

AIRPORT OPERATORS ASSOCIATION

&

GENERAL AVIATION AWARENESS COUNCIL

supported by

CIVIL AVIATION AUTHORITY

'Working in Co-operation'

SAFEGUARDING OF AERODROMES

Advice Note 8

Potential Bird Hazards from Building Design

1. Introduction

Aerodrome Safeguarding ensures the safety of aircraft and their occupants when in the vicinity of an aerodrome by controlling potentially hazardous development and activity around it. Safeguarding maps are lodged with the Planning Authorities and include a 13km radius circle, this is the area within which developments likely to attract birds require consultation.

Aircraft are vulnerable to bird strikes and over 80% of bird strikes occur on or close to aerodromes. Aerodrome operators are required to take necessary steps to ensure that the bird strike risk is reduced to the lowest practicable level. This note considers in particular the need to minimise bird attractant features of building design within the 13km 'bird circle'.

The information in this advice note is provided as a guide only and the particular circumstances surrounding individual developments, precise location relative to the airport and aircraft flight paths, the numbers, behaviour and location of bird population in the area, and the location of other bird attractive features in the local environment, all have the potential to influence the final assessment of the level of risk likely to arise.

2. Safeguarding Strategy

If a building design is identified as being a potential bird hazard, the developer will be expected to modify their proposals to mitigate this risk. It is possible that as part of the mitigation, it will be necessary to produce and implement a Bird Management Plan (BMP) which must be maintained for the life of the building.

3. Building Size

Individual dwellings will not normally be considered problematic, however blocks of flats, multi use buildings, commercial and industrial buildings have greater potential to raise concerns. Generally for buildings with flat and/or shallow pitched roofs, if the roof area is less than 10m x 10m the number of birds likely to be found nesting, roosting or loafing on the roof are not likely to be significant, but this may not be the case for sites very close to the airport or aircraft flight paths.

4. Building Design

Buildings may be used by birds depending upon the design and use of the buildings and the availability of food in the nearby environment. Pigeons, starlings and gulls are the most common birds hazardous to aviation to be found in and around buildings. Pigeons make use of ledges of buildings to roost whilst starlings may roost both on and in buildings in vast numbers. Gables and other complex structures offer potential perches and gulls are increasingly nesting on flat and shallow pitched roofs. 'Green' roofs can also be very attractive to birds. The following features should be considered when designing a building:

- Roof overhangs should be kept to a minimum
- Ledges beneath overhangs and external protrusions should be avoided where possible
- Steeply pitched roofs should be used to deter gulls from nesting, roosting and loafing
- The roof space be designed in such a way as to prevent access by birds
- Self closing doors to prevent access to birds or openings should have plastic strip curtains fitted.
- Where flat and/or shallow pitched roofs greater than 10m x 10m cannot be avoided in the design, there must be access available by foot to all areas of the roof to ensure that any hazardous birds, nesting, roosting and loafing can be dispersed and where necessary any nests and eggs can be removed. See note under Prevention Measures below regarding licences.

5. Prevention, Inspections and Dispersal

As well as the building design measures as mentioned in section 4, the following can be used to deter/disperse hazardous birds from nesting, roosting and loafing on and in buildings:

- **Netting for 'Green' Roofs** – The netting must be of a suitable gauge and weight to exclude the target species and must be suspended at a suitable tension to ensure that birds landing on the netting will not cause sagging onto the vegetation. However the netting must not be too taut as this will allow birds to land. The netting must also be inspected on a regular basis to make sure it is in full working order.
- **Netting for 'Non Green' Roofs** - A netting system can also be used successfully on 'non green' roofs, the netting must be of a suitable gauge and weight to exclude the target species and must be suspended at a suitable tension to ensure that birds landing on the netting will not cause sagging onto the roof. However the netting must not be too taut as this will allow birds to land. The netting must also be inspected on a regular basis to make sure it is in full working order.
- **Bird Spikes** – If used on roofs these should be positioned at a density suitable to exclude the target species and completely cover the roof. If used on ledges they must be placed at sufficiently close spacing to exclude the target species.

