



WYCOMBE AIR PARK

Noise Management & Action Plan

2019 – 2024

This Action Plan was formally adopted by the
Secretary of State for the Environment on 11th February 2019

Contents

	Page
Forward	3
1 Executive Summary	4
2 Introduction	5
3 Wycombe Air Park location & description	7
4 Background to noise and regulation	8
5 Noise management at Wycombe Air Park	12
6 Noise map production	16
7 Wycombe Air Park approach to managing noise - our Noise Management and Action Plan	25
8 Financial implications	28
9 Consultation	29
Appendices	
A Noise Maps	31
B Noise Management Actions – Tabular Format	35
C Wycombe Air Park Joint Consultative Committee Constitution	37
D Précis of responses received from representative organisations	41

Forward by Managing Director Airways Aero Associations Limited

Wycombe Air Park (Booker) has a long history of flying activity, having been identified by the RAF in the 1930s as a location where a civilian flying school could provide elementary training to military pilots. In the intervening 80 years the airfield has provided training to future pilots, being proud of its strong and continued links with both the community and academia. In addition, the airfield maintains a thriving core of recreational pilots and associated activities.

Of course, we are acutely aware of the responsibility we have within the community. Inevitably, the nature of our activity brings challenges, not least the impact of the noise we create. This is an unfortunate by-product of aviation and over the years we have developed practices and procedures that endeavour to ameliorate our impact. The introduction of GPS tracking technology has assisted us in identifying many of the underlying issues whilst ensuring greater transparency. That said, we are not complacent and recognise that we must continue to embrace new ideas and technology in order to manage environmental noise within the context of sustainable development.

Looking to the future, we believe we have a strong part to play within the community and, as part of our ongoing relationship with Wycombe District Council, welcome the opportunity to discuss our roles and responsibilities in seeking local solutions to issues we generate. This Noise Management & Action Plan plays a single, but significant, part in that process.

We are wholly committed to behaving as a responsible and good neighbour.

Sean Brown

August 2018

1.0 EXECUTIVE SUMMARY

- 1.1** This document looks towards building on the existing noise management measures in place at Wycombe Air Park. It sets out to manage and, where possible, reduce the effect of noise on the surrounding community.
- 1.2** The proposals set out in this Noise Management and Action plan aim to:
- Demonstrate our ongoing commitment to noise reduction and mitigation
 - Engage with the surrounding community to better understand their concerns
 - Meet the requirements of the EU Environment Noise Directive and associated regulation
- 1.3** Section 2 of this document sets the scene and describes the process followed in the generation of this plan. We have liaised with a wide-spectrum of shareholders ranging from district councils through parish councils to representative groups and organisations. The action plan considers both noise and nuisance, the latter being a notable issue to some elements of the community.
- 1.4** The regulatory framework is described at Section 4 with Section 5 highlighting the wide-ranging noise amelioration measures we already have in place. It must be emphasised that the air park has voluntarily adopted a large number of different procedures over the years to the point whereby the nature of our activity significantly diverges from normal aviation practise. Furthermore, whilst helicopter activity has remained relatively constant for the past two decades, overall activity is less than half that of the early 1980s.
- 1.5** Section 6 presents the results of noise mapping completed by the CAA in the CAA's Environmental Research and Consultancy Department in June 2017 with our forward-looking plan being described at Section 7.
- 1.6** Perhaps the most important elements of the plan are the responses at Appendix D as these clearly indicate areas of mutual agreement, reappraisals by the Air Park and areas where there is still some divergence of opinion.

2.0 INTRODUCTION

- **Purpose**

This Noise Management and Action Plan has been prepared to show how Wycombe Air Park intends to manage noise issues and effects arising from airfield operations and, where possible, improve the noise climate around the airfield during the period 2019 to 2024. It reflects our commitment to controlling the adverse effects of our activity and minimising its impact on the local community.

The Noise Management and Action Plan has been prepared in accordance with the Environment Noise (England) Regulations 2006 (referred to in this document as ‘the Regulations’) and is based on the results of strategic noise mapping produced under the terms of the Regulations, reflecting the Government’s aim to limit and where possible reduce the number of people significantly affected by aircraft noise. Noise Action Plans are a legal requirement throughout the European Union under the EU Environmental Noise Directive (Directive 2002/49/EC).

Noise from aircraft, particularly those which fly repetitive circuits, continues to be a significant concern for elements of our surrounding community. Through this Noise Management and Action Plan, we are seeking to formalise the noise management programme that we have been undertaking in recent years into a set of actions that will enable us to make worthwhile improvements. Importantly, we wish to look beyond the legal framework of Noise Action Plans, wanting to proactively engage with the community in developing local solutions to wider issues. We welcome your feedback on the proposals we are making.

- **Scope**

The Action Plan must be drawn up for places near the Air Park, which means those places affected by noise from the Air Park as shown by the results of strategic noise mapping. Strategic mapping was undertaken in June 2017. The Action Plan is required to consider noise issues from aircraft taking off and landing within the area shown on the maps within the outer recorded contour line. The maps are included at Appendix A. This Action Plan includes actions for the period 2019 to 2024.

- **Process and Consultation**

The Regulations require the airfield operator to prepare an Action Plan for the Air Park. Airways Aero Associations Limited wholly operates the Air Park on behalf as the head leaseholder with Wycombe District Council being the landlord. The Government has provided guidance on the scope, process and approach that is to be followed.¹ The Regulations include specific requirements that the Action Plan should meet. These Regulations also require that the Action Plan is revised every 5 years and that the noise contours are updated in line with current data.

¹ Guidance for Airport Operators to produce airport noise action plan under the terms of the Environmental Noise (England) Regulations (as amended) – Defra March 2009

In the preparation of the 2013-2018 Noise Management and Action Plan, we engaged with the Wycombe Air Park Joint Consultative Committee (JCC) at a number of levels. We also liaised with Wycombe District Council, organisations operating from the Air Park and obtained specific technical advice from DfT and Defra. Strategic noise mapping was carried out by the CAA (ERCD). As part of the action plan process the Air Park is required to carry out a formal public consultation exercise. The consultation will be through the JCC whose members include representatives from local residents associations and groups together with members of the district and parish councils. The Air Park considered that the consultation should be in two phases – initially within the JCC followed by a wider public consultation. During preparation of the 2013-2018 Noise Management and Action Plan the JCC discussed the need for wider consultation and the overwhelming opinion was that the JCC represented enough of the affected community to warrant no formal consultation outside of the committee; the Air Park accepted this view. Following the consultation, Wycombe Air Park will carefully consider all the views expressed and comments received, and where possible, reflect these in the final plan.

The revised 2019-2024 Wycombe Air Park Noise Management and Action Plan will then be submitted for adoption to the Secretary of State for Transport by 30th September 2018. The Secretary of State will then form a view regarding whether or not the Noise Management and Action Plan meets the requirements of the Regulations and whether or not the plan is appropriate for adoption. If the requirements are met the Secretary of State for Transport will recommend to the Secretary of State for Environment, Food and Rural Affairs that the Noise Management and Action Plan should be adopted.

3.0 WYCOMBE AIR PARK LOCATION & DESCRIPTION

Wycombe Air Park is a medium sized General Aviation airfield located to the South of High Wycombe, immediately adjacent to the M40 motorway being bounded by an Area of Outstanding Natural Beauty. The airfield has been under continuous use since the late 1930s initially providing flying training under contract to the MoD. Barring a small enclave of former military housing located on the airfield boundary, the closest significant residential areas are Booker & Sands to the North East and Lane End & Frieth to the North and West. The airfield is surrounded on three sides by the Chilterns Area of Outstanding Natural Beauty. There are a number of semi-rural/rural habitations in the immediate area many of these supporting, or having previously supported, the agricultural industry. Wycombe District Council leases the Air Park to Airways Aero Associations Ltd. As outlined in the Regulations, Airways Aero Associations Ltd, as aerodrome operator, is the authority responsible for production of this Noise Action Plan.

3.1 Air Park Details

The Air Park has one hard runway (06/24) which is 730m in length and 23m wide. There are two grass runways, 06/24 and 35, of length 631m and 695m respectively. The Air Park has two departure and two arrival routes for runways 06/24 (hard and grass) with a single departure and arrival route for runway 35.

Additionally, gliding activity takes place from the area to the South of the grass runway with all gliders being launched by aero-tow. The Air Park operates seven days/week with routine activity being between 0900 and 1730 with this extending to 1900 on up to four days/week during summer months. Occasional night flying takes place on an ad-hoc basis during winter months.

Flying activity reflects that of most General Aviation airfields with a wide spectrum of private and commercial training, visiting aircraft, recreational flying and maintenance. There are no scheduled flight operations. There is significant aviation business diversity at the airfield with three aircraft engineering companies, a gliding club, two fixed-wing flying schools (one of which operates microlights) and two helicopter operators. In total, there are 135 employees at the Air Park who either directly support or are reliant upon the flying activity. Over recent years the Air Park also has developed links with local universities providing flying training to over 70 students as part of their BSc (Hons) studies during the 2017 academic year. The Air Park operates a system of preferential runway use in favour of the hard runway 06/24. Direction of runway usage is very much determined by weather conditions although, due to the presence of gliding activity, fixed wing powered activity is predominantly constrained to operating in the airspace to the North and West of the airfield.

In addition to aircraft noise originating from Wycombe Air Park, the surrounding areas to the North and East are affected to varying degrees by road traffic noise generated from the M40 motorway.

4.0 BACKGROUND TO NOISE AND REGULATION

There are three main tiers of regulation governing aircraft noise in the UK: International, European and National.

4.1 International Regulation

At an international level, the International Civil Aviation Organisation (ICAO) sets progressively tighter certification standards, known as Chapters for noise emissions from civil aircraft to which member countries' fleets must conform.

In addition to these specific requirements, the ICAO requires member states to adopt a "balanced approach" to noise management which looks beyond individual aircraft to reduce noise impact through:

- reduction of aircraft noise at source;
- land-use planning;
- changes to operational procedures;
- and restrictions on the use of the noisiest aircraft.

4.2 European Regulation

The European Union (EU) is increasingly assuming responsibility for the regulation of noise standards. The Directive of most relevance to Wycombe Air Park is EC Directive 2002/49/EC (Environmental Noise Directive or END), which requires member states to create noise maps of noise from all transport sources in urban areas by 2007, and to adopt action plans to manage noise by 2008. The Directive also aims to harmonise methods for measuring noise across the EU. This is the Directive under which we have produced this Noise Management and Action Plan.

4.3 National Regulation and Policy

The UK Government has an important role in setting and developing the policy framework for aircraft noise control at UK airports and has prescribed a range of controls on aircraft noise impacts. In December 2003 The Future of Air Transport White Paper outlined several new policies for airports which control, mitigate and compensate for aircraft noise.

Full details of the range of aircraft operations related noise controls are set out in statutory notices and published in the UK Aeronautical Information Package and elsewhere as appropriate. These controls include aspects such as Continuous Descent Approaches (CDAs), noise abatement procedures and night flight limits.

The UK government also passes Acts of Parliament and Regulations which deal with aircraft noise as detailed below:

The Civil Aviation Acts of 1982 and 2006 grant the Government and airports powers to introduce noise control measures, including mitigation. Section 5 of the Acts indicates that it shall be the duty of the CAA to have regard to the need to minimise so far as reasonably

practicable any adverse effects on the environment and any disturbance to the public, from noise, vibration, atmospheric pollution or any other cause attributable to the use of aircraft for the purpose of civil aviation. The Air Park is currently subject to a Section 5 application from Wycombe Air Park Action Group (WAPAG).

These Acts also permit an airport operator to charge aircraft operators for use of the airport based on noise and emissions. Airport operators can thereby introduce differential charges to incentivise the use of quieter and cleaner aircraft.

The Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003. They reflect the adoption of the ICAO balanced approach to achieving noise objectives. The regulations also set out the procedures which airports should follow when considering noise related operating restrictions.

The Environmental Noise (England) Regulations 2006. These regulations transpose the requirements of EC directive 2002/49/EC into UK law. They place a duty on the Secretary of State to produce strategic noise maps and, under Regulation 18, airport operators are obliged to produce Noise Action Plans based on the strategic noise maps. Once prepared and adopted, the Noise Action Plans must be reviewed at least every five years and whenever a major development occurs affecting the noise situation.

Aeroplane Noise Regulations 1999. These regulations set out the noise certificate requirements for both propeller and jet aeroplanes registered in the UK. They stipulate that no aircraft can land or take off in the UK without a noise certificate issued by its competent authority, which meets ICAO noise certification requirements.

The Noise Policy Statement for England (March 2010). This sets out the long-term vision for Government noise policy which is to:

Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development

There are five guiding principles of sustainable development:

- Ensuring a Strong Healthy and Just Society
- Using Sound Science Responsibly
- Living within Environmental Limits
- Achieving a Sustainable Economy
- Promoting Good Governance

4.4 Planning Policy

The Government's land use planning policies for aircraft noise are set out in National Planning Policy Framework published March 2012. This document gives advice on how the planning system can be used to minimise the adverse effects of noise.

4.5 Implementation of the END in England

The Environmental Noise (England) Regulations 2006 (the Regulations) which implement the END in England came into force on 1st October 2006.

The Regulations provide for:

- The preparation of strategic noise maps for large urban areas (referred to as agglomerations), major roads, major railways and major airports;
- The preparation of action plans based on the results of the noise-mapping exercise;
- Publication of the noise maps and action plans.

