
CODDY'S FARM

NOISE IMPACT ASSESSMENT

LOWER WHITEGATE FARM, WHITEGATE ROAD, HOLMFIRTH HD9 2TH

Client: Coddy's Farm

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REPORT VERSION CONTROL:

Document Reference	Date	Report Prepared by	Report Checked and Authorised by
P10435-NA1-V1	29/09/26	Joshua McLelland, Ba(Hons), PGDip, MIOA	M. J. Malone, BSc (Hons), MIOA

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1 INTRODUCTION

1.1 Overview

1.1.1 By instruction from Coddy's Farm ('the client'), NoiseAir was commissioned to provide a noise impact assessment for a planning application (planning reference: 2026/62/91305/W) at Lower Whitegate Farm, Whitegate Road, Holmfirth HD9 2TH, herein referred to as the 'site'.

1.1.2 General limitations with respect to this NIA are outlined in **Appendix A**.

1.2 General Information

1.2.1 At the time of writing, the site is currently an open field to the rear of an operational farm.

1.2.2 The site is situated in a rural setting and is surround by open fields on all sides.

1.3 Identified Noise Sensitive Receptors

1.3.1 The following noise sensitive receptor (NSR) has been identified:

- Whitegate Leisure Camping and Caravan Site c. 116 m to the southeast of the site.

1.3.2 **Figure 1** presents a location block plan of the site in relation to its surrounding area.

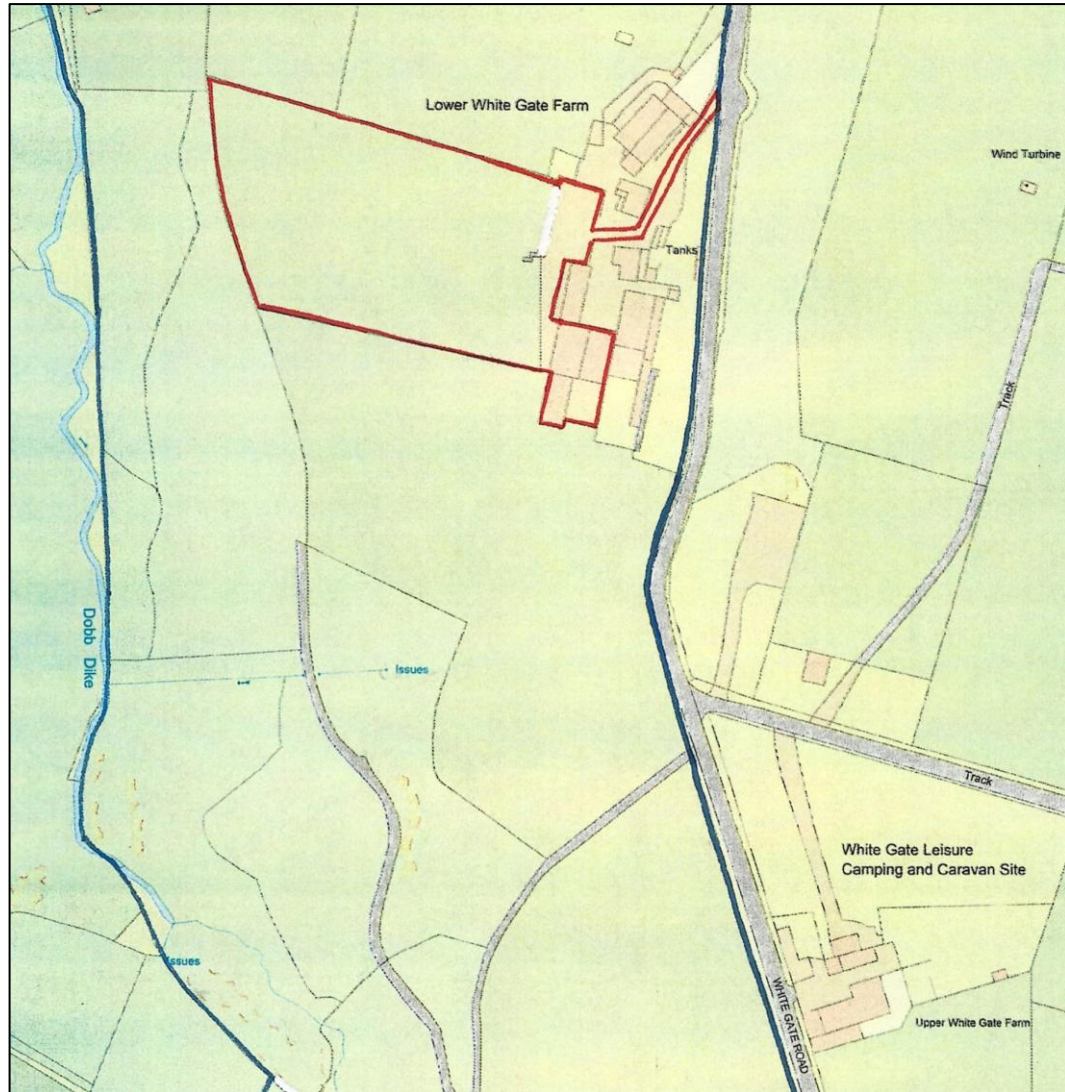


Figure 1: Location block plan of the site within its local context.

