



# 11 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

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## 11.1 INTRODUCTION

- 11.1.1 This *Section* summarises the requirements for environmental monitoring and audit (EM&A) during the construction and operation phase of the Project and associated works based on the various assessment results presented in this EIA Report. Details of the EM&A requirements are given in a stand-alone EM&A Manual.
- 11.1.2 To ascertain that the recommendations in the EIA study are followed and that the mitigation measures implemented are effective, it is considered necessary to develop EM&A procedures and mechanisms such that the implementation of the mitigation measures can be tracked and their effectiveness assessed. The following sections outline the recommended EM&A requirements with the Implementation Schedule presented in **Appendix 11.1**.
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## 11.2 AIR QUALITY IMPACT

### Construction Phase

- 11.2.1 The EIA study concluded that no adverse fugitive dust impact is anticipated during the construction of the Project. Continuous dust monitoring should be carried out so as to ensure that relevant legal requirements and standards are complied with during the construction phase of the Project.
- 11.2.2 It is recommended to conduct regular site inspections, i.e. on weekly basis, throughout the construction phase of the Project so as to confirm proper implementation of the dust control measures and good site practices as recommended in **Section 3.9**.
- 11.2.3 EM&A requirements related to air quality during the construction phase are summarised in the Implementation Schedule provided in **Appendix 11.1**.

### Operation Phase

- 11.2.4 The EIA study concluded that no adverse air quality impact is anticipated during the operation of the Project. EM&A related to air quality during the operation phase is considered not necessary.
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## 11.3 NOISE IMPACT

### Construction Phase

- 11.3.1 The EIA study concluded that no adverse noise impact is anticipated during the construction of the Project. It is recommended to prepare a construction noise management plan during the design / tendering and implementation stage of the construction works, with an aim to verify the inventory of noise sources, update the construction noise impact assessment if necessary, assess the effectiveness and practicality of all identified measures and update the proposed noise mitigation measures as necessary.
- 11.3.2 Regular noise monitoring should be carried out so as to ensure that relevant legal requirements and standards are complied with during the construction phase of the Project.



11.3.3 It is recommended to conduct regular site inspections, i.e. on weekly basis, throughout the construction phase of the Project so as to confirm all recommended noise mitigation measures and good site practices as recommended in **Section 4.8** are in place.

11.3.4 EM&A requirements related to noise during the construction phase are summarised in the Implementation Schedule provided in **Appendix 11.1**.

#### **Operation Phase**

11.3.5 The EIA study concluded that no adverse noise impact is anticipated during the operation of the Project with the implementation of the proposed mitigation measures. To verify the effectiveness of the proposed noise mitigation measures, road traffic noise levels should be monitored at representative NSRs during the first year after the completion of road works.

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## **11.4 WATER QUALITY IMPACT**

#### **Construction Phase**

11.4.1 Adverse water quality impact arising from the construction works of the Project is not anticipated with the recommended mitigation measures in place. Regular site inspections, i.e. on weekly basis, should be conducted during the construction phase to ensure the proper implementation of the recommended mitigation measures in **Section 5.7**.

11.4.2 EM&A requirements related to water quality during the construction phase are summarised in the Implementation Schedule provided in **Appendix 11.1**.

#### **Operation Phase**

11.4.3 The EIA study concluded that there would be no adverse water quality impact arising from the operation of the Project. EM&A related to water quality during the operation phase is considered not necessary.

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## **11.5 WASTE MANAGEMENT IMPLICATIONS**

#### **Construction Phase**

11.5.1 The EIA study concluded that no adverse environmental impact or other hazards arising from waste management is anticipated during the construction of the Project with the implementation of good site practices. It is recommended that regular site inspections, i.e. on a weekly basis, are conducted during the construction phase to audit the waste management practices and to determine if wastes are being managed in accordance with the recommended good site practices and WMP. The site inspections will investigate all aspects of waste management including waste generation, storage, handling, recycling, transportation and disposal.

11.5.2 EM&A requirements related to waste management during the construction phase are summarised in the Implementation Schedule provided in **Appendix 11.1**.