The Regulations help identify:

- Whether there are any people unnecessarily exposed to high noise levels, suffering accordingly and causing a cost to society; and
- What areas of relative quiet we might or could have, thus enabling us to develop measures to protect them and not have the noise environment inadvertently eroded.

This information will enable a better understanding of how the noise environment near major roads, railways and airports is changing. Policies can be developed that will enable strategic noise management to be carried out alongside the processes and procedures that already exist to address individual situations.

The Regulations require the noise mapping and action plan process to be taken forward on a five-year rolling programme. Major airports were included in the first round of mapping with Wycombe Air Park being encompassed by the second round². Noise action plans (NAPs) “designed to manage noise issues and effects, including noise reduction if necessary” based on the noise maps must be developed to address the noise climate established during the mapping process. The action plans must contain a complete description of the measures to be taken to reduce noise pollution.

As part of the Second Round of the END, Wycombe Air Park is required to produce a noise action plan since the L_{den} 55dB(A) contour abuts the High Wycombe (Booker) agglomeration. Where the noise contours for the airport affect an agglomeration it is necessary for the airfield operator to ensure that the action plan is complementary to that of the agglomeration. It is expected that this specific plan will ultimately form part of a wider High Wycombe Agglomeration Plan.

4.6 Measuring Noise

The UK uses the Equivalent Continuous Sound Level, $dB L_{Aeq}$ for this purpose which provides average noise levels for the busiest hours of the day, between 0830 – 2000 over the busiest three months of the year, from mid-June to mid-September. This is the most

² Second round noise mapping is to take place for agglomerations which have a population in excess of 100,000 persons and a population density such that member state considers it to be an urbanised area.

common international measure of aircraft noise.

The Government believes that communities become significantly annoyed by aircraft noise above 57dB L_{Aeq} . However, Wycombe Air Park recognises that whilst the 57 dB L_{Aeq} contour provides some basis for action to identify and try to reduce the noise climate, it does not on its own communicate the full extent of noise and annoyance impact on local communities.

The Environmental Noise (England) Regulations 2006 require that strategic noise mapping should be conducted at five yearly intervals. The regulations require a different range of noise parameters: L_{day} , $L_{evening}$, $L_{Aeq16hr}$, and dB L_{den} . These parameters are based on air traffic movements over the entire year, unlike conventional dB L_{Aeq} contours that are based on air traffic during the busiest summer months. Contours for strategic noise mapping are presented in 5 dB steps from 55 dBA to 75 dBA.

The fundamental differences in methodologies for calculating dB L_{Aeq} and dB L_{den} contours leave it difficult to make meaningful direct comparisons. In general terms, the area of the dB L_{den} contours tends to be larger than those for dB L_{Aeq} due to the weightings for evening and night flights. Although the weightings do not directly accord with perceptions, it is clear from community engagement and surveys that night time and evening activity tends to cause greater annoyance and disturbance than flights during the daytime. It is also clear to the Air Park that quantifiable noise mapping is only one part of the issue with there being a more subjective repetitive annoyance factor brought about by circuit flying in the vicinity of Frieth and Lane End. Furthermore, whilst background noise levels to the East of the airfield are typical of populated areas, the ambient levels to the West are lower, being more representative of the rural environment surrounding many general aviation airfields.

5.0 NOISE MANAGEMENT AT WYCOMBE AIR PARK

Over the years the Air Park has developed and implemented procedures with the aim of managing and monitoring noise associated with aircraft movements. In 1991 DfT commissioned the “O’Connor Report”³ which was an independent study into aircraft noise mitigation measures at both Redhill Aerodrome and Wycombe Air Park. The report was wide-ranging and made a number of interesting observations about training aerodromes, not least the rationale behind increased activity at weekends and the sensitivity of recreational flying training to weather conditions. The report also acknowledged that it was inevitable that trainee pilots would digress from noise management measures. The report analysed procedures that were already in place, making a small number of additional recommendations which were addressed by the Air Park. However, the report concluded that:

“.... apart from the points noted above I see no way of making the noise abatement procedures or their enforcement more effective.”

O’Connor went on to state:

“Only a reduction in overall movement rates, or the removal of helicopter operations, would have a major effect on the attitude of the local population.”

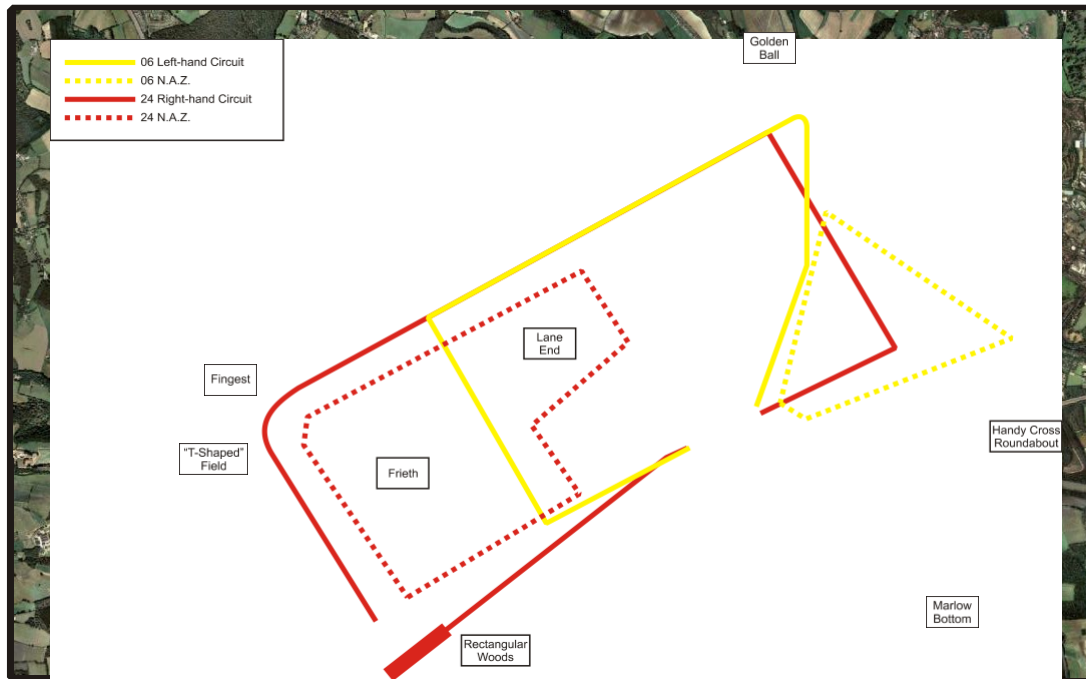
The O’Connor Report has been used as a key reference document by many parties for over two decades. Importantly, a large number of his observations and recommendations still have relevance.

5.1 In Place Noise Management Procedures

A significant number of procedures have already been adopted by the Air Park, it must be emphasised that these lines are guidelines for pilots and must hold a degree of tolerance either left or right of the published track (+/- 500 metres) in the ultimate interest of safety but also student and pilot capability:

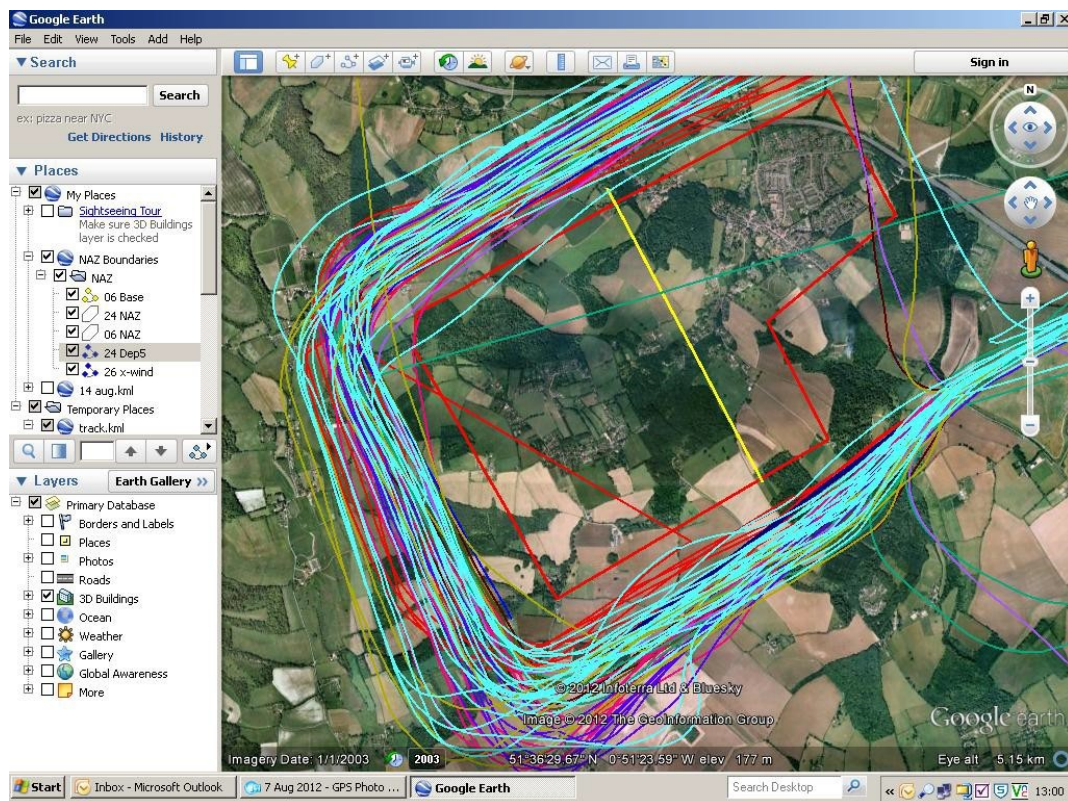
Distorted and extended circuit pattern on runway 24 designed to avoid the residential areas of Frieth and Lane End. This pattern commences with a 10° left turn at the end of the airfield boundary before ensuring a continuous climb to 2 nautical miles and 1000ft to the South West, extending outside of the protected airspace ordinarily provided by the Aerodrome Traffic Zone (ATZ) before turning around the outside of Frieth. Normally, such a pattern would extend only one nautical mile from the departure end of the runway and, for safety, remain well within the ATZ.

³ Study into Aircraft Noise Mitigation Measures at Redhill Aerodrome & Wycombe Air Park – November 1991



The implementation of a large non-standard left turn after departure on runway 06 in order to avoid properties located beneath the extended centre line of runway 06/24 (Booker/Sands).

GPS tracking / Mode S Transponder for aircraft based at the Air Park in order to ensure compliance with agreed noise abatement procedures (see exemplar image below). Data obtained is used to debrief pilots, identify trends and respond to complaints. Whilst adhering to the recommended noise procedure should flight safety become an issue adherence becomes a secondary priority.



Example of GPS data log

Voluntary provision of Noise Abatement Zones (“no fly” areas).

Phasing-out of older twin-engined training aircraft, these having been replaced by modern quieter technology.

Landscaping of the aerodrome boundary, including the building of an earth bund, to reduce helicopter noise impact to a specific conurbation.

Robust pilot briefing procedures.

Regular Joint Consultative Committee meetings, reconstituted in November 2012 to:

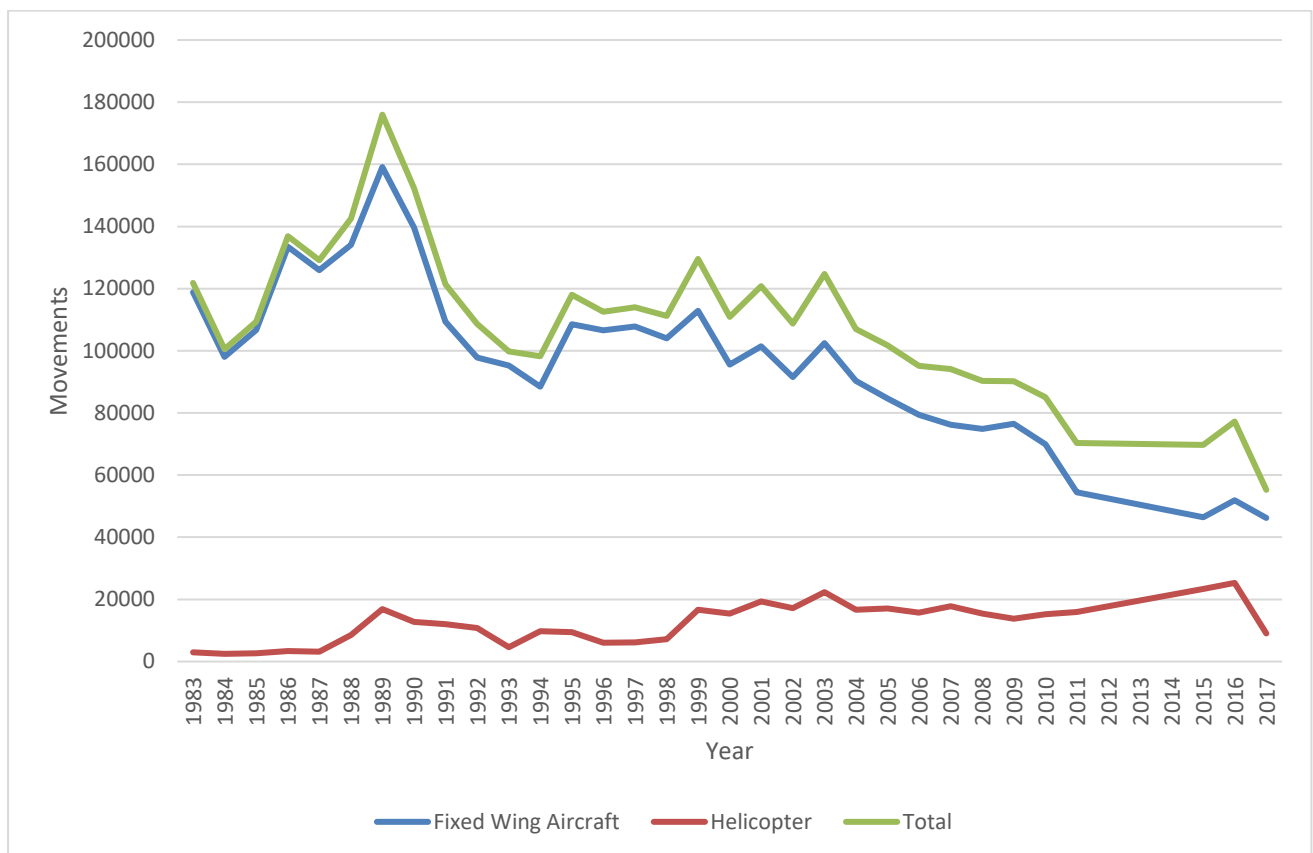
- ensure more representative and balanced membership;
- enable public attendance;
- develop more proactive and worthy communication;
- adjust voting rights, removing the vote of the Air Park operator;
- provide greater transparency across the community with online publication of minutes.