1.4 Development Proposals

- 1.4.1 At the time of writing, the proposals comprise the change of use of an existing grazing field to a dog exercise area, together with the conversion of three redundant agricultural buildings to provide dog kennel accommodation and both indoor and outdoor dog exercise facilities.
- 1.4.2 The following assessment is based upon client supplied plans as presented in **Figure 2**.

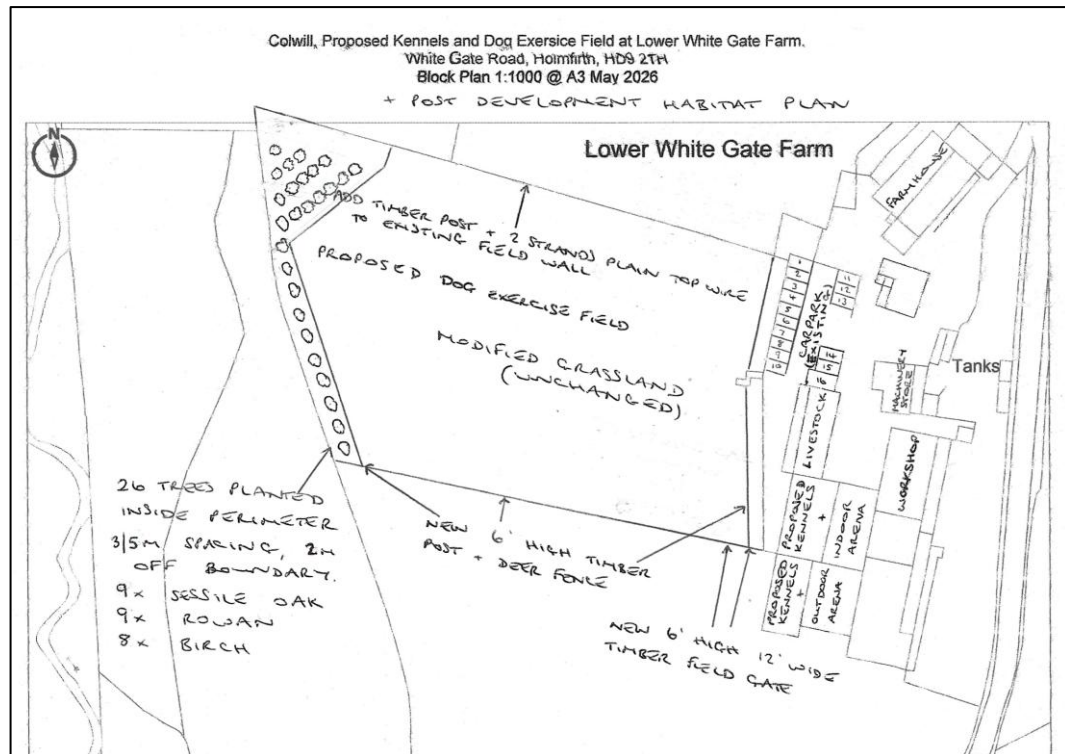


Figure 2: Proposed plans.

- 1.4.3 As per the client supplied planning statement, the following times are allocated for the hours of operation:
- Monday – Sunday: 06:00 hours – 22:00 hours.
- 1.4.4 The planning statement provided to NoiseAir also outlines that the exercise field will be used in one hour slots between 07:00 to 19:00 hours.
- 1.4.5 The proposal also includes 16 no. parking spaces.
- 1.4.6 Due to the small amount of potential traffic over the course of the hours of operation, it is considered that traffic noise associated with the development will have little impact on the nearby receptors that front onto Whitegate Road. Therefore, noise from the kennels/ exercise areas will be considered only.
- 1.4.7 Plans indicate that 18 kennels will form part of the development.

2 ASSESSMENT METHODOLOGY AND SCOPE OF WORKS

2.1 National Planning Policy Framework [NPPF 2026]

- 2.1.1 The NPPF sets out the government's planning policies for England and how they are expected to be applied. It aims to achieve sustainable development; stating that planning policies and decisions should prevent unacceptable levels of noise pollution from new and existing development while affirming that National Policy Statements form part of the national planning policy framework and should be considered in planning decisions.

2.2 Noise Policy Statement for England (NPSE)

- 2.2.1 The Noise Policy Statement for England (NPSE), published in March 2010, states the long-term vision of Government noise policy 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".
- 2.2.2 The NPSE sets out the government's overall policy on noise within the context of sustainable development. It introduces three concepts for noise management: avoid significant adverse effects; mitigate and minimise adverse effects; and where possible, contribute to improvements in health and quality of life.
- 2.2.3 It also establishes a hierarchy of noise management actions: avoid; reduce; remedy; mitigate; compensate.
- 2.2.4 The NPSE also introduces the below categories with respect to 'adverse impacts'.