- **Pyrotechnics** – Training is required if used close to the airport and/or its aircraft flight paths.
- **Distress Calls** - Training is required if used close to the airport and/or its aircraft flight paths.
- **Removal of Nests and/or Eggs** – It is an offence to damage or remove nests and/or eggs without first obtaining the appropriate licences, in England from Natural England www.naturalengland.org.uk/ or in Scotland from the Scottish Executive Environment and Rural Affairs Department (SEERAD) www.scotland.gov.uk. These licences can be issued for preserving air safety.
- **Inspections** - Where flat/shallow pitched roofs are concerned, inspections should be carried out weekly or more frequently if bird activity dictates, during the breeding season, which for gulls typically runs from March to June to ensure that any hazardous birds found nesting, roosting and loafing are dispersed and any nests and/or eggs are removed, see note above. Regular inspections dictated by bird activity should also be carried out outside of the breeding season and any birds should be dispersed. In some instances it may be necessary to contact Airfield Operations staff before bird dispersal takes place. In some cases developers have engaged pest control companies to carry out inspections and bird control on their behalf.

It is important that if bird numbers increase and bird scaring methods are not proving effective, the airport operator should be informed.

Scaring birds in urban locations using conventional visual or audible scarers are generally not effective. Only the appropriate use of recorded distress calls targeted at specific species is likely to be effective.

The fitting of deterrent measures can be complicated and is best carried out by experienced operators. Correctly installed, these measures can provide a long term solution to bird problems.

6. Bird Management Plans (BMP) relating to Flat/Shallow Pitched Roofs

A BMP may be requested as part of a condition attached to a planning approval. Some of the requirements of the BMP will be site specific, depending on the location of the site, surrounding environs, roof type etc. As a general guide only, we may request the following measures to be included in a BMP:

- Confirmation that access to all areas of the roof is available and by what method, to ensure that inspections can be carried out.
- Confirmation that inspections will be carried out year round with increased frequency during the breeding season. See section 5 above.
- Confirmation that any nests/eggs will be removed, with the appropriate licences first being obtained. See section 5 above.
- Confirmation that any hazardous birds found nesting, roosting and loafing will be dispersed when detected or when requested by Airfield Operations staff. In some instances it may be necessary to contact Airfield Operations staff before bird dispersal takes place. See section 5 above.
- Details of any dispersal methods to be used. See section 5 above.
- A log to be kept of bird numbers and species utilising the roof(s).

The BMP can be submitted in a letter format and early consultation with the airport operator on the content of the BMP is recommended before they are submitted to the Planning Authority for approval. Please see attached an example of a basic Bird Management Plan.

This Advice Note has been produced for information only jointly by the Airport Operators Association, the General Aviation Awareness Council with the support of the Aerodrome Standards Department of the Civil Aviation Authority. Its contents may be reproduced as long as the source is acknowledged. The other Aerodrome Safeguarding Advice Notes available [from the Airport Operators Association; www.aoa.org.uk/publications/safeguarding.asp](http://www.aoa.org.uk/publications/safeguarding.asp) are:

- Advice Note 1: Safeguarding – An Overview
- Advice Note 2: Lighting near Aerodromes
- Advice Note 3: Potential Bird Hazard from Amenity Landscaping
- Advice Note 4: Cranes and Other Construction Issues
- Advice Note 5: Potential Bird Hazards from Landfill Sites
- Advice Note 6: Potential Bird Hazards from Sustainable Urban Drainage Schemes (SUDS)

Attachment 1 – Example Bird Management Plan

Site Address:

Aerodrome Ref:

Planning Application No:

Condition No:

I/we can confirm the following:

- That the roof(s) is/are constructed in such a manner so that all areas are safely accessible to enable any nests and eggs to be cleared and birds to be dispersed.
- Checks will be made weekly or sooner if bird activity dictates, during the breeding season by an appointed person/company. The breeding seasons for gulls typically runs from March to June.
- Any birds found nesting and/or roosting and/or loafing during the breeding season will be dispersed when detected and/or when requested by Airfield Operations staff. In some instances it may be necessary to contact Airfield Operations staff before bird dispersal takes place.
- Any nests or eggs found will be removed, the appropriate licence(s) will be obtained from Natural England or the Scottish Government Environment and Rural Affairs Department (SEERAD) beforehand if required.
- Checks will be made on a regular basis outside of the breeding season by a nominated person/company.
- Any birds found nesting and/or roosting and/or loafing outside of the breeding season will be dispersed when detected and/or when requested by Airfield Operations Staff. In some instances it may be necessary to contact Airfield Operations staff before bird dispersal takes place.
- The methods of dispersal used will be as follows: (please list, for example pyrotechnics and distress calls).

Signed:

On Behalf of:

Date:

Please note this is only an example, the frequency of inspections, the methods of dispersal and the recording of inspections and their findings, may vary depending on the proximity of the site to the airport and natural features and the design of the building.

Intentionally Blank