The Air Park believes that the recently reconstituted JCC should make a significant impact regarding our relationship with the community and there is now scope for real progress to be made through this forum.

5.2 Aircraft Movements

The total number of aircraft movements at the Air Park has reduced by 51% since the O'Connor Report was produced. In 1990 (the last year's data available to O'Connor) there were a total of 152,352 movements whereas in 2016 there were 77,184 movements. We have no clear statistical data relating to how many of these movements relate to circuit flying but would estimate this to be in the order of 60-70%. It is accepted that over the same time period the level of helicopter activity has increased (from 12,754 to 25,308) this has remained relatively consistent until 2012. In 2016 helicopters accounted for 33% of all movements but attracted only 12% of total complaints received.

Aircraft Movements at Wycombe Air Park



5.3 Objective for the Management of Aircraft Noise

Wycombe Air Park has set the following long term objective for the management of aircraft noise:

“Working within the frameworks of Noise Policy and Sustainable Development established by national and local government, the Air Park seeks to be a responsible neighbour, continuously aiming to minimise as far as reasonably practicable the impact of aircraft noise.”

6.0 NOISE MAP PRODUCTION

Strategic air noise maps were produced in terms of L_{den} , L_{day} , $L_{evening}$ and $L_{Aeq,16h}$. As the Air Park does not operate during the night time hours (23:00 – 07:00) the L_{night} noise maps were not produced.

The INM noise modelling software used data relating to the geometry of the runways and routes. All data was provided by the Air Park, with the exception of the glider tug routes that were provided by the Booker Gliding Club. Figure 1 illustrates the aerodrome geometry with runway and helipad labels as described below, Figure 2 the fixed wing routes and Figure 3 the helicopter routes. Note that red and blue lines denote arrival and departure routes respectively.

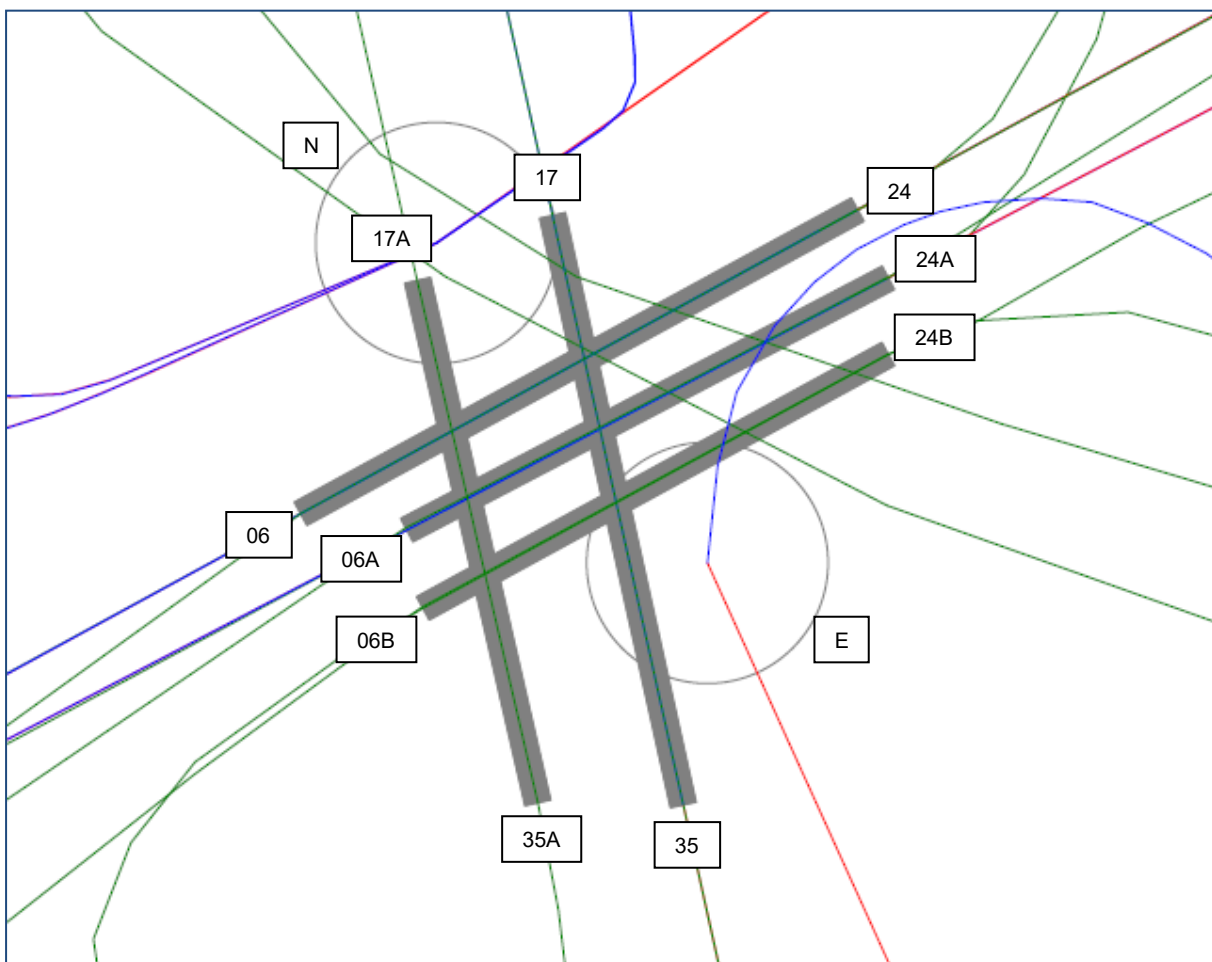


Figure 1: Aerodrome geometry and INM runway designations

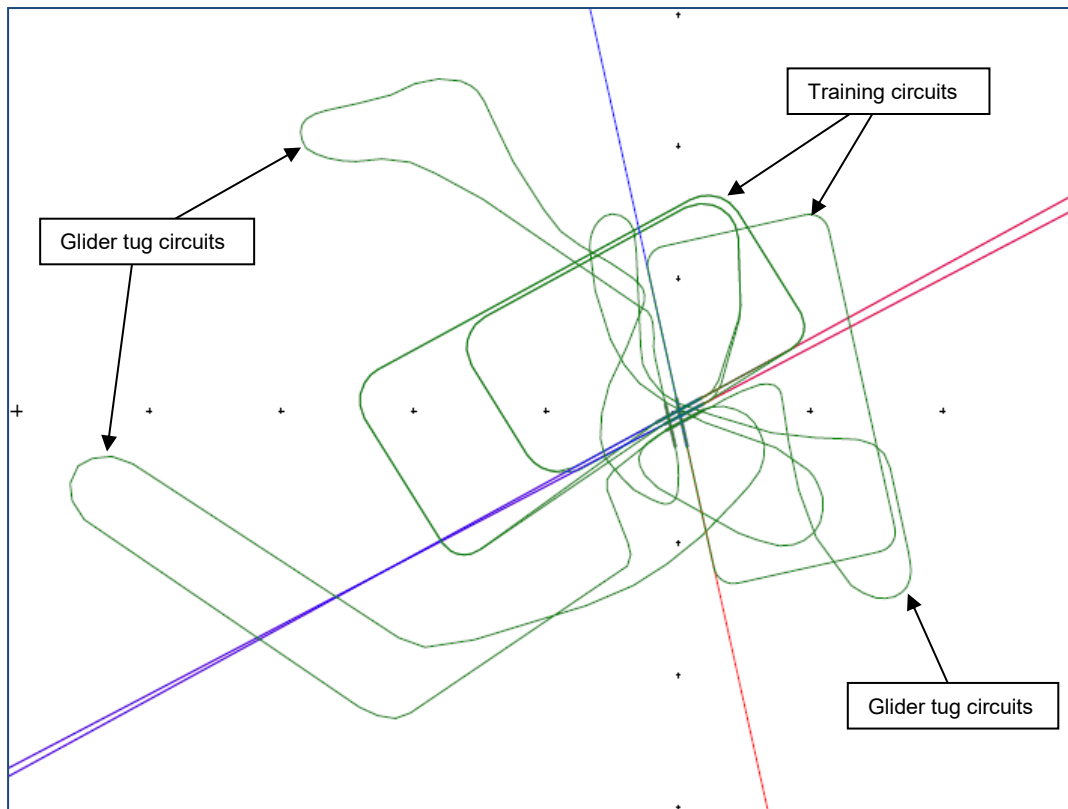


Figure 2: Fixed wing route geometry

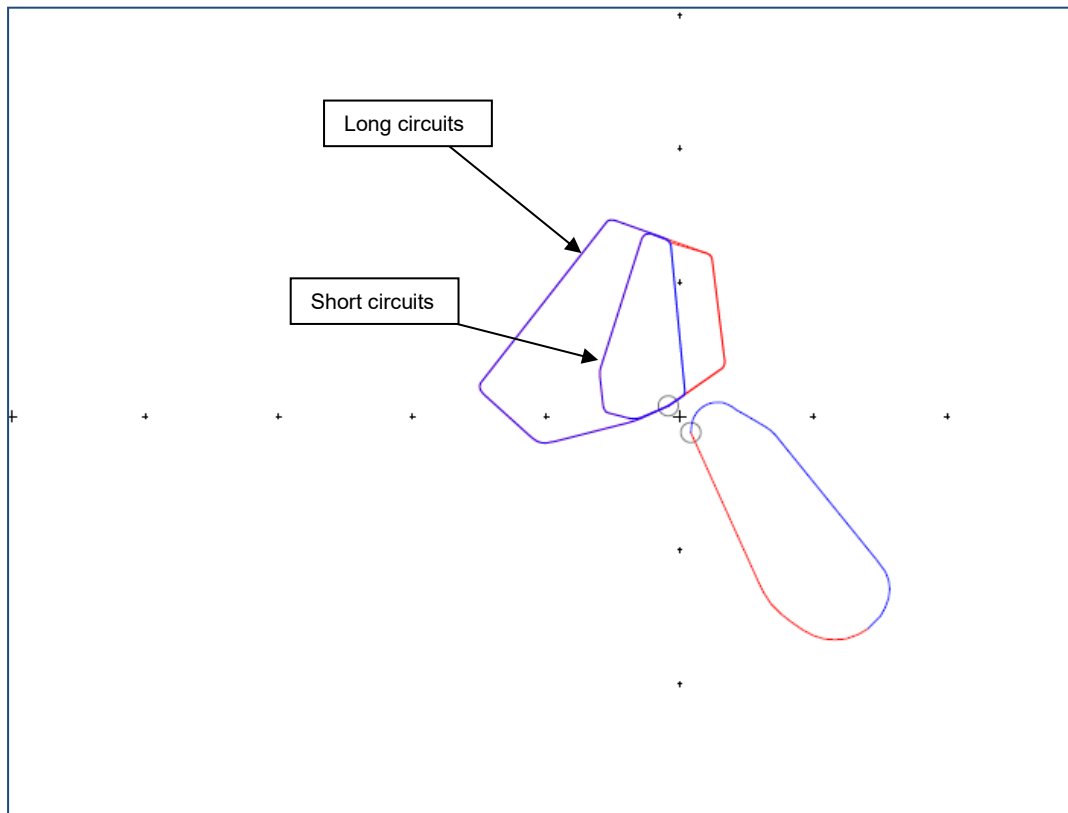


Figure 3: Helicopter route geometry

The Air Park comprises one asphalt strip (runways 06 and 24), a parallel grass strip to the south of the asphalt strip (also runways 06 and 24, denoted 06A and 24A in INM – see Figure 1), and an approximately perpendicular second grass strip used only in a northerly direction (runway 35). Additionally, gliders and tugs operate from a grass area parallel to, and further south of, the 06-24 grass strip (denoted 06B and 24B in INM) and a similar grass area approximately parallel to, and to the west of, runway 35 (denoted 35A).