'NOEL – No Observed Effect Level'

- This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

LOAEL – Lowest Observed Adverse Effect Level

- This is the level above which adverse effects on health and quality of life can be detected.

SOAEL – Significant Observed Adverse Effect Level

- This is the level above which significant adverse effects on health and quality of life occur'.

- 2.2.5 The NPSE states that significant adverse effects on health and quality of life should be avoided. Where the impact lies somewhere between LOAEL and SOAEL, it requires that all

reasonable steps are taken to mitigate and minimise the adverse effects of noise. In this regard, a certain degree of impact between LOAEL and SOAEL would be acceptable in terms of planning policy, provided that the impact has been mitigated and minimised by design.

2.3 Planning Practice Guidance - Noise [PPG 2019]

2.3.1 PPG 2019 provides guidance on how noise should be considered in planning decisions. It was published in 2014 and updated in 2019. The document advises on how to avoid, mitigate or minimise adverse effects of noise through good acoustic design and appropriate conditions or obligations.

2.3.2 **Table 1** summarises the noise exposure hierarchy outlined within the PPG.

Table 1: National Planning Practice Guidance Noise Exposure Hierarchy		
Perception	Increasing Effect Level	Action
Not noticeable	No Observed Effect	No specific measures required
Noticeable and not intrusive	No Observed Adverse Effect	No specific measures required
Lowest Observed Effect Level		
Noticeable and intrusive	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Effect Level		
Noticeable and disruptive	Significant Observed Adverse Effect	Avoid
Noticeable and very disruptive	Unacceptable Adverse Effect	Prevent

2.4 Consultation and Scope of Works

2.4.1 The scope of the assessment includes consideration of the potential impact of breakout noise from the proposed dog kennels upon sensitive areas of existing residential properties surrounding the site.

2.5 Assessment Criteria

2.5.1 At the time of writing, there is no British Standard specifically for assessing noise from dog kennels, daycare centres or associated exercise areas. It is therefore necessary to draw upon relevant published guidance to provide a fair, reasonable and robust basis for assessing the proposals.

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- 2.5.2 The Location of Premises for the Boarding and Breeding of Dogs and Other Animals – Supplementary Planning Guidance, published by South Holland District Council in 1999 (SPG:1999), remains relevant and has historically been used to inform assessments of noise from the boarding, breeding or keeping of animals.
- 2.5.3 Although SPG:1999 seeks to balance the acceptability of such development with the protection of existing amenity, it is now a reasonably old document and predates the more recent evidence, assessment approaches and contextual considerations developed specifically for dog vocalisation.
- 2.5.4 Accordingly, while relevant aspects of SPG:1999 have been acknowledged, the draft ProPG: Guidance for the Assessment and Management of Noise from Dog Kennels is considered to represent the most appropriate and current good-practice framework available and has therefore been used as the principal basis for the assessment of the proposals.
- 2.6 Pro PG: Guidance for the Assessment and Management of Noise from Dog Kennels (DRAFT)**
- 2.6.1 The draft ProPG: Guidance for the Assessment and Management of Noise from Dog Kennels, prepared by the Association of Noise Consultants' Noise from Dog Kennels Working Group, provides good-practice guidance for assessing and managing dog vocalisation from kennel buildings and external exercise areas at noise-sensitive receptors. It applies to facilities including boarding kennels, daycare premises and dog training facilities; associated traffic and fixed plant are to be assessed separately using methodologies appropriate to those sources.
- 2.6.2 The guidance recommends using representative measured or suitably justified library source data and accounting for the number of dogs, barking duration and the particular operation of the facility. It identifies 10 minutes of vocalisation within a 60-minute period as a reasonable assessment indicator, adaptable where justified. Supporting measurements cited in the guidance indicate a representative source level for one dog of approximately 65–66 dB LAeq,T and 90 dB LAFmax at 10 m. Predictions should account for building sound insulation where dogs are indoors, outdoor propagation, topography and screening, as well as the cumulative contribution of kennel buildings and exercise areas where these may operate concurrently.
- 2.6.3 For assessment purposes, the guidance proposes a 15-minute Dog Vocalisation Level (DVL), derived from the predicted or measured LAeq level after correction for vocalisation on-time and the application of appropriate character corrections for impulsivity, intermittency or other distinctive features. The DVL is compared with the representative 15-minute LA90

background sound level. No significant impact is indicated where the DVL is no more than approximately 5 dB above background during the daytime and does not exceed background during the night-time; evening periods should adopt either criterion according to receptor sensitivity and context. A separate night-time LAFmax assessment is also recommended to consider potential sleep disturbance.

- 2.6.4 The numerical outcome should be interpreted in context, including the absolute sound level, the character of the existing acoustic environment, receptor sensitivity, time and duration of vocalisation, and the proposed management arrangements. The guidance promotes mitigation through appropriate siting and orientation of kennel buildings and external areas, building-envelope sound insulation and internal absorption, solid impermeable acoustic screening around exercise areas where necessary, and a site-specific Noise Management Plan addressing supervision, controlled exercise, minimisation of visual and audible triggers, and complaint response procedures. As the document is marked as draft, it has been treated as emerging good-practice guidance rather than as a formally adopted standard.