#### **Operation Phase**

11.5.3 There is no waste management issue as no waste is expected to be generated during the operation phase of the Project. EM&A related to waste management during the operation phase is considered not necessary.

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## 11.6 LAND CONTAMINATION

11.6.1 The EIA concluded that no land contamination impacts are anticipated for the Project. EM&A related to land contamination is considered not necessary during the construction and operation phases of the Project.

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## 11.7 ECOLOGICAL IMPACT

### Construction Phase

11.7.1 Regular monitoring will be conducted within 100m of the North District Park Egretty and Day Roost (NDPEDR) at a frequency of at least monthly or more frequent during construction phase. Regular monitoring aims to monitor the ardeid day roosting and breeding activities, criteria to be monitored include the status, location and extent of NDPEDR, the condition of trees used as breeding and roosting activities, the species, abundance and the returning time of the breeding and roosting ardeids, as well as their flight height and flight line.

11.7.2 Good site practices are also required during the construction phase to minimise the potential indirect impact. Regular audits and site inspections should be carried out to ensure that the mitigation measures recommended in this EIA Report and EM&A Manual (e.g. strictly using non-percussive piling method within the 100m area of NDPEDR for all year round, using Quality Powered Mechanical Equipment (QPME), low-noise surfacing materials and movable noise barriers and mitigation for reducing night-time light glare from reaching the NDPEDR) are properly implemented by the Contractor such that there would be no unacceptable ecological impact on the conservation important species / sites (e.g. NDPEDR) due to noise, dust, site run-off, and other pollutions from the construction sites.

11.7.3 Specific details on the monitoring of the NDPEDR and the EM&A programme are provided in the stand-alone EM&A Manual.

### Operation Phase

11.7.4 The regular monitoring mentioned in **Section 11.7.1** shall also be carried out at the first breeding season (March to August) after operation. If the commencement of operation is in the middle of a breeding season, the operational phase monitoring will cover that breeding season and the next breeding season. Specific details on the monitoring and the EM&A programme are provided in the stand-alone EM&A Manual.

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## 11.8 LANDSCAPE AND VISUAL IMPACT

### Construction Phase

11.8.1 The EIA Report has recommended landscape and visual mitigation measures for the construction and operation phases of the Project.

11.8.2 The mitigation measures listed in **Table 9.11** shall be adopted during the construction phase. It is recommended that regular site inspections during the construction phase should be undertaken to inspect the construction activities and works areas in order to ensure the recommended mitigation measures are properly implemented.

### Operation Phase

11.8.3 The operation phase mitigation measures listed in **Table 9.12** shall be adopted during the detailed design and be built as part of the construction works at the last stage of the construction period so that they are in place at the date of commissioning of the Project. However, it should



be noted that the full effect of the soft landscape mitigation measures would not be appreciated for several years.

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## 11.9 CULTURAL HERITAGE

### Construction Phase

#### *Archaeology*

- 11.9.1 As a precautionary measure, the project proponent and his/her contractor are required to inform AMO immediately when any antiquities or supposed antiquities under the Antiquities and Monuments Ordinance (CAP.53) are discovered during the course of works.

#### *Built Heritage*

- 11.9.2 No direct and indirect impacts from construction vibration to the mentioned graded historic buildings listed in **Table 10.1** and no grading built heritage items BH-02, BH-03 and BH-04 listed in **Table 10.2** are anticipated due to considerable separation distance (over 110m) from the works boundary of the Project. However, It is recommended to monitor any vibration and building movement induced by the proposed works on the graded historic buildings (No.5 Ng Uk Tsuen, GB-03), which is closest to the boundary of the Works Area, as well as on the Grade 1 historic building (Pang Ancestral Hall, GB-01). This will ensure that there are no negative impacts from vibration on the graded historic buildings. For BH-01, although it is located relatively closer (about 20m) to the boundary of the Works Area, potential direct and vibration impacts are not anticipated as the closest major underground construction works like piling and piling cap construction are located around 300m away. No EM&A is required.

### Operation Phase

- 11.9.3 Adverse archaeological or built heritage impacts are not anticipated during the operation of the Project. EM&A related to cultural heritage during the operation phase is considered not necessary.