

## Details for Helicopter Noise Assessment

### Assessment Methodology

There is no planned helipad inside WKCD while there is an existing helipad at the Shun Tak Centre locating at 1.1km from the closest WKCD site boundary. The flight paths are observed to be far away from the WKCD (outside the 300m study area. Noise measurement was carried out at the location of the proposed Outdoor Theatre to the west of the Project site where is the place within the WKCD site nearest to the existing helipad with scheduled flight (Shun Tak Centre) to determine the potential helicopter noise impact.

To avoid potential influence from construction works of XRL project, during the noise measurement, attention has been paid to ensure no construction works were in progress in the vicinity i.e. no construction noise was audible.

A noise measurement was conducted for recording different types of helicopter events (to Macao and from Macao) at the monitoring location to capture the instantaneous level ( $L_{max}$ ) when the helicopter is located at the nearest position to the measurement point. The monitoring location and measurement details including monitoring data for helicopter noise are presented in **Figure 4.6** and **Appendix 4.3b** respectively.

### Evaluation of the Noise Impact

Noise measurement was carried out at the location of the proposed Outdoor Theatre. Results of the noise measurement are shown in below **Table A4.3** and **Appendix 4.3b**.

Table A4.3 Measured Helicopter Noise Levels

Event	Measured Noise Level $L_{max}$ , dB(A)
Helicopter from Macao	73
Helicopter to Macao	70

According to the noise measurement results, the helicopter noise level at the WKCD area will be well within the criteria for helicopter noise stated in EIAO-TM Annex 5 "A Summary of Noise Criteria", which are  $L_{max}$  90dB(A) for offices and  $L_{max}$  85 dB(A) for domestic premises and hotels. In this regards, adverse helicopter noise impact to the proposed residential premises and commercial premises is not anticipated.

The activities to be conducted in the outdoor theatre, such as popular music concerts, will reply on public address (PA) system and are expected to have high sound levels. Based on the measurement results of previous music events conducted in October 2011 within WKCD, the sound levels of such types of music performance have been identified in a range of 76 to 89 dB(A) to the audience. Details of noise measurement results are presented in **Appendix 4.7b**. Given the helicopter noise observed at the location of the proposed Outdoor Theatre was just noticeable and transient in nature (lasting for about 20s), it is expected that there will be no adverse helicopter noise impact to the audience of the outdoor theatre.