3 ACOUSTIC SURVEY

3.1 Acoustic Survey Details

- 3.1.1 NoiseAir carried out fixed position noise monitoring between 27th August 2026 to 2nd September 2026 at the site.
- 3.1.2 Unattended noise monitoring was undertaken at one monitoring location (ML1) the position of which is shown in **Figure 3** below.

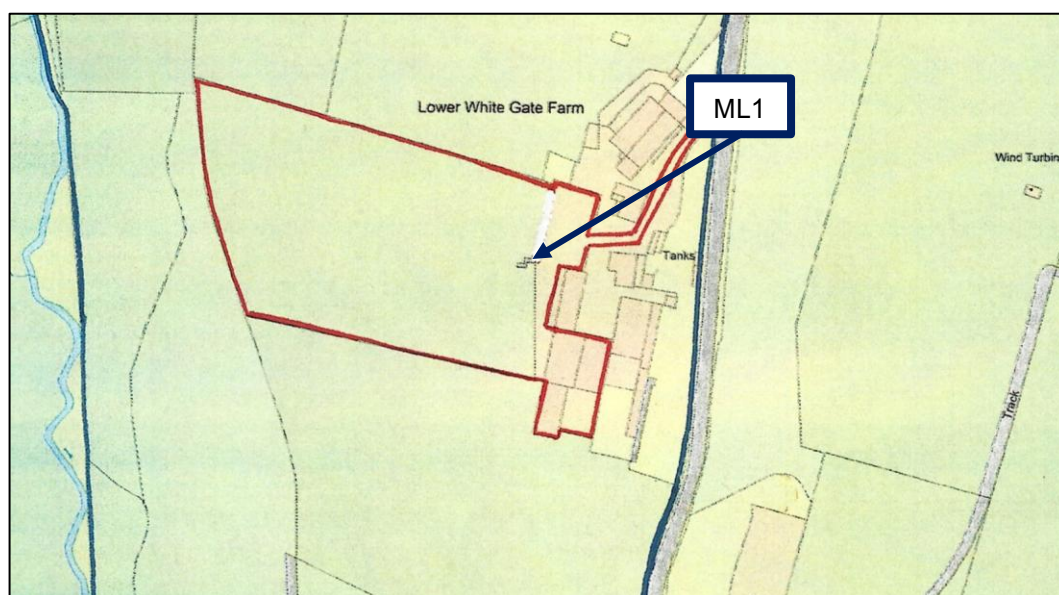


Figure 3: Approximate monitoring location.

- 3.1.3 The noise measurements were made using a Class 1, integrating sound level meter (SLM).
- 3.1.4 The acoustic equipment was calibrated to comply with Section 4.2 of BS 7445-1:2003¹, before and after the noise monitoring periods.
- 3.1.5 Details of the SLMs and associated field calibration can be found in **Table 2** below.

Table 2: Summary of SLM Used for Survey and Associated Field Calibration.						
SLM (Serial #)	Preamp (Serial #)	Microphone (Serial #)	Calibrator (Serial #)	Calibration		
				Start	End	Drift
SoundExpert 821 (40655)	PRM821 (002156)	377B02 (364998)	SVANTEK (10818)	-26.4	-25.9	0.5

- 3.1.6 The weather conditions were noted to be as outlined in **Table 3** during each site visit.

¹ BS7445-2003 "Description and measurement of environmental noise – Part 1: Guide to quantities and procedures.

Table 3: Summary of Weather Conditions Noted During Each Site Visit.

	27/08/26	02/09/26
Roads (Wet / Dry)	Dry	Dry
Temperature (°C)	19	15
Wind speed (ms ⁻¹)/ Direction	<5.0 SW	<5.0
Cloud Cover (Approx. %)	100	100
Humidity (%)	86	84

3.2 Measured Sound Levels

3.2.1 **Figure 4** details a level vs time graph of the recorded L_{Amax} , L_{Aeq} , and L_{A90} sound levels over 15-minute time periods for the entire monitoring duration at ML1.