Helicopter operations were modelled to operate from the N and E training areas (Figure 1).

Fixed wing departures and arrival operations occur only on runways 06, 24 and 35, and all departure and arrival routes were modelled as straight in and out.. There is a left-hand and a right-hand training circuit for aircraft using the asphalt (06-24) and grass (06A-24A) runways – see Figure 2. The circuits lie to the north of the runways so that left-hand circuits operate from runways 06(A) and right- hand circuits operate from runways 24(A). There is also a right-hand training circuit for aircraft using runway 35 which lies to the east of the aerodrome. An alternative left-hand (southern) circuit also exists for runway 24 but was not modelled separately for this study as it is used relatively infrequently.

There are three glider tug circuits, one each for runways 06B, 24B and 35A.

There are clockwise and anti-clockwise helicopter circuits lying to the north of the aerodrome operating from training area N. There are both large and small circuits with departures on the clockwise circuit to be spread over a range of headings. An approximate mean heading has been modelled to avoid over-complicating the geometry without significantly affecting the results. There is also a clockwise circuit operating from training area E.

As INM does not support helicopter circuits, routes have been modelled as separate departure and arrival routes with coincident end and start points respectively. INM extrapolates these tracks out to the edge of the grid beyond the end/start points, but as this occurs well outside the extent of the contours, the effect is considered to be negligible.

Having no radar at the Air Park, no information is available on actual flight tracks. However, it was found that the contours do not extend sufficiently beyond the departing runway ends such that applying track dispersion would alter the shape and/or size of the contours.

The study assumes flat terrain at an elevation of 520 feet above mean sea level as identified in the UK AIP (Aeronautical Information Package).

6.1 Aircraft Movements

The INM noise modelling software used data relating to the numbers and types of aircraft operating during the assessment period. The annual 2016 movement numbers (one movement equals either one arrival or one departure) were as follows:

Movement type	Number of movements
Booker Aviation fixed wings	17,968
Glider tugs	10,383
Visitors (mostly PA28 equivalents)	23,360
Visitors (Larger Turboprops)	165
Based helicopters	25,308
Total	77,184

Table 1: Annual 2016 aircraft movement numbers

6.2 Runway and route splits

Aircraft movements were split between the runways as follows. It is estimated that 95% of arrival, departure and circuit operations on runways 06 and 24 occurred on the asphalt strip (06-24 in Figure 1), and the remaining 5% occurred on the parallel grass strip (06A-24A in Figure 1)

Runway direction (mode)	Percentage split
24	63.4%
06	28.4%
35	8.2%

Table 2: Runway modal split

The traffic splits between helicopter 'Long' and 'Short' routes from the N training area are as follows

Runway / direction	Long route	Short route
06 / clockwise	60%	40%
24 / anti-clockwise	50%	50%

Table 3: Helicopter route split

6.3 Daytime / Evening

The daytime and evening split for all aircraft (fixed-wing and helicopter) movements are shown in the table below:

Period	Relevant metric	Movement split
Daytime (before 19:00)	L_{day}	99.13%
Evening (after 19:00)	L_{evening}	0.87%

Table 4: Period split

6.4 Fleet Mix

Information on fixed-wing training aircraft which operated during 2016 was correlated by using aircraft registration number. The aircraft types for these were obtained and appropriate INM model aircraft types were allocated to each aircraft type using the INM substitutions list. Detailed information could not be provided for the glider tugs and visitor categories. The Piper PA-28 and PA-31 were used to model these movements.

Where INM suggested using a generic single engine piston aircraft in the noise model (GASEPF or GASEPV), the Piper PA-28 was used instead. Since the GASEPF and GASEPV model types were removed from the EASA (European Aviation Safety Agency) NPD (Noise Power Distance) database, the PA-28 is considered to be the most appropriate model substitution for the types operating at the air park.

Helicopter modelling is based on 40% of helicopter movements being undertaken by the Robinson R22, 45% by the Robinson R44 (including R66), and we have assumed for modelling purposes the remaining 15% are shared by the Augusta A109 and Bell B206.

The fleet mix model input data is presented in Table 5.

Group	INM TYPE	Daytime	Evening	Total
Training aircraft (Booker Aviation)	BEC58P	2.75	0.03	2.79
	CNA172	29.55	0.27	29.82
	PA28	16.36	0.13	16.49
Glider tugs	PA28	28.12	0.25	28.37
Visitors (mostly PA28 equivalents)	PA28	63.27	0.55	63.83
Visitors (Larger Turboprops)	PA31	0.45	<0.01	0.45
Based helicopters	R22	27.42	0.24	27.66
	R44	30.85	0.27	31.12
	A109	5.14	0.05	5.19
	B206B3	5.14	0.05	5.19
Total		209.05	1.83	210.89

Note: Totals may not sum exactly due to rounding.

Table 5: Annual average daily movements by INM aircraft type

6.5 Aircraft Profiles

Each model aircraft type has its own vertical climb/approach/circuit profile. Standard profiles were used in the model except in the following cases:

- Fixed wing circuit maximum altitude increased from 900 feet to 1000 feet in accordance with the Air Park procedures on circuit height (QFE).
- Helicopter circuits were modelled using standard arrival and departure profiles with maximum altitude set to 750 feet in accordance with Air Park procedures on circuit height (QFE).

The take-off weight of an aircraft affects the level of noise it produces. INM uses the journey distance as a proxy for take-off weight, as a greater weight of fuel is required for more distant destinations. The journey distance is expressed in terms of stage length, a unit which represents ranges of distance. Stage length 1 covers a range of 0 – 500 nautical miles which accounts for all departures from Wycombe Air Park. All departures were therefore set to stage length 1.

6.6 Validation

CAA (ERCD) staff visited the Air Park on 1st July 2012 and again on 10th July 2012 to measure noise levels of aircraft in order to check the accuracy of the INM model types. Sufficient measurements were made to validate operations of the CNA172 and PA28; i.e. the most common fixed wing aircraft types operating in 2011 as shown in Table 5.

Comparing measurements and INM predictions, the results indicated that INM tended to over-predict noise from these aircraft types. The input movement numbers were therefore adjusted so as to implement the following modifications to the noise levels:

- CNA172: -2.8 dB on circuits and departure, -4.6 dB on arrival.
- PA28: -1.9 dB on circuits, -1.0 dB on departure, -4.1 dB on arrival.

As there is no differentiation between departures and arrivals with circuit operations, PA28 circuits were validated using the departure adjustment of -1.9 dB which is more conservative than using the -4.1 dB adjustment for arrivals.

Since the mapping of helicopter movements is not covered by the Directive, helicopter model types were not validated for this study.

6.7 Noise Modelling Results

Noise calculations were made on a 10 m by 10 m INM Standard-type grid with an extent chosen to accommodate contours down to 50 dB(A). All grids were aligned with Ordnance Survey grid intersections.

Contours were plotted for the interpolated grids for L_{den} , L_{day} and $L_{evening}$ at levels from 55 to 75 dB(A) in 5 dB steps where possible, and $L_{Aeq,16h}$ from 54 to 72 dB(A) in 3 dB steps.

6.8 Methodology for Calculation of Population and Dwelling Exposure Statistics

In order to derive the statistics presented below, analysis has been undertaken to count the population and number of dwellings within the specified noise contours. This assessment was carried out utilising a strategic residential population location dataset. The following paragraphs summarise the method used in constructing this dataset.

Residential dwellings and buildings containing residential dwellings were identified through the 2015 (OS) AddressBase Premium and Topography layer respectively. An average population per residential dwelling was calculated for each discrete dwelling utilising population data attained from the mid year population estimates from the Office of National Statistics (ONS), June 2015.

The total number of residential dwellings and the total associated population were calculated for each residential building polygon, taking into account building polygons with multiple dwellings. Examples of building polygons containing multiple dwellings located within a single polygon

include tower blocks and apartments.

6.9 Population and Dwelling Exposure Statistics Tables

The estimated total number of people and dwellings exposed above various noise levels in 2016 derived from the strategic mapping of noise from aircraft using this airport are shown in the tables below.

Population and dwelling counts have been rounded as follows:

- The number of dwellings has been rounded to the nearest 50, except when the number of dwellings is greater than zero but less than 50, in which case the total has been shown as "< 50".
- The associated population has been rounded to the nearest 100, except when the associated population is greater than zero but less than 100, in which case the total has been shown as "< 100".

Noise Level (dB)	Number of Dwellings	Number of People
≥ 55	<50	<100
≥ 60	0	0
≥ 65	0	0
≥ 70	0	0
≥ 75	0	0

Table 1: Estimated total number of people and dwellings above various noise levels, L_{den}

Noise Level (dB)	Number of Dwellings	Number of People
≥ 54	100	300
≥ 57	<50	<100
≥ 60	0	0
≥ 63	0	0
≥ 66	0	0
≥ 69	0	0

Table 2: Estimated total number of people and dwellings above various noise levels, L_{day}

Noise Level (dB)	Number of Dwellings	Number of People
≥ 54	0	0
≥ 57	0	0
≥ 60	0	0
≥ 63	0	0
≥ 66	0	0
≥ 69	0	0

Table 3: Estimated total number of people and dwellings above various noise levels, L_{evening}

Noise Level (dB)	Number of Dwellings	Number of People
≥ 54	50	200
≥ 57	<50	<100
≥ 60	0	0
≥ 63	0	0
≥ 66	0	0
≥ 69	0	0

Table 4: Estimated total number of people and dwellings above various noise levels, $L_{\text{Aeq, 16h}}$

7.0 WYCOMBE AIR PARK APPROACH TO MANAGING NOISE - OUR MANAGEMENT AND ACTION PLAN

The proposed Noise Management and Action Plan is set out below and is reinforced with the table at Appendix B which reflects timelines, performance indicators and people affected.

7.1 Actions to Manage the Effects of Aircraft Noise

There are two main aircraft types within our training fleet, the two-seat Cessna 152 and the four-seat Piper PA28. In recent years, aircraft technology has advanced, and the latest designs of general aviation aircraft have a noticeably smaller noise footprint. The Air Park has operated a small number of such aircraft in the recent past and anecdotal evidence is that the annoyance level of such aircraft is significantly reduced.

Looking at legacy aircraft, many of these can be retrofitted with exhaust silencers. Silencers are used extensively in Germany and the majority of our four-seat aircraft fleet could be retrofitted. In the past, there has been some dispute about the effect of such silencers with results from previous trials being questioned. However, it is clear to us that any reduction in overall noise impact brought about by the use of silencers would be extremely well received

We have renegotiated the Head Lease with Wycombe District Council for a further 50 years. As part of this process there were significant discussions surrounding the management of aircraft noise and the provision of respite from repetitive circuits over or near specific locations. As part of the lease the Air Park has made the following commitment to noise and the environment:

- 1 To continue to operate the noise mitigation programme in existence at the date of this lease as stated within the Wycombe Air Park Noise Management Plan 2013 to 2018 to use reasonable endeavours to achieve an independently measured and verified level of noise footprint within the circuit of no more than 57 LAeq 16 consecutive hours from the point of the complainant within their residential curtilage. The programme will include;
 - 1.1 Fitting silencers where technically possible; and
 - 1.2 Changing circuit patterns and heights in agreement with the Landlord

Provided that the parties acknowledge that such mitigation programme shall be reviewed if an underlease is granted to the Landlord of the Northside Hangars as contemplated by Schedule 7 and any part of the Northside Hangars is used for gliding activities.
- 2 To provide "weekend respite" at the Property for four weekend days per year (2pm to 5pm on a Saturday and on a Sunday) in each calendar year. The respite will be for a specific period to accommodate local events. This period will be agreed between the Landlord and the Tenant and arranged in advance. If respite is requested by the

Landlord but the Landlord subsequently advises the Tenant that it is not required, the requested respite will have constituted one of the four required respite weekend to be provided by the Tenant.

- 3 After 1st September 2017 not to permit any home-based aircraft (including helicopters) to use the Property unless they are fitted with a GPS device for which data is provided to the Tenant to allow the Tenant to investigate complaints and to create summary maps of aircraft positions. The Tenant will when requested to do so by the Landlord share this information with the Landlord.
- 4 Not without the approval of the Landlord to permit annual aircraft movements of more than 180,000 fixed wing and 24,000 helicopter per annum.
- 5 Not to knowingly permit any VLI turbo fan aircraft to use the Property.
- 6 To comply at all times with all CAA requirements and to carry out all operations at the Property competently and having regard to noise abatement zones and environmental impact.

