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Figure 1.1 Location of Project Works

1 INTRODUCTION

Background to the Study

- 1.1 At present, there is an elevated landing/take-off helipad located at the rooftop of the Inner Pier of Macau Ferry Terminal (hereinafter referred to as "MFT") which can accommodate the helicopter type of S76C+ with Class 1 Performance and 12 passengers. Civil Aviation Department (CAD) commissioned a consultancy study on Helicopter Traffic Demand and Heliport Development in Hong Kong (hereinafter referred to as "Main Study") in 2001. The Main Study concluded that expansion works for the existing heliport at MFT should be carried out as soon as possible to meet the anticipated growth in cross-boundary helicopter services. The expanded heliport is expected to meet the anticipated demand up to 2015.
- 1.2 The proposed expansion of heliport facilities at MFT (the Project) is to expand the existing cross-boundary heliport at the rooftop of the MFT by adding one landing/take-off pad and a new taxiway to connect the existing and proposed helipads. Upon completion of the Project, there will be two helipads operating at the MFT.
- 1.3 The MFT heliport expansion proposal was supported by the Economic Services Panel of the Legislative Council on 15 January 2004.

Purpose and Scope of the EIA

- 1.4 The Project is a Designated Project under Schedule 2, Part I B.2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) as it involves a new helipad within 300m of existing residential development. An Environmental Permit under the EIAO for its construction and operation is required.
- 1.5 An Environmental Impact Assessment (EIA) Study has been undertaken for the Project to provide information on the nature and extent of potential environmental impacts arising from the construction and operation of the proposed Project, and to contribute to decisions on the overall environmental acceptability of the Project.
- 1.6 The EIA Report for the Project provides a detailed assessment of the potential environmental impacts associated with the Project, in accordance with the EIA Study Brief No. ESB-118/2004, and a summary of the key findings is presented in this report.

2 PROJECT DESCRIPTION

Location and Scale of Project

- 2.1 The MFT is a busy cross-boundary ferry terminal. The location of the proposed expansion works at the existing heliport at the rooftop of the MFT is shown in **Figure 1.1**.
- 2.2 The development and operation of the Project comprises the following major items:
 - (a) Construction of a new elevated landing/take-off helipad of size of about 42m x 42m to the east of the existing helipad;
 - (b) Construction of a taxiway to connect the existing and proposed helipads;
 - (c) Renovation, extension and re-location of the existing heliport supporting facilities, e.g. passenger lounge, crew office and flight control room;
 - (d) Provision of additional means of access, e.g. escalators and access to/from the helipads; and
 - (e) Expansion of the existing helipad from size of about 29.75m x 29.75m to about 32m x 32m.

- 2.3 The existing helipad is permitted to operate from 8:00 am to 10:59 pm everyday and the operating hours of the expanded helipad would remain the same.

Project Programme

- 2.4 The construction works for the expanded heliport are tentatively estimated to commence in mid 2006 for completion in about end 2007.

3 ENVIRONMENTAL IMPACTS

- 3.1 Key findings of the assessment of potential environmental impacts associated with the construction and operation phases of the proposed Project are summarized below.

Noise Impact

- 3.2 Construction noise impacts would be low due to the limited scale of construction works and the NSRs are located far away from the works area. Implementation of good construction site practices was recommended to minimize construction noise disturbance.
- 3.3 Potential helicopter noise impact from the Project is the key issue of this EIA study. A detailed helicopter noise impact assessment was carried out, covering coastal areas within 300m of the project boundary and flight paths in the western district. The assessment included existing helipad operation alone and new helipad operation alone, as well as cumulative impacts from the existing and new helipads, based on conservative predictive modelling assumptions and worst case scenarios.
- 3.4 The study area of the present MFT site is in an urban environment with high noise background predominantly due to surrounding road traffic (noise levels up to Leq (4 hour) 73 dB(A)), as well as occasional helicopter noise from the current helipad operation (noise levels approximately Leq (4 hour) 65 - 69 dB(A)). It should be noted that the existing MFT Helipad is an Exempted Designated Project and not governed by the EIAO. For the purpose of this EIA Study in accordance with the EIAO requirements, in addition to the Lmax 85 dB(A) daytime (0700–1900) noise assessment criterion, evening time (1900-2300) noise assessment criteria of Leq (4 hours) 65 dB(A) as well as Lmax 85 dB(A) were also proposed for the assessment of the helicopter noise impacts from the proposed new helipad.
- 3.5 All direct measures to mitigate potential noise impacts from the operation of the Project were exhausted during the EIA study, taking into account the specific site conditions and constraints. The current Project proposal has incorporated the maximum practicable mitigation measures which includes (1) helicopter type control - not to use the larger S92 helicopter type which would have larger noise emissions, and to adopt the existing helicopter type of S76C+ or other helicopter types with lower noise emission; and (2) flight frequency arrangement control. This would ensure that (1) the helicopter noise impacts arising from new helipad alone would comply with the proposed stringent noise criteria; and (2) the cumulative noise levels from the existing and new helipads at the representative NSRs would not be worse than the existing allowable helipad operation conditions by 1.0 dB(A). Therefore the residual impact from the Project is considered to be not significant and acceptable.
- 3.6 To ensure that the proposed new helicopter flight frequency is acceptable in terms of noise impact to the NSRs, any future increase in helicopter movements would be incremental and its noise impact would be closely monitored.

Air Quality Impact

- 3.7 Dust nuisance during the construction phase would be expected to be insignificant with the implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust)

Regulation. During operation of the Project, emissions from proposed helipad to the surrounding environment would be limited.

Water Quality Impact

- 3.8 The construction phase water quality impact would be temporary and localised. No adverse residual water quality impacts would be expected from the Project with proper implementation of the recommended mitigation measures.

Waste Management Implications

- 3.9 Wastes generated by the construction activities would include general refuse from the workforce and chemical waste from any maintenance of construction plant. Good site practices for handling, transporting and disposed of these waste arisings would be implemented.

Environmental Monitoring and Audit

- 3.10 Environmental monitoring was recommended for helicopter noise during the operation of the Project. Construction site audit was also recommended to check the implementation of the noise, dust, water quality and waste management mitigation measures during the construction phase. Details of the programme are presented in a separate Environmental Monitoring and Audit Manual.

4 OVERALL CONCLUSION

- 4.1 The findings of this EIA have provided information on the nature and extent of potential environmental impacts arising from the Designated Project "Expansion of Heliport Facilities at MFT". This EIA Study has predicted that the Project, after the adoption of appropriate mitigation measure, would comply with the environmental legislation and standards, and the residual impacts are considered to be acceptable. An environmental monitoring and audit programme has been recommended to monitor the implementation of the mitigation measures and to ensure compliance with environmental standards.