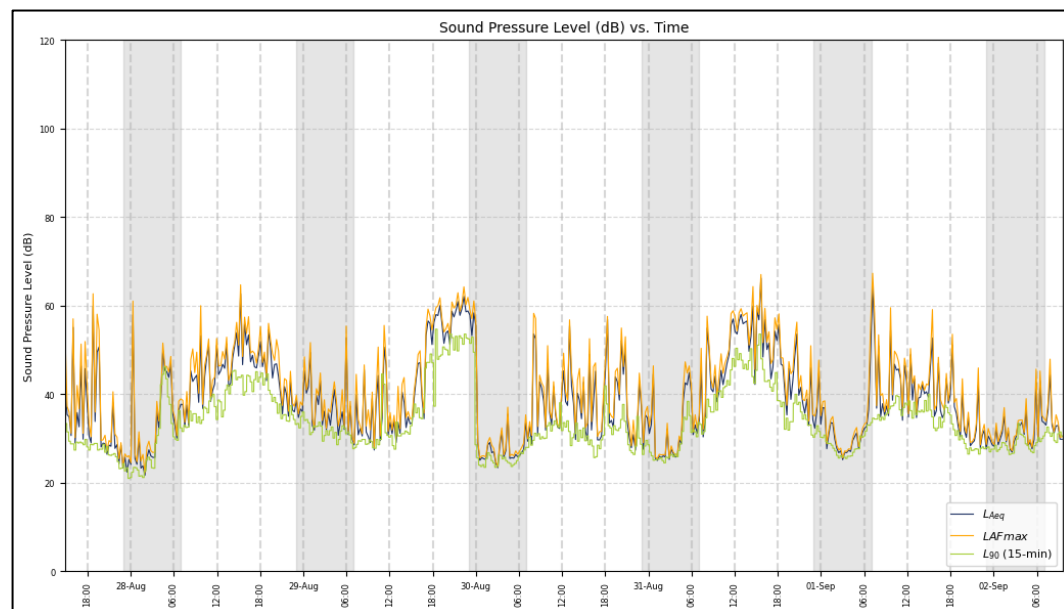


Figure 4: Level vs. time graph showing L_{Amax} , L_{Aeq} and L_{A90} sound levels – ML1.

3.3 Background Sound Levels

3.3.1 A histogram showing the distribution of measured $L_{A90, T}$ sound levels during the proposed hours of operation at ML1 are presented in **Figure 5** and **Figure 6**.

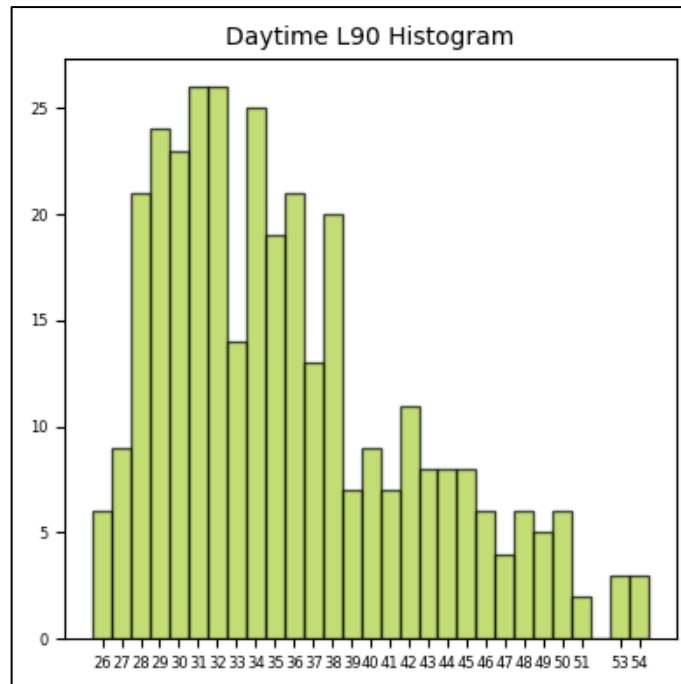


Figure 5: Daytime $L_{A90,15min}$ noise readings at ML1.

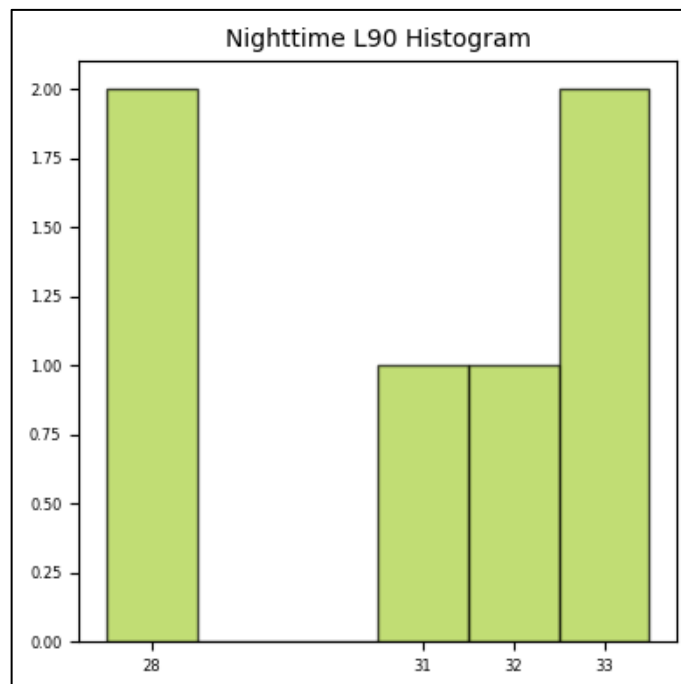


Figure 6: Night-time $L_{A90,15min}$ noise readings at ML1.