The Air Park feels that further constraining flying training activity (ie restrictions on training circuits for certain time periods at weekends) presents an unacceptable business risk and therefore prefers to consider alternative methods for the provision of respite to the majority of stakeholders. It is clear that the main area of concern is in the Lane End and Frieth communities. The Air Park is committed to changing the fixed wing and helicopter circuit procedures from the North to the South of the airfield such that Lane End and Frieth are presented with significant and measurable respite. Any long term plans regarding the use of the circuit to the south is dependant on the outcome of lease negotiations between Wycombe District Council and Booker Gliding Club. Should it be agreed that the gliders will relocate to the north of the airfield then the existing circuit operations will be reviewed and new procedures developed as necessary for operation to the south. The Air Park recognises that this course of action would increase the noise footprint to the South of the airfield which is currently reserved for night time and glider-tug operations. The Department for Transport (DfT) states that there is no legislation or guidance that precludes over-flights of national parks or AONBs. It goes on to state that "Government policy will continue to focus on minimising over flight of more densely populated areas below 7,000 feet. However, where it is possible to avoid over flight of national parks and AONBs below this altitude without adding to the environmental burdens on more densely populated areas, it clearly makes sense to do so." We feel that there is a fine balance to be made between protecting the environment for one area against reducing the annoyance factor for another. In accordance with DfT guidelines **any proposed development of this option would be subject to further consultation.**

7.2 Actions for Monitoring Aircraft Noise

The past introduction of GPS tracking devices for our fixed-wing training aircraft together with voluntary use by helicopter operators brought many advantages and was very positively received by stakeholders. The system allows for identification of errant aircraft, confirmation of compliance with designated routes, re- training opportunities and identification of trends, particularly in areas where there is a specific issue (ie helicopters over Spring Coppice). The GPS data also helps increase transparency and mutual trust. We accept that the system has some deficiencies and does not provide complete visibility of all aviation activity which takes place at the Air Park. Cognisant of this fact, as part of the airfield lease we agreed to mandate the use of GPS trackers or Mode S transponders for based aircraft (helicopters and fixed wing). We will be proactive and act positively on information obtained from GPS tracking devices. We are most keen to maximise the potential of such technology.

We have developed an online complaint registration and handling system which will enable us to gather data, identify trends and generate relevant reports for the JCC. Predominately web-based, we will endeavour to ensure that community comment is not hindered or dissuaded due to inefficient feedback mechanisms. We will use this information, combined with GPS sourced data, to educate pilots and, where necessary, deliver a tiered system of pilot admonishment. We will continue to collate complaints through other mechanisms and feed these into the appropriate database, however, to ensure the accurate logging of data it is encouraged that all noise complaints are submitted through our website.

7.3 Actions for Communicating with the Local Community

The WAP JCC revised constitution (see appendix C) allows for public participation, a representative balance of interested parties, the inclusion of organisations which were previously excluded and the adoption of voting rights in accordance with DfT guidelines. 'Ownership' of the Committee has transferred to the membership and, in accordance with best practice, the Air Park has adopted a role as a facilitator rather than executive. We recognise the importance of the JCC and will continue to contribute towards the evaluation and evolution of the JCC.

8.0 FINANCIAL IMPLICATIONS

The estimated costs of implementing the Noise Management and Action Plan are set out below.

Action	Estimated Cost	Notes
Developing alternate circuit strategy	TBN	Various options to be considered as part of Head Lease negotiations.
Ongoing development of online complaint handing system	£2000	

9.0 CONSULTATION

The Air Park continues to include the JCC in the development of the Noise Management and Action Plan.. The Noise Management and Action Plan (dated 2013-2018) was discussed with the JCC at length and overwhelmingly decided that the structure and representative nature of the JCC was broad enough to encompass the requirements for public consultation. We have therefore adopted the same process for consultation with regards this revised plan (dated 2019-2024). The JCC consists of representative from each affected parish council together with District Council, airfield operators and representatives from resident's associations' and lobby groups. A full list of consulted organisations can be found at Appendix C.

Glossary of Acoustic and Technical Terms

Agglomeration - An area having a population in excess of 100,000 persons and a population density equal to or greater than 500 people per km² and which is considered to be urbanised.

dB(A) - A measure of sound pressure level ("A" weighted) in decibels as specified in British Standard BS EN 61672-2:2003

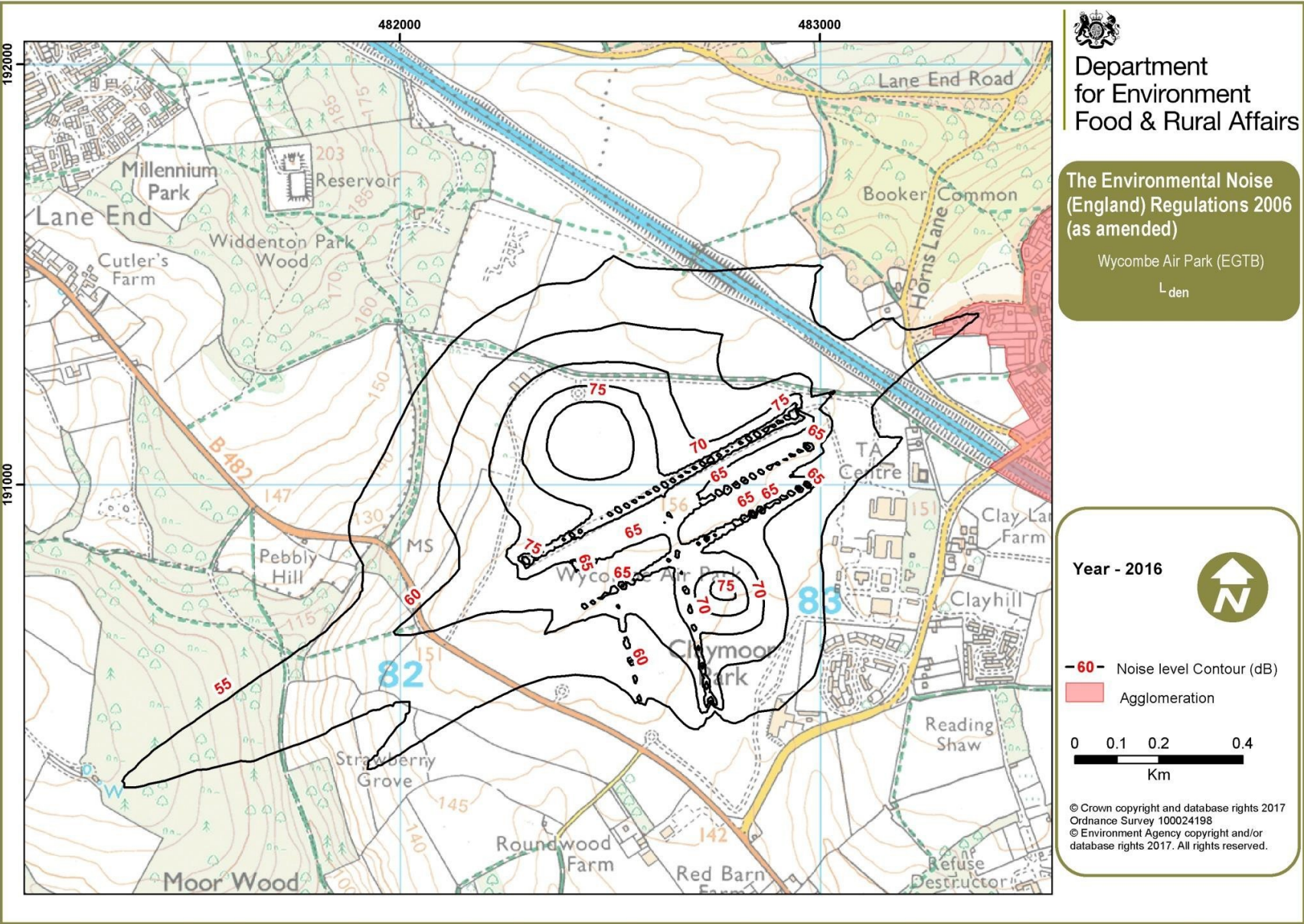
L_{Aeq} - The A-weighted equivalent continuous sound pressure level which is a notional continuous level that, at a given position and over the defined time period, T, contains the same sound energy as the actual fluctuating sound that occurred at the given position over the same time period, T

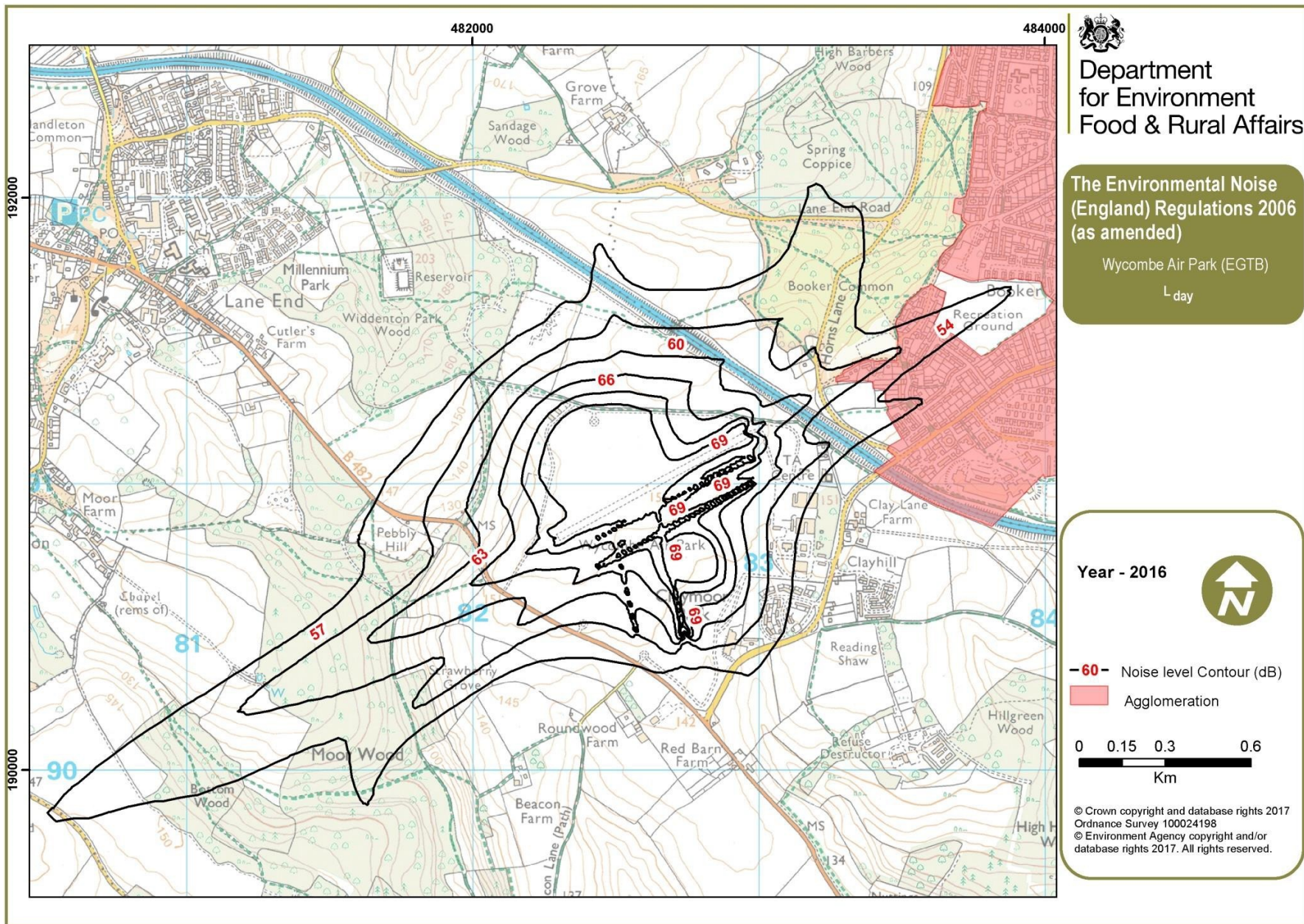
L_{day} - The L_{Aeq} over the period 0700 – 1900, local time (for strategic noise mapping this is an annual average) $L_{evening}$ The L_{Aeq} over the period 1900 – 2300, local time (for strategic noise mapping this is an annual average)

