | Trace                     |
| 24             | 1007.7                    | 32.1                | 29.6             | 26.6                | 25.4   | 79                                  | 78                                | 23.7                      |
| 25             | 1009.0                    | 34.4                | 29.7             | 28.2                | 25.6   | 79                                  | 84                                | 1.1                       |
| 26             | 1011.0                    | 32.7                | 29.7             | 27.1                | 25.8   | 80                                  | 71                                | 2.2                       |
| 27             | 1012.0                    | 29.2                | 25.6             | 23.4                | 23.6   | 89                                  | 82                                | 29.3                      |
| 28             | 1011.6                    | 29.8                | 26.9             | 24.9                | 23.4   | 81                                  | 77                                | 22.0                      |
| 29             | 1011.2                    | 29.9                | 27.8             | 25.3                | 24.7   | 83                                  | 86                                | 13.9                      |
| 30             | 1011.4                    | 32.9                | 29.1             | 27.4                | 25.3   | 81                                  | 75                                | Trace                     |
| 31             | 1011.1                    | 29.1                | 27.3             | 25.2                | 25.1   | 88                                  | 87                                | 13.5                      |
| Mean/Total     | 1006.4                    | 31.4                | 28.8             | 26.8                | 25.4   | 83                                  | 77                                | 350.5                     |
| Climatological | 1005.2                    | 31.3                | 28.7             | 26.7                | 25.1   | 81                                  | 70                                | 453.2                     |

|                                  |                       |      |      |      |      |    |    |       |
|----------------------------------|-----------------------|------|------|------|------|----|----|-------|
| Normal(1991-2020)                |                       |      |      |      |      |    |    |       |
| Climatological Normal(1981-2010) | 1005.2                | 31.1 | 28.6 | 26.6 | 25.0 | 81 | 69 | 432.2 |
| Station                          | Hong Kong Observatory |      |      |      |      |    |    |       |

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

| Date August | 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  | 5.3                           | 17.98   | 4.2                    | 240                                 | 25.1                   |
| 2           | 0  | 5.8                           | 19.21   | 4.3                    | 230                                 | 17.2                   |
| 3           | 0  | 0.9                           | 9.17  | 2.4                    | 090                                 | 24.0                   |
| 4           | 0  | 1.5                           | 9.53  | 0.2                    | 360                                 | 22.4                   |
| 5           | 0  | 0.1                           | 5.03  | 0.3                    | 260                                 | 31.0                   |
| 6           | 1  | 0.3                           | 9.56  | 2.7                    | 260                                 | 28.5                   |
| 7           | 1  | 3.2                           | 12.26   | 2.7                    | 250                                 | 23.7                   |
| 8           | 0  | 1.6                           | 13.93   | 2.7                    | 240                                 | 18.3                   |
| 9           | 0  | 1.7                           | 9.80  | 2.2                    | 220                                 | 22.0                   |
| 10          | 0  | 0.8                           | 6.71  | 1.0                    | 190                                 | 14.8                   |
| 11          | 0  | 5.6                           | 16.93   | 3.9                    | 210                                 | 15.0                   |
| 12          | 0  | 6.5                           | 15.18   | 3.3                    | 200                                 | 8.5                    |
| 13          | 0  | 6.4                           | 15.04   | 3.4                    | 210                                 | 11.9                   |
| 14          | 0  | 0.9                           | 7.61  | 1.1                    | 220                                 | 19.8                   |
| 15          | 0  | 1.2                           | 9.52  | 1.6                    | 200                                 | 7.8                    |
| 16          | 0  | 6.0                           | 17.09   | 3.8                    | 240                                 | 7.9                    |
| 17          | 0  | 11.1                          | 26.60   | 5.6                    | 240                                 | 13.3                   |
| 18          | 0  | 7.0                           | 19.42   | 5.8                    | 250                                 | 13.1                   |
| 19          | 0  | 5.6                           | 15.19   | 2.5                    | 070                                 | 7.8                    |
| 20          | 0  | 11.1                          | 26.58   | 6.0                    | 220                                 | 11.0                   |
| 21          | 0  | 11.2                          | 25.88   | 5.8                    | 230                                 | 18.7                   |
| 22          | 0  | 10.8                          | 25.80   | 6.0                    | 230                                 | 21.3                   |
| 23          | 0  | 9.9                           | 22.99   | 5.1                    | 230                                 | 17.6                   |
| 24          | 0  | 7.2                           | 17.64   | 3.4                    | 220                                 | 9.8                    |
| 25          | 0  | 7.7                           | 20.39   | 3.9                    | 120                                 | 7.5                    |
| 26          | 0  | 8.5                           | 21.58   | 3.8                    | 100                                 | 7.8                    |
| 27          | 0  | 0.5                           | 2.90  | 2.0                    | 080                                 | 20.2                   |

|                                  |                                 |             |       |       |                            |      |
|----------------------------------|---------------------------------|-------------|-------|-------|----------------------------|------|
| 28                               | 0                               | 7.3         | 17.61 | 2.9   | 010                        | 16.2 |
| 29                               | 0                               | 4.0         | 11.41 | 2.3   | 050                        | 20.2 |
| 30                               | 0                               | 8.9         | 22.77 | 4.6   | 040                        | 15.5 |
| 31                               | 0                               | 1.4         | 5.49  | 1.6   | 020                        | 13.2 |
| Mean/Total                       | 2                               | 160.0       | 15.38 | 101.1 | 230                        | 16.5 |
| Climatological Normal(1991-2020) | 42.5 <sup>§</sup>               | 182.1       | 15.73 | 129.7 | 230                        | 18.8 |
| Climatological Normal(1981-2010) | 42.5 <sup>§</sup>               | 188.9       | 15.63 | 134.9 | 230                        | 19.4 |
| Station                          | Hong Kong International Airport | King's Park |       |       | Waglan Island <sup>^</sup> |      |

The minimum pressure recorded at the Hong Kong Observatory was 993.0 hectopascals at 1621 HKT on 4 August.

The maximum air temperature recorded at the Hong Kong Observatory was 34.4 degrees C at 1416 HKT on 25 August.

The minimum air temperature recorded at the Hong Kong Observatory was 23.4 degrees C at 1102 HKT on 27 August.

The maximum gust peak speed recorded at Waglan Island was 68 kilometres per hour from 070 degrees at 1013 HKT on 27 August.

The maximum 1-minute mean rainfall rate recorded at King's Park was 151 millimetres per hour at 0939 HKT on 10 August.

# 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       | 6.0636   | 0                                   | 0                        | 2.8203                   | 3.2432                   | 0                        | 0   | 0                          | 0                     | 1              | 0.01173                     |
| Sept      |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Oct       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Nov       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Dec       |  |                                     |                          |                          |                          |                          |   |                            |                       |                |                             |
| Total     | 40.5684  | 0                                   | 0                        | 16.8393                  | 23.8471                  | 0                        | 0   | 0                          | 0                     | 7.05           | 0.08395                     |

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**

**September 2021**

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

 = General Holiday

## Appendix L

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

Statistical Summary of Environmental Complaints

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

Statistical Summary of Environmental Summons

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

Statistical Summary of Environmental Prosecution

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