3.3.2 Background sound levels of 29 dB(A) and 28 dB(A) $L_{A90,T}$ have been selected for the subsequent assessment for the daytime and night-time, respectively.

4 3D SOUND MODEL

4.1 Overview

- 4.1.1 A 3D sound model has been constructed in SoundPLAN™ to calculate the predicted sound pressure levels at the nearest NSRs. The model uses the calculation method from ISO 9613-2 to account for the distance between the source and receiver and any screening or reflections provided by the surrounding buildings.
- 4.1.2 In accordance with SPG:1999, the number of dogs barking at a boarding site at any one time is assumed as the total number of dogs multiplied by 0.6. The maximum number of potential dogs in this case is 18 and therefore 11 dogs are modelled.
- 4.1.3 Each barking dog is modelled as a point source at 1 m from local ground level and calibrated to the octave frequency spectrum presented in **Table 4** which is adopted from SPG:1999.

Table 4: Octave Frequency Spectrum for One Dog Barking at 10 m from Source.					
Frequency (Hz)	125	250	500	1000	2000
dB	26.0	38.5	60.9	63.1	55.4

- 4.1.4 As per the guidance presented in SPG:1999, the dog noise source has been positioned in the geometric centre of the external dog exercise area and outdoor area. Moreover, area sources have been applied to all façade where kennels are located with the aforementioned sound level and frequency spectrum.
- 4.1.5 Dog barks of 100 dB(A) $L_{AF(max)}$ have also been assessed using the frequency spectrum above.
- 4.1.6 Source levels have been adopted from the SPG:1999 as they are marginally more conservative than those presented in Pro-PG Dog Kennel guide.

4.2 3D Sound Model – Cumulative Noise Breakout

- 4.2.1 A noise contour plot illustrating the propagation of the sound from source to receptor during the hours of operation ($L_{Aeq,T}$) is given in **Figure 7**.



Figure 7: Noise contour plot during the Daytime – $L_{Aeq,T}$.



Figure 8: Noise contour plot during the Night-time – $L_{Aeq,T}$.

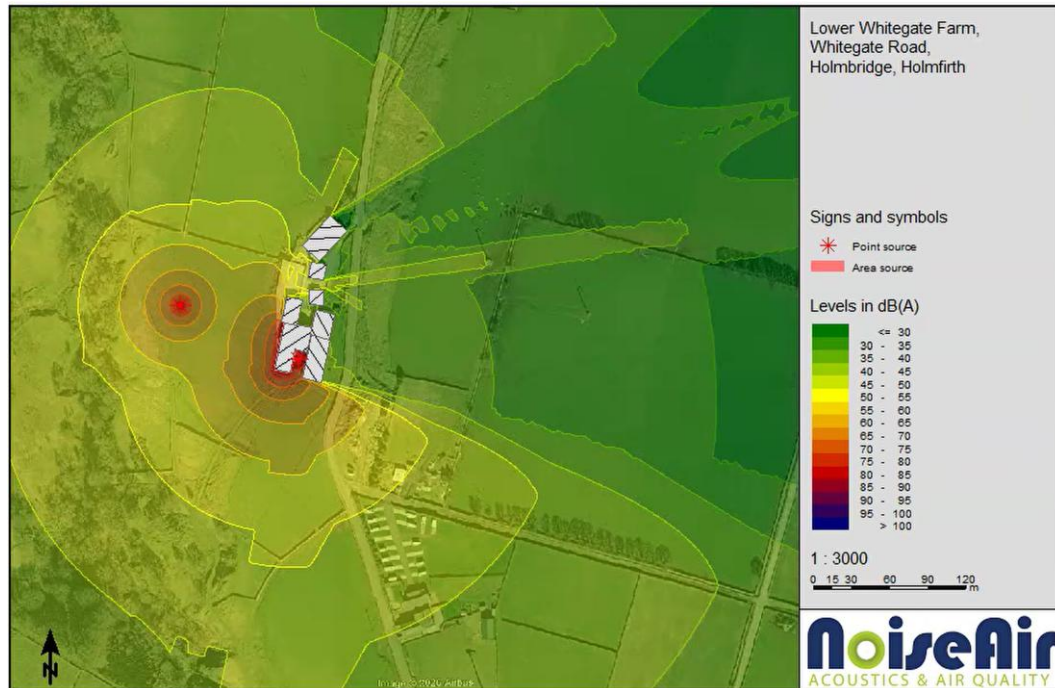


Figure 9: Noise contour plot – $L_{AF(max)}$.

4.2.2 Receptor locations used in the noise model with calculated façade levels are presented in **Figure 10** below.



Figure 10: Illustration of the 3D sound model receptor locations.

4.2.3 **Table 5** below details the predicted noise levels at each façade receptor location.