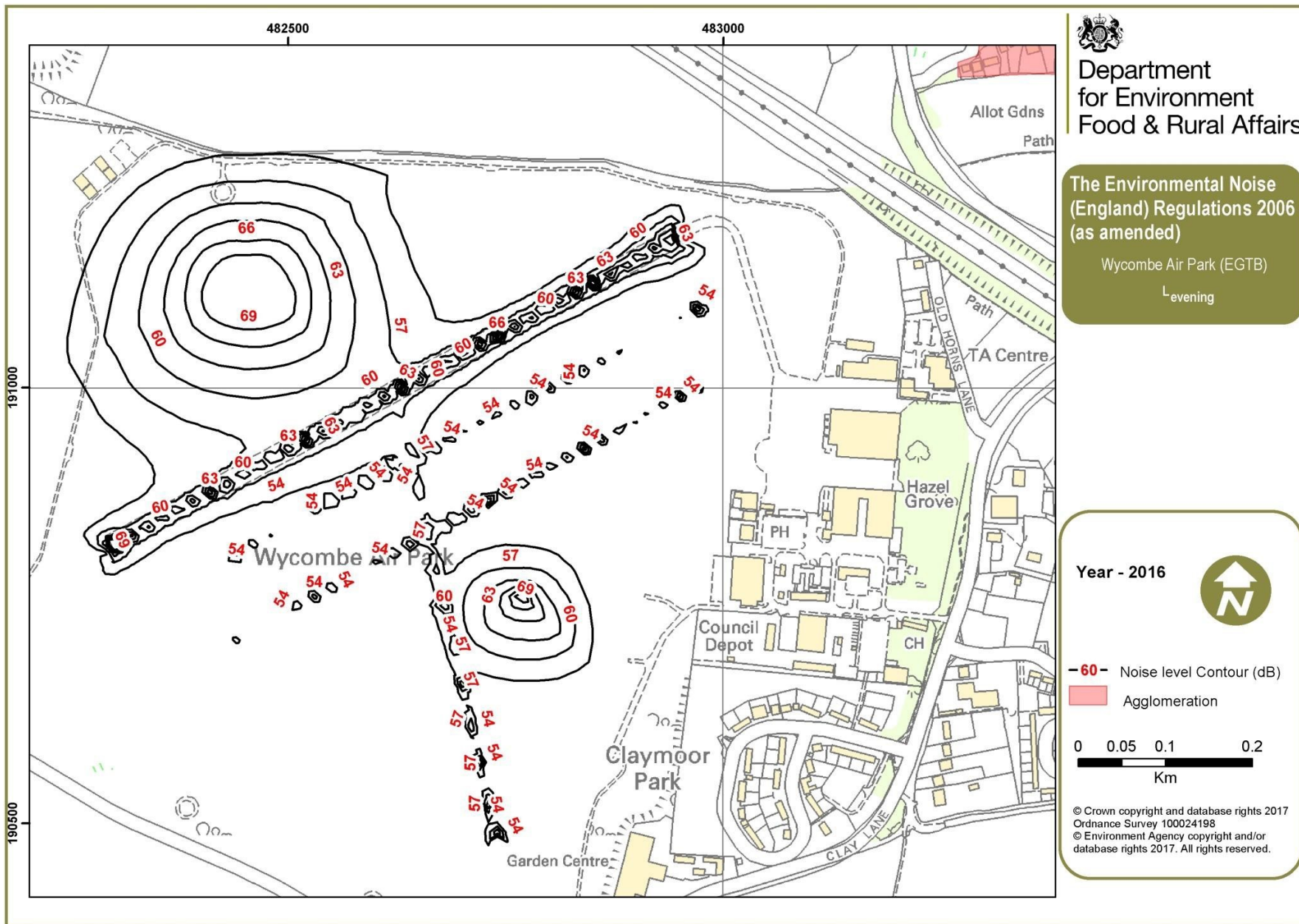
$L_{Aeq,16h}$ - The L_{Aeq} over the period 0700 – 2300, local time (for strategic noise mapping this is an annual average)

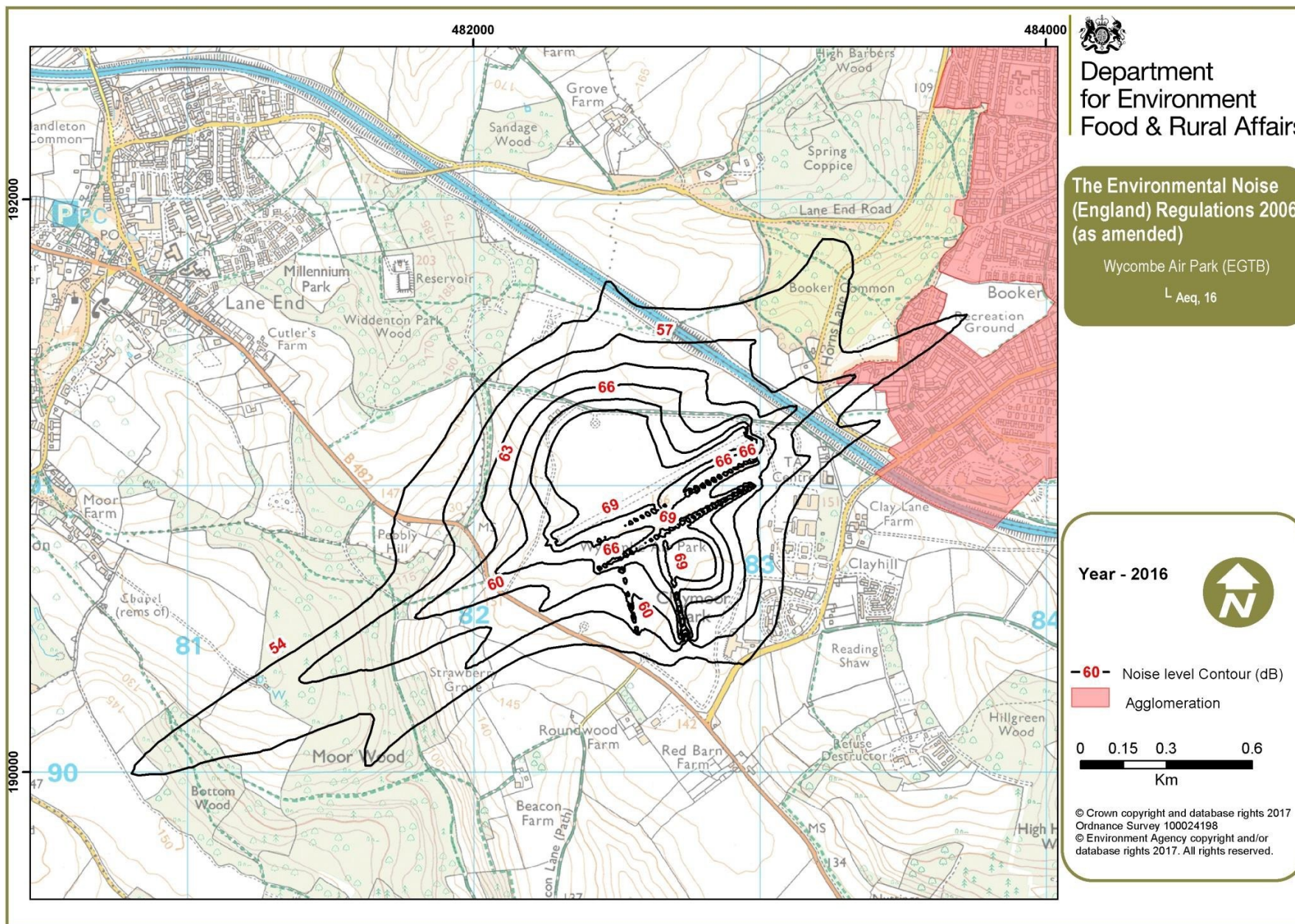
L_{den} - The L_{Aeq} over the period 0000 – 2400, but with the evening values (1900 – 2300) weighted by the addition of 5 dB(A), and the night values (2300 – 0700) weighted by the addition of 10 dB(A)

Appendix A to Wycombe Air Park Noise Management and Action Plan –2019-2024









Appendix B to Wycombe Air Park Noise Management and Action Plan 2019 - 2024

	Action	How Delivered	Impact	Timescale	Performance Indicator	No. of people affected by the action
1	Investigate new, quieter technology training aircraft	Phasing-out noisier legacy machines, exploring economic viability of operating new quieter, fuel efficient aircraft	Reduced noise footprint	Ongoing.	Future noise mapping to indicate change in footprint	All residents, particularly those within the 57 dB LAeq, 16 footprint
2	Adopt alternative noise mitigation measures where feasible, including fitting of aircraft silencers to training aircraft	Commence fitting of silencers to the noisier PA28 fleet	Reduced noise footprint	Ongoing – no viable solution found to date	Future noise mapping to indicate change in footprint	All residents, particularly those within the 57 dB LAeq, 16 footprint
2	Enhance GPS tracking activity	Mandate use of GPS or Mode S Transponder tracking across all Air Park based aircraft.	Improved pilot awareness and compliance. Ability to enforce. Greater transparency with community stakeholders. Identification and resolution of specific issues (eg Spring Coppice).	Completed in accordance with lease (October 2014)	Reduction in noise complaints and greater compliance	N/A
3	Continued evaluation of JCC role	Improved communication between Air Park and community.	Community trust and awareness	Ongoing	Community feedback (JCC)	N/A

	Action	How Delivered	Impact	Timescale	Performance Indicator	No. of people affected by the action
4	Provide a robust complaint handling procedure	Develop online reporting procedures and data handling	More meaningful and comprehensive responses to individual issues. More transparency in producing reports to JCC etc. Assist the airfield in understanding problems and resolution. Mechanism for identifying individual operator/pilot trends.	Complete with ongoing review.	Community feedback (JCC)	N/A
5	Continue to investigate opportunities that may arise to create respite	In tandem with opportunities that may be presented during Head Lease negotiations, explore the ability to employ a variable circuit strategy	Reduced noise annoyance	Completed with new least (October 2014).	Reduced noise complaints from current hotspots without affecting economic sustainability	N/A

Appendix C to Wycombe Air Park Noise Management and Action Plan 2019 - 2024

WYCOMBE AIR PARK JOINT CONSULTATIVE COMMITTEE

TERMS OF REFERENCE AND CONSTITUTION

1. The name of the Committee is Wycombe Air Park Joint Consultative Committee (JCC).
2. The JCC is established to act as a means of consultation in relation to Wycombe Air Park in that:
 - a. it enables the aerodrome operator, communities in the vicinity of the aerodrome, local authorities, local business representatives, aerodrome users and other interested parties to exchange information and ideas;
 - b. it allows the concerns of interested parties to be raised and taken into account by the aerodrome operators, with a genuine desire on all sides to resolve any issues that may emerge;
 - c. it complements the legal framework within which the aerodrome operates.
3. The JCC should not:
 - a. detract from or constrain the responsibility of the aerodrome owner and/or operator to manage the aerodrome;
 - b. prevent interested parties from raising concerns directly with the aerodrome, or through other channels.
4. The members of the Committee shall be appointed by their respective represented bodies or organisations named in Part II of the Schedule hereto who shall be entitled to appoint, at their sole discretion, the number of members set opposite their name in the second column of the Schedule.
5. The bodies or organisations shall be entitled to appoint a deputy for each of their members and such deputy shall be entitled to attend meetings of the Committee in the event of the appointed member being unable to attend and such deputy shall be entitled to act in the same manner as if he were the duly accredited delegate.
6. Members appointed shall hold office for a period of three years but may be re-nominated by the body or organisation they represent.
7. A member appointed by a body or organisation named in the Schedule who ceases to be a member or officer of that body or organisation shall thereupon cease to be a member of the Committee unless specifically appointed by that body or organisation to continue to act as its representative.
8. Any member who either fails to attend or provide a deputy at more than two consecutive meetings shall be deemed to have resigned unless the Committee determines otherwise. The body or organisation nominating that member shall then be invited to nominate a replacement representative as at paragraph 9 below.

9. On the death, resignation or other cessation of membership of a member the body or organisation by which the member was appointed shall be invited to appoint a replacement representative to serve for the balance of the period of office of the original member.
10. The Committee shall have the power to co-opt additional members not exceeding two in number to serve as Chairman and/or Vice-Chairman . These posts shall be held for a period of three and two years respectively or other periods as the Committee may determine. The post of Chairman shall be filled by a co-opted individual.
11. Any member may be accompanied by an officer or other adviser but any such officer or adviser shall not address the Committee without the approval of the Committee or have the power to vote in any circumstance.
12. The Committee shall hold three regular meetings in each year. Additional meetings may be held if the Committee deem it necessary.
13. No business shall be transacted at a meeting of the Committee unless there shall be present at least one third of the representative members or duly appointed substitutes including at least one representative of WDC, Parish Councils, Residents Groups and Aerodrome Based Operators thus reflecting a fair balance of parties normally represented.
14. Normally matters at a meeting shall be determined by a majority of votes of the representative members present and voting shall be by way of acclamation or by a show of hands. In the instances where there is an equality of votes the Chairman will have a casting vote.
15. The regular meetings will normally consist of two sections. The first section, lasting approximately 30 minutes shall be reserved for public comments and questions. The formal second section shall be for Committee discussion regarding matters appearing on the agenda. The public may be allowed to observe but not participate in this section.
16. A secretariat shall be provided by the aerodrome operator the duties of which shall be to:
 - a. prepare minutes of the Committee and distribute them to all members;
 - b. issue notices of meetings of the Committee and to place on the agenda matters requested by members for the committee to consider;
 - c. circulate relevant documents;
 - d. assist the committee on sourcing policy and technical guidance, where appropriate.
 - e. publicise and communicate the activities of the Committee .
17. Alterations to this Constitution shall only be made by resolution of a two thirds majority of the Committee.

SCHEDULE

Part I

TERMS OF REFERENCE

1. To provide for the purpose of Section 35 of the Civil Aviation Act 1982 a means of consultation with respect to any matter concerning the management or administration of the Air Park which affects the interests of:
 - a. the users of the Air Park,
 - b. the local authorities in whose area the aerodrome or any part thereof is situated or whose area is in the neighbourhood of the aerodrome, and
 - c. other organisations representing the interests of persons concerned with the locality in which the aerodrome is situated
2. To serve as a forum for the consideration of the interests of the Air Park, its users and the local population and business community, and to act as a means of exchanging information and views between the various interests. In particular, the committee should:
 - a. consider aerodrome issues as they affect the communities represented or the amenities of the aerodrome
 - b. make suggestions to the aerodrome where this might further the interests of the communities represented
 - c. stimulate the interest of the local population in the development of the aerodrome
 - d. monitor the environmental impact of all aspects of the operation of the aerodrome and to advise on operating procedures resulting from such monitoring with a view to minimising noise or other pollution from whatever source
 - e. to protect and enhance the interests of users of the aerodrome
 - f. discuss with the aerodrome formal procedures for recording complaints about aircraft noise and other adverse effects of the aerodrome.
 - g. consider the contribution of the aerodrome to the local and regional economy.

