

Bickerdike Allen Partners

MANSTON AIRPORT

Sound Insulation Scheme Key Proposals

Report to

Charles Buchanan
Manston Airport
PO Box 500
Manston
Kent
CT12 5BL

A9440-SIS-R01-PH
25th October 2011

Bickerdike Allen Partners

CONTENTS

	Page No
1.0 INTRODUCTION.....	3
2.0 GENERAL PRINCIPLES OF SIS	3
3.0 ELIGIBILITY BOUNDARY	4
4.0 TRIGGER LEVELS	4
4.1 Primary Trigger Noise Contour Value	4
4.2 Secondary Trigger Noise Contour Value.....	4
4.3 Tertiary Trigger Noise Contour Value	4
5.0 SOUND INSULATION TREATMENT WORKS	5
5.1 Secondary Glazing.....	5
5.2 High Performance Acoustic Double Glazing	5
5.3 Acoustic Ventilation.....	5
5.4 Loft Insulation.....	5
5.5 Blinds	6
6.0 LISTED BUILDINGS	6
7.0 FINANCIAL CONTRIBUTION TO THE SIS	6

Bickerdike Allen Partners

1.0 INTRODUCTION

Manston Airport are seeking to agree a policy with Thanet District Council to establish a regular schedule of flights into and out of the airport that will occur between the recognised night-time hours of 23.00 to 07.00. The level of night-time activity proposed by Manston Airport during this period is set out in the Manston Airport – Proposed Night-time Flying Policy as well as Bickerdike Allen Partners' report entitled Aircraft Night Noise Assessment Report dated 24th October 2011.

This document sets out recommendations for introducing a Sound Insulation Scheme (SIS) to ensure those properties most exposed to noise from future night-time operations at Manston Airport are adequately protected.

2.0 GENERAL PRINCIPLES OF SIS

The SIS at Manston Airport will offer the owner/occupiers of eligible properties financial assistance towards sound insulation improvement works involving the provision of secondary glazing or high performance acoustic double glazing, acoustic vents, loft insulation and blinds to protect habitable bedrooms from the effects of aircraft noise.

A property will become eligible if it lies within an eligibility boundary which will be based principally upon a specified night noise contour, given in terms of dB $L_{Aeq,8h}$. It will also become eligible if exposed regularly to a single event noise level of 95 dB(A).

Eligible properties will include residential buildings.

The scheme should be introduced, in a phased manner, with the aim of ensuring that eligible properties are treated that are exposed to, or are likely to be exposed to a level of night-time aircraft noise exposure equivalent to the primary trigger noise contour value set out in Section 4.1 below.

The scheme should in any event ensure that properties are treated prior to being exposed to a level of night-time aircraft noise exposure equivalent to the secondary trigger noise contour value set out in Section 4.2 below and the tertiary trigger noise contour value set out in Section 4.3.

3.0 ELIGIBILITY BOUNDARY

An eligibility boundary of the SIS scheme should be derived from the 8 hour night-time noise contours, in the unit of dB $L_{Aeq,8h}$, over the period 23.00 to 07.00 hours, based on the forecast annual traffic mix for the following calendar year. The noise contours should be based on an average mode mix of traffic over an average annual day. The noise contour bands to be derived should match the primary and secondary trigger noise contour values that are used as trigger levels for the SIS.

The eligibility boundary should be refined to include, where appropriate, the extent of the composite SEL footprint that includes the area exposed to at least one aircraft event of 95 dB(A) SEL per average night over the calendar year.

4.0 TRIGGER LEVELS

4.1 Primary Trigger Noise Contour Value

The 55 dB $L_{Aeq,8h}$ night-time noise contour value – habitable rooms of residential properties which are used as bedrooms falling within this boundary shall qualify for inclusion in the scheme.

This represents the level to which the SIS applies with the aim of ensuring that eligible properties, in a phased manner, are treated under the scheme.

4.2 Secondary Trigger Noise Contour Value

The 57 dB $L_{Aeq,8h}$ night-time noise contour value – habitable rooms of residential properties which are used as bedrooms falling within this boundary shall qualify for inclusion in the scheme.

This represents the level which, under the SIS, any eligible property should be treated as a priority, to ensure protection is in place prior to this noise contour reaching the property.

4.3 Tertiary Trigger Noise Contour Value

The 95 dB(A) SEL composite noise contour value – habitable rooms of residential properties which are used as bedrooms falling within this boundary shall qualify for inclusion in the scheme.

Bickerdike Allen Partners

This represents the level which, under the SIS, any eligible property exposed to this level of noise on average at least once per night over the calendar year should be treated as a priority, to ensure protection is in place prior to this noise contour reaching the property.

5.0 SOUND INSULATION TREATMENT WORKS

5.1 Secondary Glazing

Secondary glazing will comprise the addition of a new pane of glass to the inside of an existing window to create a “double window”. The second pane of glass should be positioned around 100 mm apart from the original inner glazing pane. This separation distance may vary slightly depending on the thickness of the glass and the space available. The minimum thickness of the secondary pane will be 4 mm and increased as necessary where a separation distance of 100 mm cannot be achieved in practice. The new secondary pane of glass should be of a different thickness to the existing glazing pane(s).

5.2 High Performance Acoustic Double Glazing

High performance acoustic double glazing is a replacement glazing system with a similar acoustic performance to secondary glazing. The glazing units should comprise a 6 mm glass pane, 12 mm air or gas filled cavity and 10 mm glass pane or a glazing construction of an equivalent acoustic performance.

5.3 Acoustic Ventilation

Existing air bricks in bedrooms should be replaced with permanent sound-attenuating passive vents. In addition, either two permanent sound attenuating vents or one combined mechanical and permanent sound-attenuating vent should be provided in each bedroom. All vents should be in compliance with current Building Regulations and would provide a sound attenuation performance no less than that given in the Noise Insulation Regulations.

5.4 Loft Insulation

Acoustic Loft Insulation would be provided to insulate lofts located directly above any habitable bedroom. The insulation would typically be a Rockwool product and have a minimum density of 96 kg/m³ with a minimum thickness of 100mm.

Bickerdike Allen Partners

5.5 Blinds

Free hanging venetian blinds, or similar, would be supplied and fitted between the existing windows and any secondary glazing to eligible bedrooms unless it is established that such an installation would be impracticable.

6.0 LISTED BUILDINGS

Where a property to be treated is a Listed Building, special consideration should be given to how such a building can be protected from the effects of aircraft noise. The general approach to treating these types of properties is suggested below:-

- i) On the agreement of the owner/occupier, undertake an inspection of the property to establish its suitability for receiving sound insulation works as described in 5.0 above and for identifying whether any other options are available for introducing sound insulation works into the building offering an equivalent acoustic performance.
- ii) Submit to the Local Authority details of the proposed sound insulation works to the Listed Building seeking their comments and approval.
- iii) Following receipt of the Local Authority's approval, submit details of the proposed works for Listed Building Consent (if required).
- iv) On receipt of Listed Building Consent, arrange to undertake works to the Listed Building.

7.0 FINANCIAL CONTRIBUTION TO THE SIS

Sound insulation schemes offered by airports around the UK vary in their format and there are no fixed rules concerning the extent to which an airport might contribute financially towards the sound insulation improvement works to be undertaken to a property. As a result, it will be for Manston Airport to decide the form and extent of the financial contribution to be made towards any works to be carried out to an eligible property.