Table 5: Calculated Receptor Noise Levels				
Receptor Number	Floor	dB $L_{Aeq,1hour}$	dB $L_{Aeq,15min}$	$L_{AF(max)}$
1	GF	28.6	27.7	49.2

- 4.2.4 The highest calculated $L_{AF(max)}$ noise level is 49 dB(A). This is considered to be a low maximum value given the context of the area and is unlikely to have an adverse impact on the surrounding area.

5 ACOUSTIC ASSESSMENT

5.1 Overview

- 5.1.1 An acoustic assessment has been undertaken considering operational noise breakout from the site with respect to the closest identified noise sensitive receptor.

5.2 Sound Level

- 5.2.1 A worst-case sound level of 29 dB $L_{Aeq,T}$ as presented in Section 4 of this report has been adopted for this assessment.

5.3 Background Sound Level

- 5.3.1 Background sound levels of 29 dB(A) and 28 dB(A) $L_{A90,T}$ have been selected for the subsequent assessment during the day and night-time respectively.

5.4 Assessment

- 5.4.1 The initial assessment for the calculated noise breakout levels for all noise sources is presented in **Table 6**.

Table 6: BS 4142:2014 Assessment to Determine the Likelihood of Adverse Impacts on the Worst Affected Noise Sensitive Receptors		
Quantity	Daytime	Night-time
	dB(A)	
Sound Level as Calculated in SoundPLAN™	29	28
Background Sound Level dB L_{A90}	29	28
Excess of Rating Level over Background Sound Level	0	0
Initial Indication of Impact	Low Impact	

5.5 Discussion

- 5.5.1 The calculated dog vocalisation level at the nearest receptor is 29 dB and 28 $L_{Aeq,T}$. This is equal to the representative daytime and night-time background sound levels. In the context of the draft ProPG: Guidance for the Assessment and Management of Noise from Dog Kennels, the daytime result is below the threshold at which no significant impact is expected, namely where the Dog Vocalisation Level does not exceed the background sound level by more than approximately 5 dB.

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- 5.5.2 The highest calculated external maximum level is 49 dB LAFmax. The ProPG notes that night-time maximum levels should also be considered in relation to the generally accepted internal bedroom criterion of 45 dB LAFmax. Even without allowing for any attenuation through the building façade, the calculated external level is only 4 dB above this internal criterion; with a partially open window, a reduction of approximately 10–15 dB would typically be expected, giving an indicative internal maximum level of approximately 34–39 dB LAFmax. This is below 45 dB LAFmax and indicates that individual barking events would be unlikely to result in significant sleep disturbance. On balance, the calculated average and maximum noise levels indicate that the proposals are unlikely to cause a significant adverse effect at the nearest receptor and that noise should not represent a reason for refusal of planning permission.
- 5.5.3 Whilst the calculated noise levels at the NSR positions are reasonably low and are considered likely to present as a low impact in planning terms, good practice suggests that some basic recommendations should be considered should the proposals become operational.

6 RECOMMENDATIONS

6.1 Introduction

- 6.1.1 This section sets out the recommended mitigation and operational controls required to manage noise from the proposed dog day care facility. The recommendations are based on the assessment findings and are intended to ensure that noise breakout is minimised through both building-envelope improvements and effective day-to-day noise management.

6.2 Kennel Building Envelope Specifications

- 6.2.1 As part of the conversion of the existing farm outbuilding(s) to provide dog kennel accommodation, the external building envelope should be upgraded as necessary to provide effective containment of dog vocalisation noise. The completed wall and roof constructions should each achieve a weighted sound reduction index of not less than 40 dB Rw.
- 6.2.2 The building should be appropriately acoustically sealed throughout. All wall and roof joints, junctions, eaves, abutments, doors, windows, ventilation openings, service penetrations and other potential gaps should be designed and constructed to avoid significant sound leakage or flanking transmission. Any replacement or infill construction, including treatment of existing agricultural doors or other lightweight elements, should provide acoustic performance compatible with the minimum 40 dB Rw requirement so that the overall sound insulation of the kennel envelope is not compromised.

6.3 Noise Management Plan

- 6.3.1 It is recommended that the client prepares a noise management plan for the operation of the development site. The noise management plan should recognise that noise emissions from dog kennel premises are highly dependent on day-to-day operational control, including dog numbers, supervision, dog behaviour, use of external areas and the management response to elevated barking. The noise management plan should cover the following main points:
- Identify an individual/ manager responsible for noise management for the business;
 - Outline clear procedures to minimise noise breakout which should include;
 - Confirm the maximum number of dogs on site and ensure that this does not exceed the number assessed within this report, unless subject to further acoustic review;
 - Ensure that dogs remain indoors during general activity periods, with external use limited to short, supervised toilet breaks only;

-
- Keep external doors and windows closed when dogs are present within the building, except for necessary access and egress;
 - Prohibit unsupervised external play or exercise unless this is subject to further acoustic review;
 - Procedures for non-compliant dogs (in terms of excessive barking);
 - Procedures to ensure dogs are stimulated appropriately;
 - Procedures for separation of dogs into groups where appropriate;
 - Procedures for staff to monitor barking events and intervene promptly where elevated or prolonged barking occurs;
 - Procedures to stagger dog exercise as appropriate;
 - Provide an appropriate channel for the reporting of noise complaints by residents to the business;
 - Provide appropriate complaints logs and procedures when a complaint is received;
 - Outline procedures for investigation of any complaints that may be received and options for remedial action. This should include logging of any actions taken.
 - Where complaints persist a procedure to undertake professional noise investigation.
 - Provide staff training and briefing on the requirements of the noise management plan, including responsibilities for supervision, door/window control, external use and complaint response;
 - Review the noise management plan following any substantiated noise complaint, material change to the operation, increase in dog numbers, or change to the use of external areas.

