

## 10. CONCLUSIONS

### 10.1. INTRODUCTION

- 10.1.1. This EIA Report presents an assessment of the potential environmental impacts associated with the construction and operation of the Project.
- 10.1.2. The EIA has been conducted in accordance with the requirements given in the EIAO-TM and the EIA Study Brief (ESB-347/2021), covering the following environment aspects:
- Air Quality Impact;
  - Noise Impact;
  - Water Quality and Sewerage Impact;
  - Waste Management;
  - Cultural Heritage; and
  - Landscape and Visual Impact.
- 10.1.3. This section summarises the assessment results of each technical aspect and concludes the acceptability of the overall environmental performance of the Project.
- 10.1.4. A summary of environmental impacts identified in this EIA is provided in [Appendix 10.1](#) and the conclusions of technical chapters are described in the following sections.
- 10.1.5. The key assessment assumptions, limitation of methodologies and all prior agreements with EPD and relevant authorities on assessment of different environmental aspects are given in [Appendix 10.2](#).

### 10.2. SUMMARY OF ENVIRONMENTAL OUTCOMES

#### Environmental / Social Benefits of the Project

- 10.2.1. The Project is for the construction of a new Annex Block and refurbishment of the existing Red House at HKO Headquarters in Tsim Sha Tsui. It aims to (1) meet the existing shortfall in office space and functional areas for operation needs of the HKO, (2) provide space for developing HKO's essential operation and services, and (3) provide space for organising public education and outreach activities relating to HKO's work.
- 10.2.2. The environmental benefit of the Project is that the new Annex Block can accommodate the new facilitates such as IFWC and PIEC hence avoid significant alteration at the existing historic buildings. It promotes the environmentally friendly designs, and conserves and promotes the existing heritage buildings.

### Environmental Friendly Design

- 10.2.3. Environmental friendly designs have been incorporated into the Project as far as practicable, including the following:
- Using biophilic design including vertical greenery, planted terraces, green roof to enhance passive cooling, soundscape and natural daylight;
  - Using rainwater harvesting system to collect and reuse the rainwater for the fittest ways in order to achieving water conservation;
  - Using renewable and alternative energy systems, such as solar PV panels, to reduce energy consumption;

### Estimated Population and Environmentally Sensitive Areas Protected

- 10.2.4. The Project would influence populations including on-site workers and workers in the offices within HKO, residence and users in the institutions in the vicinity. The EIA has concluded that there are no adverse residual impacts as a result of the construction and operation of the Project. With the implementation of recommended mitigation measures, these people are effectively protected from environmental nuisance.
- 10.2.5. Being a sensitive heritage site in Hong Kong, the implementation will have a positive impact to the conservation of the HKO Headquarters, as well as providing facilities for telling the heritage story of HKO which can enhance the public understanding of the cultural significance of HKO.

### Key Environmental Problems Avoided and Compensation Areas Included

- 10.2.6. To minimize the intervention to the existing Red House, refurbishment works are proposed, instead of demolishing and re-constructing. By adopting this approach, existing Red House can be preserved as much as possible. Environmental nuisance from demolishing and re-constructing Red House is minimised.
- 10.2.7. Given that the Project Site is close to the residential development and other existing historic buildings within HKO Headquarters, socketed H-Piles have been proposed as the foundation system in order to minimise the noise and vibration impacts to the surroundings.
- 10.2.8. Tree compensation according to *DEVB TC(W) No.4/2020* will be carried out to mitigate the loss of trees. Trees will be compensated at a ratio of not less than 1:1 as far as practicable. In accordance with the landscape impact assessment, compensatory tree planting will be undertaken within the HKO Headquarters.

### Environmental Benefits of the Environmental Protection Measures

- 10.2.9. Mitigation measures have been recommended to reduce the environmental impacts due to the construction and operation of the Project. Key recommended mitigation measures and their associated benefits are included in *Table 10-1*.