SCHEDULE

Part II

REPRESENTATION ON COMMITTEE

Wycombe District Council	2 Officers in a non-voting, consultative capacity
	5 Councillors representing the local wards specifically listed below: Booker and Cressex Chiltern Rise Greater Marlow Hambleton Valley Sands
Airways Aero Associations Ltd (representing Air Park Management)	1 Non-Voting
Booker Aviation (representing fixed wing operations)	1
Wycombe Air Park Action Group	1
Booker Gliding Club	1
HeliAir Ltd	1
Helicopter Services Ltd	1
Booker Common and Woods Protection Society	1
Great Marlow Parish Council	1
Hambleton Parish Council (including Frieth)	1
Lane End Parish Council	1
Marlow Bottom Parish Council	1
West Wycombe Parish Council	1
Sands Residents Association	1
Frieth Village Society	1

Appendix D to Wycombe Air Park Noise Management and Action Plan 2019 – 2024

Responses Received from Representative Organisations

Serial	Source	Observation	Response	Action
1	Wycombe District Council	The forward to the document remains unchanged from the previous plan. I would have thought this should have mentioned the fact that a new lease for the Air Park has been signed with Wycombe District Council. It was also an opportunity for the leaseholder to elucidate about their planned future direction for the Air Park and possible investment plans but this opportunity has been missed.	Agreed. The lease has been signed, to secure the future of the airfield, in addition the following actions have been implemented: <ul style="list-style-type: none"> • Introduction of respite days • Significant investment in activities which do not involve flying • Reduction of summer opening hours at the weekend (closing time moved from 20:00 to 18:00) 	
2		Section 3.1, Air Park Details, paragraph 1. As I understand it some upgrading, grass-creting of runways has taken place since the previous plan, no mention of this has been made.	Since the 2013-18 plan was written a grass taxiway has been reinforced with plastic matting to facilitate its use during the winter months. No physical changes have been made to the runways.	
3		Section 3.1, Air Park Details, paragraph 3. No updating or revision of figures in this paragraph have been made, I am surprised no changes have occurred in the five years since the last plan and I would wish reassurance that this is the case.	The figures referred to in Section 3.1 believed to be correct at the time of the revision.	
4		Section 4.3, Noise Regulation and Policy paragraph 4, mention is made of the Section 5 application that has been made, this should be updated to reflect the current position by way of an update for readers, perhaps including the relevant documentation as an appendix.	Wycombe Air Park did not make the Section 5 application and has not received any new information regarding it since the plan was implemented.	
5		Section 4.4, Planning Policy. An update should be included referencing the status of Wycombe District Councils Local Plan and the relevant references to the Air Park.	The Local Plan is currently undergoing a public examination and will not be adopted until 2019. The local plan as submitted details the removal of some areas of Wycombe Air Park from the green belt for employment use. It states <i>"This policy allocates two areas of the site as strategic employment areas and ensures that any development on the site does not compromise or limit the Air Park's existing aviation uses."</i>	

6		Section 5.1, In Place Noise Management Procedures. It is noted that a 500 metre tolerance has been introduced in respect of 'lines' which is presumed to mean the ideal tracks which have always been guidelines only but it has not been expounded how this new tolerance relates to the Noise Abatement Zones which are considered to be the areas to which the rules are enforceable, notwithstanding that in all circumstances safety comes first. Further explanation would be helpful	The updated noise action plan is a continuation of the existing noise abatement procedures. The newly detailed tolerance is intended to emphasise the fact that the ideal tracks are guidelines and not lines that will be flown exactly. The noise abatement zones remain in place and should not be entered unless instructed to do so or for flight safety reasons.	
7		Section 5.1, In Place Noise Management Procedures. Reference is made to phasing out older twin-engined training aircraft but this is not specifically mentioned in the actions in Appendix B. Further details should be provided on the number of these aircraft with specific dated actions if these are/are not proposed as appropriate.	When the 2013-18 plan was written two Beechcraft Duchess were being operated for multi-engine training, these have since been replaced by two newer Diamond DA42 aircraft. The comparable overflight noise levels of these aircraft are (taken from CAA G-INFO data): Duchess (G-WACJ) 80.4 dB(A) DA42 (G-VVTV) 79.1 dB(A) Despite the 1.3 dB(A) reduction in published noise level many residents claim that the new aircraft are actually noisier. Including Mr Allies in serial 63	
8		Section 5.1, In Place Noise Management Procedures. It would appear necessary to change the final sentence to reflect actual progress or otherwise with regard to the revised Constitution as this has been in place for more than 5 years.	Agreed.	Amend final paragraph of Section 5.1
9		Section 6.0, Noise Map Production, paragraph 7, on page 18, states no information is available on actual flight tracks. This is clearly not the case as all Air Park based aircraft are fitted with GPS/transponders. The sentence should be corrected and even if the available data is not used it should be explained why this is the case.	Whilst GPS tracker data was available when the noise mapping was undertaken it could not be exported in a way that would have been useful for the mapping.	
10		Section 7.1, Actions to Manage the Effects of Aircraft Noise, paragraph 1. This is a comment that the latest aircraft have a reduced annoyance, as expected. No actions are included or stated to introduce such aircraft by a defined date or if the operation of these aircraft as mentioned was a trial or more permanent change. An action should be stated with defined dates.	As stated in the existing plan we will endeavour to seek alternative aircraft to improve the overall noise footprint, however, at this time there is not a suitable alternative which will result in a significant reduction in noise footprint.	

11		Section 7.1, Actions to Manage the Effects of Aircraft Noise, paragraph 2. This is a comment that the fitting of secondary silencers to fleet aircraft would be well received (The trials carried out by Wycombe District Council have indicated without doubt that secondary silencers are beneficial). No action is included or stated to fit secondary silencers by a defined date. It should be stated if paragraph 1.1 as copied from the lease has been complied with/progress made or define a date for such compliance/reasons for non-compliance	We have endeavoured to improve existing silencers already fitted to aircraft. We have purchased a new aircraft, costing in excess of £300,000, which has a new silencer type fitted. This has only generated a very small decrease and therefore we will continue to look for suitable alternatives. In relation to secondary silencers, we fitted a type of these to three of the Piper Warrior aircraft, however, they were not satisfactory and deteriorated quickly therefore had to be removed. We continue to look for suitable alternative.	
12		Section 7.1, Actions to Manage the Effects of Aircraft Noise, point 4 of the lease, as copied. It would appear the limit on helicopter movements may have been exceeded by a small margin (reference paragraph 5.2 Aircraft Movements). A comment should be made on this exceedance if that is the case.	The lease was signed in October 2016 at which point the detailed movement numbers came into force. Since then we have remained within the stated movements. Combined overall movements are well below those outlined in the lease.	
13		Section 7.2 Actions for Monitoring Aircraft Noise, paragraph 2, and Action 4 of Appendix B. The complaint system would appear to have only received minor modification in recent years. Referencing the most recent JCC minutes (10th July 2018) it would appear that the public are still not satisfied with the complaints handling procedure and no reports have been provided to the most recent JCC meetings in respect of complaints by the Air Park Management. I believe Action 4 needs to be reviewed, as stated, with performance specifications specified so the public know what to expect when they complain e.g. complaint acknowledgment in X days, feedback in Y days. It would also be helpful to develop a template for reports on complaints for the JCC which could be included as an appendix within the Action Plan. This review should be completed by a date stated in the Action Plan.	This is inaccurate as reports on both quarterly movements and complaints received are sent to the JCC Secretary prior to the meetings for distribution. We will review the existing complaints procedure prior to the first JCC meeting of 2019 and provide feedback on the actions taken to address the concerns.	Review complaints procedure by 1st JCC meeting of 2019
14		Appendix B, Action 1. Reference comment 7 and 10 above, further details should be provided on the number of aircraft with specific dated proposals for replacement, as appropriate.	See response to Serial 10	

15		Appendix B, Action 2. Reference comment 11 above, the progress on the action with regard to secondary silencers should be clearly stated and proposals stated for compliance if that is not the case at this time, with defined dates for such compliance or the reasons for non-compliance	See response to Serial 11	
16		Appendix B, Action 4, complaint handling procedure. Reference comment 13 above. Review should be completed by a stated date.	See response to Serial 13	
17	Wycombe Air Park Action Group	<p>The DEFRA Guidelines specifically suggest that in preparing and revising Action Plans Airport Operators must ensure that:</p> <ul style="list-style-type: none"> a) the public is consulted about proposals for Action Plans; b) the public is given early and effective opportunities to participate in the preparation and review of the Action Plans; c) the results of the public participation are taken into account; d) the public is informed of the decisions taken e) reasonable time frames are provided allowing sufficient time for each stage of public participation. <p>I am advised item 4.6 states that Airport operators should allow a minimum of 16 weeks for the general public to have adequate time to participate in this process.</p>	<p>The July 2017 guidance to Airport Operators that DEFRA issued to Wycombe Air Park outlined the process that was to be followed when revising the plan. Paragraph 3.4 of the guidance states:</p> <p>“It is envisaged that once the plan has been revised it will be presented to the Airport’s Consultative Committee for comment, and any other appropriate bodies depending on the extent and nature of the revisions. The Airport Operator should summarise the comments received in the revised plan together with their response to the issues raised.”</p> <p>This is the guidance that has been followed, the response timescale was discussed with a DEFRA representative before it was sent to the JCC, both parties agreed that there was sufficient time for comments to be received.</p>	
18		In Schedule D of the previous 2013 - 2018 Action Plan there was a commitment by the Air Park to instigate a silencer fitting program so this needs to be updated & incorporated in the revised document.	See response to Serial 11	
19	Booker Common and Woods Protection Society	The majority of the text in the updated plan is unchanged from the original. Whilst this is understandable in some sections in others it appears little effort to bring the plan up to date has been made. It is especially disappointing to note that the General Manager chose not to revise the foreword written by his predecessor but to simply change one word, the date and the name of the		

		'author'.		
20		A comparison between the noise maps in the original and updated plans is difficult due to the change in format. However, it would appear from these maps that there has been very little, if any, reduction in noise levels outside of the Airpark since the original plan was prepared 5 years ago.		
21		An updated 'Action Plan' (Appendix B) showing progress against the original 2013-2018 plan and new actions to be taken should be included in the updated plan. In fact, the entire 'Action Plan' has not changed. There are no new actions and there is no column for progress or status. The text in the plan, particularly in relation to the column 'How Delivered' is therefore either incorrect or suggests that action is yet to start.		
22		Aircraft movement data in the updated plan (Table 5) has been presented as a daily average. The same data in the original plan uses annual totals. This change, has the unfortunate effect of masking the ~10% increase in annual aircraft movement in the past 5 years and the significant shift in distribution from fixed wing to rotary wing aircraft.	<p>Table 5 is representative of the mix of aircraft types and was created by ERCD, the consultant contracted to conduct the noise mapping. Total movements, as supplied to ERCD, are detailed and comparable between plans in Table 1.</p> <p>The chart at Section 5.2 shows a clear representation of any trends in movement numbers.</p>	
23		The body of the NAP contains little information regarding progress relative to the actions defined in the original 2013-2018 plan. Specifically, there is no clear information regarding changes to the distribution of aircraft types over the past 5 years (Action 1) and how this may have affected noise levels and there is absolutely no information on the number of aircraft that have been fitted with silencers (Action 2). On this point the Airpark operator has verbally reported that silencers are ineffective but again this is not included in the update.	See response to Serial 11	

24		The original plan included a commitment to ‘...phase-out our Cessna 152 aircraft and seek to replace them with modern, more environmentally friendly aircraft...’ with the aim of ‘...complete fleet renewal over a period of 12 months...’ once the ‘Head Lease’ was signed. Not only is there no reference to this commitment in the updated plan but section 7.1 states ‘There are two main aircraft types within our training fleet, the two-seat Cessna 152 and the four-seat Piper PA28’. Quite clearly the commitment has not been met and since there is no explanation or reference to it in the updated plan, it appears that it has been abandoned.	See response to Serial 10	
25		In relation to other actions verbal reports have stated that GPS tracking capabilities have been enhanced (Action 3) and that a new ‘complaints handling’ system has been introduced (Action 4) but no mention of these points or their effectiveness is included in the updated plan.	See response to Serial 13	
26		Updating the NAP is a compliance issue and it is up to DEFRA to judge if the requirement has been met. It is however also a real opportunity to demonstrate to the JCC and the wider local community that the Airpark management is serious about controlling noise and is making real and measurable progress in doing so. This plan update unfortunately fails to do that and hence it is difficult to conclude anything other than ‘no progress has been made’.		
27	Great Marlow Parish Council	The time allowed for consultation for both the JCC and the public was not sufficient, having only had first sight of the revised action plan on the 22nd August. At the emergency JCC meeting held in September the members were told that an extension from 31st August to 30th September had already been requested by the airpark management to DEFRA, so the 2019-2024 action plan must have been in the pipeline for some considerable time. This is unacceptable. Also there was no attempt to engage with the public since the emergency meeting was declared not	See response to Serial 17.	

