

1 INTRODUCTION

1.1 PREAMBLE

In response to the Territorial Development Strategy Review (TDSR) published by the Government of the Hong Kong Special Administrative Region (the Government) in July 1996, which identified a shortfall of housing supply between 2001/02 and 2004/05 even with the development of a number of Strategic Growth Areas (SGAs), a list of tentative housing sites (including Tuen Mun Area 54) have been identified to be potential areas for producing housing flats between 2001/02 and 2004/05.

Scott Wilson (Hong Kong) Ltd (SWHK), in association with specialist sub-consultants, have been commissioned by the Territory Development Department (TDD) to undertake the *Planning and Development Study of Potential Housing Site in Area 54, Tuen Mun* (Agreement No CE 21/97) (the Planning Study) in September 1997. The overall objective of the Planning Study is to establish an optimum development scheme for Tuen Mun Area 54 (the Study Area), taking into account considerations in planning, traffic, engineering, infrastructure, geotechnical, environmental, socio-economic, land acquisition, and financial aspects.

As part of the Planning Study, ERM-Hong Kong, Ltd (ERM) have been commissioned to undertake an Environmental Impact Assessment (EIA), with input on landscape and visual impact assessment provided by Aspinwall Clouston Ltd (ACL).

1.2 OBJECTIVES OF THE ENVIRONMENTAL IMPACT ASSESSMENT

The overall purpose of this EIA Study is to establish the nature and extent of environmental constraints of the proposed developments within the Study Area and to identify measures to overcome these constraints to realise the full potential of the Study Area and safeguard the environmental quality at the same time.

The specific objectives of this EIA Study are as follows:

- to describe the proposed developments and associated works together with the requirements for carrying out the project;
- to identify and describe the elements of the community and environment, both natural and man-made, likely to be affected by the proposed developments, and/or likely to cause adverse impacts upon the proposed developments, including both the natural and man-made environment and the associated environmental constraints;
- to identify and quantify emission sources and determine the significance of impacts on sensitive receivers and potential affected uses;
- to identify and quantify any potential losses or damage to flora, fauna and natural habitats;

- to identify any negative impacts on sites of cultural heritage and to propose measures to mitigate these impacts;
- to identify and quantify, if possible, the levels of soil and/or groundwater contamination and to evaluate the subsequent impacts which may arise during construction and operation of the proposed developments;
- to propose the provision of practical and cost-effective infrastructure or mitigation measures so as to minimise pollution, environmental disturbance and nuisance during construction and operation of the proposed developments;
- to investigate the feasibility, effectiveness and implications of the proposed mitigation measures;
- to identify, predict and evaluate the residual (ie after practicable mitigation) environmental impacts and cumulative effects expected to arise during the construction and operational phases of the proposed developments in relation to the sensitive receivers and potential affected uses;
- to identify existing landscape and visual quality of the Study Area and evaluate the landscape and visual impact of the proposed developments;
- to identify, assess and specify methods, measures and standards to be included in the detailed design, construction, operation of the proposed developments which are necessary to mitigate these residual impacts and reduce them to acceptable levels;
- to design and specify the environmental monitoring and audit requirements necessary to ensure the efficacy of the environmental protection and pollution control measures recommended; and
- to identify any additional studies necessary to implement the mitigation measures or monitoring and proposals recommended in the EIA Report.

Through an evaluation process involving specialists from different technical disciplines, a Preferred Development Option, incorporating comments from the Steering Group, has been selected from all the alternative development options generated by the Planning Study Team.

Further environmental consideration will be given to the Preferred Development Option in this *EIA - Final Assessment Report* (EIA-FAR):

- to provide an assessment of the potential environmental impacts associated with the implementation of the recommended Preferred Development Option;
- to recommend appropriate mitigation measures to minimise environmental impacts arising from the implementation of the Preferred Development Option; and
- to define the environmental monitoring and audit (EM&A) requirements for the implementation of the Preferred Development Option.

The enforcement of the *Environmental Impact Assessment Ordinance* (EIAO) on

1 April 1998 has meant that the EIA of the Planning Study, which qualifies as a Designated Project under *Schedule 3* of the EIAO, is subject to requirements stipulated in the EIAO and the *Technical Memorandum on the Environmental Impact Assessment Process* (EIAO-TM) issued under *Section 16* of the EIAO in addition to those stipulated in the Study Brief.

The Study Brief for the Planning Study has been registered (Reference SB-047/BC) with the Environmental Protection Department (EPD) under *Section 15(1) (b)* of the EIAO (*Part I List: Brief issued prior to commencement of Ordinance*).

The EIA Study for the Planning Study will be required to follow the Study Brief SB-047/BC, but in addition will also be required to adhere to the approval requirements under the EIAO.

1.3 *PURPOSE OF THIS REPORT*

The purpose of this report is for compliance of the EIA Ordinance (EIAO). This report provides a comprehensive assessment of the potential environmental impacts associated with the implementation of the Preferred Development Option, to recommend appropriate mitigation measures and to specify the EM & A requirements. The proposed environmental monitoring and audit program for the development are provided in a separate EM & A Manual accompanying this report.

In addition to the development itself, which is considered as a Schedule 3 Designated Project under the EIAO, it is also a purpose of this report to identify those elements of this project that are considered as Schedule 2 Designated Projects under the EIAO. Discussion on Schedule 2 Designated Projects is presented in *Section 2.5* of this report.

1.4 *STRUCTURE OF THE EIA FINAL ASSESSMENT REPORT*

This EIA-FAR has been organised into the following sections:

<i>Section 1</i>	<i>Introduction</i>
<i>Section 2</i>	<i>Project Description</i>
<i>Section 3</i>	<i>Noise</i>
<i>Section 4</i>	<i>Air Quality</i>
<i>Section 5</i>	<i>Water Quality</i>
<i>Section 6</i>	<i>Waste Management</i>
<i>Section 7</i>	<i>Terrestrial Ecology</i>
<i>Section 8</i>	<i>Landscape and Visual Impacts</i>
<i>Section 9</i>	<i>Cultural Heritage</i>
<i>Section 10</i>	<i>Land Contamination</i>
<i>Section 11</i>	<i>Environmental Monitoring and Audit</i>
<i>Section 12</i>	<i>Overall Conclusions</i>