**Table 10-1 Key Environmental Protection Measures Recommended and Associated Environmental Benefits**

<b>Key Environmental Protection Measures Recommended</b>	<b>Associated Environmental Benefits</b>
<p><b>Air Quality</b></p> <p><u>Construction Phase</u></p> <ul style="list-style-type: none"> <li>• Implement dust suppression measures</li> <li>• Adopt good site practices</li> </ul> <p><u>Operation Phase</u></p> <ul style="list-style-type: none"> <li>• Nil</li> </ul>	<ul style="list-style-type: none"> <li>• Minimize air pollution</li> <li>• Protect ASRs in the vicinity</li> </ul>
<p><b>Noise</b></p> <p><u>Construction Phase</u></p> <ul style="list-style-type: none"> <li>• Selection and optimisation of construction programmes</li> <li>• Use of Quieter Alternative Construction Equipment/Methods</li> <li>• Use of quality powered mechanical equipment (QPME)</li> <li>• Use of movable barriers</li> <li>• Implementation of good site practices</li> <li>• Preparation of Construction Noise Management Plan before construction commencement</li> </ul> <p><u>Operation Phase</u></p> <ul style="list-style-type: none"> <li>• Conduct commissioning test before the operation phase of the proposed Project</li> <li>• Use of acoustic treatments such as acoustic louvres, silencers and enclosures</li> <li>• Implementation of regular plant maintenance programme</li> <li>• Fixed plant noise sources to be enclosed in plant rooms except the outdoor units of the air conditioning system on roof</li> </ul>	<ul style="list-style-type: none"> <li>• Minimize noise emission</li> <li>• Protect NSRs in the vicinity</li> </ul>
<p><b>Water Quality and Sewerage</b></p> <p><u>Construction Phase</u></p> <ul style="list-style-type: none"> <li>• Implement good site practice</li> <li>• Implement proper construction site drainage</li> <li>• Provide portable chemical toilet and sewage holding tank for construction workers</li> <li>• Provide treatment of construction site runoff and wastewater</li> <li>• Collect and treat contaminated site runoff</li> <li>• Implement proper chemical handling, storage and disposal measures</li> </ul> <p><u>Operation Phase</u></p>	<ul style="list-style-type: none"> <li>• Minimize water pollution</li> <li>• Protect coastal water quality, and seawater intakes in Victoria Harbour</li> </ul>

<b>Key Environmental Protection Measures Recommended</b>	<b>Associated Environmental Benefits</b>
<ul style="list-style-type: none"><li>• Proper connection of sewage from the Project into public sewerage system</li><li>• Provide appropriate screening facilities (e.g., silt trap) as required</li><li>• Regular cleaning and inspection of manholes, gullies and oil interceptors</li></ul>	

<b>Key Environmental Protection Measures Recommended</b>	<b>Associated Environmental Benefits</b>
<p><b>Waste Management</b></p> <p><u>Construction Phase</u></p> <ul style="list-style-type: none"> <li>• Give top priority to waste avoidance, followed by minimization, reuse/recycling, treatment and safe disposal of waste (as a last resort) during project design, construction and operation</li> <li>• WMP should be prepared as part of the EMP and submitted to the Engineer for approval before the commencement of work in accordance with <i>ETWB TC(W) No. 19/2005</i></li> <li>• Any waste produced during construction of the Project are handled, stored, transported and disposed of in accordance with good waste management practices and relevant regulations and requirements</li> </ul> <p><u>Operation Phase</u></p> <ul style="list-style-type: none"> <li>• Provide waste collection facilities (e.g. litter bins)</li> <li>• Provide separate collection bins for aluminium cans, plastic containers, glass bottles and paper wastes</li> <li>• Remove general refuse on a daily basis</li> </ul>	<ul style="list-style-type: none"> <li>• Promote sustainable waste management</li> <li>• Prevent environmental nuisances from waste handling, storage and disposal</li> </ul>