		open for public comment. Why was there a delay in informing the JCC and why was there no engagement with the public? There is not even time for the airport to reply to the JCC concerning which, if any, of the members' comments will be included in the submitted plan to DEFRA on 30th September.		
28		There is no clarity on the issue of secondary silencers despite commitments made by Air Park management to instigate a silencer fitting programme. The action plan should be quite specific on this with clearly defined actions and target dates.	See response to Serial 11	
29		Commitments made in the 2013-18 plan to replace Cessna 152 aircraft and a target of complete fleet renewal over twelve months once the new Head Lease was signed have not been met and the draft 2019-24 plan is silent on this point.	See response to Serial 10	
30		Again there is a lack of clarity on the process for recording, categorizing and responding to noise complaints and an absence of data showing trends.	See response to Serial 13	
31		This draft plan is a major disappointment and has all the hallmarks of a box ticking exercise. It's a duplication of much of the 2013-2018 plan, lack of transparency and absence of clear targets and delivery dates demonstrates a lack of commitment to noise management and disregard for the valid concerns of local residents. It is completely at odds with the fine words from the Managing Director in the Forward – "we are wholly committed to behaving as a responsible and good neighbour".		
32	Hambleden Parish Council	The DEFRA Guidelines specifically state that in preparing and revising Action Plans Airport Operators must ensure that there is public consultation about proposals for Action Plans, and that they are given early and effective opportunities to participate in the preparation and review of Action Plans. Further, that reasonable time	See response to Serial 17.	

		frames are provided allowing sufficient time for each stage of public participation. We are aware that this should be a minimum of a 16 week process. The original draft plan was not circulated to members of the JCC until 22nd August, with a deadline for any responses 21st September. The next JCC meeting is scheduled for late October, meaning that it would be impossible to discuss the draft plan. The emergency meeting scheduled on 13th September specifically excludes the public from commenting. Frieth Village Society should certainly have been consulted about the new draft plan, following an extensive report on violations that they have previously submitted to the Air Park.		
33		In Schedule D of the previous 2013 - 2018 Action Plan there was a commitment by the Air Park to instigate a silencer fitting program so this needs to be updated & incorporated in the revised document. A timeline including dates for this to be implemented is necessary in the new plan to avoid this important matter slipping once more. The circuit training manoeuvres carried out over Frieth cause regular noise and disturbance to residents. Since the previous Action Plan, there is now increasing importance attached to the need for tranquillity in Areas of Outstanding Natural Beauty.	See response to Serial 11	
34		Again, dates and timelines should be included within the new plan for training aircraft to have FLARM systems fitted to assist Air Traffic Control and greatly reduce the risk of collisions, as well as ensuring that live transponders are used for small aircraft to ensure that pilots are keeping to the permitted flight paths without deviation.		
35		It is very important that the new plan does not suffer from the previous lack of implementation and commitment to detail that the current plan does.		

36	Lane End Parish Council	the current noise plan has not been implemented/followed properly (e.g. recommendations about silencers)		
37		both the current and new plans have no <i>firm</i> measurable deadlines or commitments - its all very vague or aspirational - hence nothings is really changing		
38		The Airpark have not really updated the plan - its basically the same as the last one (which hasn't been implemented properly)		
39		some of the supporting data is out of date or based on old studies/ reports		
40		the procedure and timing re the new plan and consultation have not been correctly followed (hence the hastily arranged emergency meeting this week)	See response to Serial 17	
41		In particular the issues around silencers and transponders need to be addressed with firm deadlines as these will make a difference to the noise and allow any future debate to be based on real facts and data about aircraft movements/speeds/heights/ trajectories etc rather than "he said vs she said" arguments).	See response to Serial 11	
42	Sands Residents Association	This document, which is virtually identical to the existing action plan, is to be welcomed. The existing plan remained in stasis during the head lease negotiations, but the completion of this should enable action. That said, there are a number of salient points that require comment. Whilst the foreword wants to continue to embrace new ideas and technology, there are no targets or binding dates in the subsequent proposals.		

43		2.3 The regulations include specific requirements that the Action Plan should meet, but there is no timetable or binding commitment. The engagement with the JCC does not include any sort of solution framework for resolution of problems. The discussion of this plan with the JCC will be rushed, and there will be no time for the wider consultation before 30th September, although note, section 9.0 suggests this is not necessary. This is a dubious conclusion.	See response to Serial 17	
44		4.3 Aircraft noise certificates, required for all planes. Does the older training fleet have these?	All UK registered aircraft are required to hold noise certificates. This data is freely available to the public on the CAA's G-INFO service: https://siteapps.caa.co.uk/g-info	
45		5.1 Noise management procedures. The tolerance suggested for route compliance is 1kM wide. This was quoted in the past by Airpark management as $\pm 100\text{m}$. With a 1kM wide channel many annoying violations can take place.	See response to Serial 6	
46		Whilst GPS tracking data is available to the Airpark, many complaints are not satisfactorily dealt with. If an open system of tracking were available on-line, there would be no dispute, the evidence would be indisputable, and any time spent by the airpark staff looking into complaints would be considerably reduced. After all one can freely plot all commercial aircraft around the world with many commonly available applications.	The utilisation of GPS trackers, as introduced in the 2013-18 plan, works well for a small number of aircraft, however for the number of aircraft based at Wycombe Air Park the system is labour intensive and often falls short of the mark when investigating complaints. We have a desire to require the carriage of ADS-B for based aircraft which among many benefits will give greater transparency through the use of services such as FlightRadar24, however, the device availability and interoperability is not yet sufficient for widespread adoption and therefore we cannot include this in this revision of the plan.	To continue to follow the progress of CAP1391 ADS-B devices and require their carriage when deemed suitable.
47		The robust pilot briefing procedures, are supposed to have been in place for many years, yet still serious failures to adhere to the NAZs still occur.		
48		6.0 The first three maps have no mapping detail to identify the area covered. It is not clear how much of this mapping was actually measured, and how much was a desktop operation. WAPAG have measured much higher actual levels of noise	Figures 1, 2 and 3 are geometric diagrams showing the route data used and are not intended to be maps. Section 6.6 clearly states that the noise model types were validated in 2012.	

		than the predictions suggest.		
49		6.1 The movement table shows 2016 movements during the assessment period. There are no 2017 figures.	The DEFRA Guidance clearly states that 2016 data is to be used for the production of the noise contours, therefore this is the focus of the movement data to avoid confusion. 2017 movements are included in the chart in Section 5.2. Total movements in 2017 were impacted significantly by Air Traffic Control closures.	
50		7.1 Suggests positively that legacy aircraft can be retro-fitted with silencers, particularly the PA28s. However Appendix B rows back on this suggesting that no viable solution can be found. This is not the opinion of the secondary silencer manufacturer, other Airfields or the German fleet that have mandatory fitting of these units. We would suggest more substantial evidence is required.	See response to Serial 11	
51		Any respite from the proposed southern (night flying) circuit, which would clearly benefit much of the affected area, is now dependent of re-development of the reserved business park area by WDC and is a long way into the future, not offering much hope for residents.	In order to widely use the southern circuit the existing gliding activity would need to relocate to the north of the airfield. Whether or not this happens will firstly depend on the outcome of ongoing lease negotiations between Wycombe District Council and Booker Gliding Club and secondly on the successful submission and acceptance of a Safety Case to the Civil Aviation Authority.	
52	Frieth Village Society	The limited time available for comments we feel are not in accord with reasonable interpretation of regulations for a plan that requires public consultation and resulted in members having to review the document in undue haste.	See response to Serial 17	
53		Key measures aimed at mitigating noise impact from WAP are very much as identified in the previous plan and five years on, except for the fitting of GPS, continue to be without a time commitment.		
54		Whilst the undertaking to fit GPS to all WAP based aircraft has been met this has not resulted in an expected benefit on the ground nor does it meet the claim of ensuring greater transparency. The use of transponders is also mentioned in the plan as a means of tracking aircraft and would have a number of benefits including that of	It would appear that there is some confusion surrounding the different technologies available and in use. All aircraft based at Wycombe Air Park are either fitted with a Mode S transponder or carry a GPS tracker. This allows the position to be recalled after the flight to check track keeping, however it doesn't provide the pilot with any means to check their track whilst in flight.	

		transparency.		
55		The complaints procedure, an essential part of any business, remains a difficult procedure to operate with no time line given for developing a more user friendly system. The undertaking to respond quickly to complaints is largely ignored but if fulfilled would have the potential to create goodwill.	See response to Serial 13	
56		The matter of fitting silencers remains obscure as outlined in 7.1 of the plan, there is clearly an interaction of various factors which have to be assessed. In light of the potential benefits of any overall reduction in noise the fitting of silencers requires a clear programme of evaluation and time line.	See response to Serial 11	
57		Also under 7.1 there is reference to the use of the latest aviation technology in a small number of aircraft at WAP and the resultant anecdotal evidence that such aircraft are significantly quieter. We are clear that once such aircraft are within noise range of Frieth their use results in the most significant reduction of noise impact from amongst the various measures available. Although attention is drawn to these quieter modern aircraft in the plan the subject is not pursued. This is in contrast to the stated intention to introduce such aircraft to replace Cessna aircraft in the fleet within a year once the new lease was signed, a signing completed in 2016. This is a significant step backwards in noise mitigation and does little to instil confidence in the process or commitment to the process.		
58		The continued absence of a detailed timetable of actions behind the various elements of the noise mitigation programme is a great disappointment and undermines the value of the plan.		

59	Mr Allies – Resident of Skirmett	<p>This document contains many of the same promises as its 2013 – 2018 predecessor, there are:</p> <ul style="list-style-type: none"> • no firm actions or commitments outlined and • no deadlines for achievement for any of the commitments 		
60		<p>The 2013 – 2018 Noise Action Plan (NAP) has been unhelpful and misleading in regard to any actions the Wycombe Air Park (WAP) has or could have taken to resolve the issues.</p> <p>For years the community was told to wait for the Wycombe District Council Lease Agreement before any commitments would be met. The WAP/WDC Lease agreement was signed 10 October 2016 including reference to the “compliance of the Noise Action Plan”</p>		
61		<p>There is no evidence that any of the commitments made in the 2013-18 NAP are being met.</p>		
62		<p>Forward S. Brown “we are acutely aware of the responsibility we have within the community ...not least the impact of the noise we create” we have developed practices and procedures that endeavor to ameliorate our impact</p> <p>The questions should be asked.</p> <ul style="list-style-type: none"> • What are those practices, when were they started, what measurements were taken to verify their success or failure, How have they been communicated to the public? 		
63		<p>In schedule “B” of the same document stated under action and timescale: “Immediate. Successful outcome of Head Lease negotiation would facilitate acceleration of replacement. There are no lists of any aircraft replacement. The arrival of Twin Engine aircraft to the fleet advertised as 20+ has if anything increased the sound issues.</p>	See response to Serials 7 & 57	
64		<p>In Appendix “D” 2013-18 NAP Wycombe District Council wrote “the case for secondary silencers has been made and feels that aircraft not due for replacement should be fitted forthwith. Aircraft that will not be replaced within three years after date of new Head Lease should also be</p>	See response to Serial 11	

		<p>incorporated in silencer program.</p> <p>In Response Wycombe Air Park wrote: Agreed. Since the drafting of this Management and Action Plan the airpark has instigated a silencer fitting program. There are currently three aircraft fitted with silencers and others are modified as and when they enter scheduled maintenance.</p> <p>7.1 “Consequently, the Air Park has commenced fitting silencers to the PA28 aircraft fleet with three of five aircraft having been modified to date.”</p> <p>And in schedule “B” Financial Implications were supplied in 8.0 so there was no misunderstanding that the commitments were backed up by the reality of funding. Current evidence suggests that not only have secondary silencers not been installed but some have been removed.</p>		
65		<p>Currently all Gliders at WAP use collision avoidance transmitters. The Wycombe Air Park training aircraft do not. The current WAP GPS tracking system is completely in house with the result that there is no “LIVE” visibility and no validation of complaints can be verified independently. The 2019 2024 NPA does not contain any updates or progress to the complaint procedure or the tracking system. In fact, the example of WAP aircraft tracking used in the report is dated 7 August 2012.</p>	See response to Serial 54.	
66		<p>The detailed WAP Noise Abatement Procedures are located in the NAP documents, instructions to pilots and the 2009 videos on the WAP website. All documents call for strict observation at all times. The flight path instructions are specific to all aircraft operating as WAP Training Aircraft they include the NAZ zone and the wider airspace where the flight paths are published.</p> <p>The response to complaints from WAP has at best been dismissive and there is no evidence of any resolution. No published mapping from the GPS system has verified any complaints.</p>		
67		<p>The 2018 – 2024 NAP has updated Noise contour mapping. The JCC was not made aware that the process was underway and no opportunity for a briefing on the complex results were offered. Clearly not an example of Executive Summary 1.2 “Engage with the surrounding</p>		

		community to better understand their concerns"		
68		<p>The DEFRA Guidelines are clear in the "Preparing and Revising Action Plans Airport Operators must ensure that":</p> <ul style="list-style-type: none"> • the public is consulted about proposals for Action Plans; • the public is given early and effective opportunities to participate in the preparation and review of the Action Plans; • the results of the public participation are taken into account; • the public is informed of the decisions taken • reasonable time frames are provided allowing sufficient time for each stage of public participation. • Airport operators should allow a minimum of 16 weeks for the general public to have adequate time to participate in this process. <p>The reference to Public in this context is the District and Parish Councils. The 16 weeks would have allowed for the councils to properly communicate with the wider public and create input for the formation of any new Noise Action Plan.</p>	See response to Serial 17	