<b>Key Environmental Protection Measures Recommended</b>	<b>Associated Environmental Benefits</b>
<p><b>Cultural Heritage</b></p> <p><u>Construction Phase</u></p> <p><u>Archaeological Impact Assessment</u></p> <ul style="list-style-type: none"> <li>• No SAIs is found within the CHAA.</li> <li>• The excavations of the Project are mainly located in the developed area which has undergone construction works with high level of ground disturbance, and area unfavourable to cultural deposit accumulation which has no archaeological potential, therefore no adverse archaeological impact due to the proposed works of the Project is anticipated.</li> <li>• As a precautionary measure, the Project Proponent is required to inform AMO immediately when any antiquities or supposed antiquities under the <i>Antiquities and Monuments Ordinance (Cap. 53)</i> are discovered during the course of works.</li> </ul> <p><u>Built Heritage Impact Assessment</u></p> <ul style="list-style-type: none"> <li>• Avoid direct physical impacts to the historic structures in the design proposal, method of works and choice of machinery.</li> <li>• Strictly monitor any vibration/settlement/tilting induced from the construction works to ensure no physical damages.</li> </ul> <p><u>Operation Phase</u></p> <p><u>Archaeological Impact Assessment</u></p> <ul style="list-style-type: none"> <li>• No excavation works will be involved in the operation phase of the Project, therefore no adverse archaeological impact is anticipated. No mitigation measure is required.</li> </ul> <p><u>Built Heritage Impact Assessment</u></p> <ul style="list-style-type: none"> <li>• Indirect visual impact associated with alteration in surrounding environment of the historic structures due to the above-ground structures of the Project.</li> <li>• The activities during the operation phase will be mainly typical office uses by HKO at the new Annex Block, while the activities at the Red House will be mainly visits by the public to be organized and managed by HKO. No adverse impact to the cultural heritage is expected during the operation phase.</li> </ul>	<ul style="list-style-type: none"> <li>• Minimize impacts on historic buildings in the vicinity</li> </ul>

<b>Key Environmental Protection Measures Recommended</b>	<b>Associated Environmental Benefits</b>
<p><b>Landscape and Visual</b> <u>Construction Phase</u></p> <ul style="list-style-type: none"> <li>• Minimisation of Temporary Works</li> <li>• Optimisation of Construction Period</li> <li>• Construction Traffic Control</li> <li>• Screen Hoarding</li> <li>• Reduction of Visual Intrusion of Temporary Built Forms</li> <li>• Light Control</li> <li>• Tree Protection and Preservation</li> <li>• Tree Transplantation</li> </ul> <p><u>Operation Phase</u></p> <ul style="list-style-type: none"> <li>• Sensitive Design of Building Massing</li> <li>• Treatment of Built Structures</li> <li>• Careful Design and Positioning of Building Footprint</li> <li>• Compensatory Planting</li> <li>• Vertical Greening/Green Roofs</li> <li>• Provision of Amenity Landscape Area</li> <li>• Night Lighting Control</li> </ul>	<ul style="list-style-type: none"> <li>• Minimize landscape and visual impact</li> </ul>

### 10.3. SUMMARY OF ENVIRONMENTAL IMPACTS

10.3.1. A Summary of environmental impacts for the environmental issues in this EIA is presented in [Appendix 10.1](#).

### 10.4. ENVIRONMENTAL MONITORING AND AUDIT (EM&A)

10.4.1. An EM&A programme has been developed to ascertain and verify the assumptions implicit to, and accuracy of, EIA study predictions. EM&A requirement has been recommended, where necessary, to check on project compliance of environmental legislation and standards. These are presented in a separate stand-alone EM&A manual.

## **10.5. OVERALL CONCLUSION**

- 10.5.1. The EIA has identified and assessed the potential environmental impacts during construction and operation of the Project in accordance with the requirements set out in the EIAO-TM and EIA Study Brief (ESB-347/2021). The EIA has concluded that with the implementation of the recommended mitigation measures, no unacceptable environmental impacts are envisaged as a result of the construction and operation of the Project.