7 CONCLUSIONS

- 7.1.1 NoiseAir was commissioned by Coddy's Farm to assess noise from the proposed conversion of three agricultural outbuildings to provide 18 dog kennels, with associated indoor and outdoor exercise areas at Lower Whitegate Farm. The proposed operating hours are 06:00–22:00, with the exercise field used in one-hour slots between 07:00 and 19:00.
- 7.1.2 Noise monitoring established representative background sound levels of 29 dB LA90,T during the daytime and 28 dB LA90,T during the night-time. A SoundPLAN model, using conservative source assumptions from the South Holland guidance and assessed in the context of the draft ProPG for dog kennels, predicted levels at the nearest receptor of 29 dB LAeq,T and 49 dB LAFmax.
- 7.1.3 The predicted LAeq,T level is equal to the daytime and night-time background sound level. This is within the draft ProPG daytime criterion. Allowing 10–15 dB attenuation through a partially open window, the predicted external maximum level would correspond to approximately 34–39 dB LAFmax internally, below the 45 dB LAFmax bedroom guideline value.
- 7.1.4 The kennel walls and roofs should achieve at least 40 dB Rw, with the building envelope appropriately sealed at doors, windows, joints, ventilation openings and service penetrations. A Noise Management Plan should also control dog numbers, supervision, external exercise, barking and complaint response. Subject to these measures and operation in accordance with the assessed proposals, significant adverse noise effects are unlikely and noise should not prevent planning permission being granted.

APPENDIX A - REPORT LIMITATIONS

This Report is presented to Coddy's Farm and may not be used or relied on by any other person or by the client in relation to any other matters not covered specifically by the scope of this report.

Notwithstanding anything to the contrary contained in the report, NoiseAir Limited is obliged to exercise reasonable skill, care and diligence in the performance of the services required by Coddy's Farm and NoiseAir shall not be liable except to the extent that it has failed to exercise reasonable skill, care and diligence, and this report shall be read and construed accordingly.

This report has been prepared by NoiseAir Limited. No individual is personally liable in connection with the preparation of this report. By receiving this report and acting on it, the client or any other person accepts that no individual is personally liable whether in contract, tort, for breach of statutory duty or otherwise.

The conclusions and recommendations contained in this report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from who it has been requested and that such information is accurate. Information obtained by NoiseAir Limited has not been independently verified by NoiseAir Limited unless otherwise stated in the report and should be treated accordingly.

Where assessments of works or costs identified in this report are made, such assessments are based upon the information available at the time and where appropriate are subject to further investigations or information which may become available.

Where / if estimates and projects are made within this report, are made based on reasonable assumptions as of the date of this report, such statements however by their very nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. NoiseAir Limited specifically does not guarantee or warrant any estimates or projects contained in this report.

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APPENDIX B - GLOSSARY

A-weighted sound pressure, p_A	Value of overall sound pressure, measured in pascals (Pa), after the electrical signal derived from a microphone has been passed through an A-weighting network. <i>NOTE: The A-weighting network modifies the electrical response of a sound level meter with frequency in approximately the same way as the sensitivity of the human hearing system.</i>
A-weighted sound pressure level, L_{pA}	Quantity of A-weighted sound pressure in decibels (dBA).
Acoustic environment	Sound from all sound sources as modified by the environment [BS ISO 12913-1:2013].
Ambient sound	Totally encompassing sound in a given situation at a given time, usually composed of sound from many sources near and far. <i>NOTE: The ambient sound comprises the residual sound and the specific sound when present.</i>
Ambient sound level, $L_a = L_{Aeq,T}$ (BS 4142:2014)	Equivalent continuous A-weighted sound pressure level of the totally encompassing sound in a given situation at a given time, usually from many sources near and far, at the assessment location over a given time interval, T <i>NOTE: The ambient sound level is a measure of the residual sound and the specific sound when present.</i>
Background sound	Underlying level of sound over a period, T, which might in part be an indication of relative quietness at a given location.
Background sound level, $L_{A90,T}$ (BS 4142:2014)	A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T, measured using time weighting F and quoted to the nearest whole number of decibels.
Break-in	Noise transmission into a structure from outside.
Break-out	Noise transmission from inside a structure to the outside.
Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$	Value of the A-weighted sound pressure level in decibels (dB) of a continuous, steady sound that, within a specified time interval, T, has the same mean-squared sound pressure as the sound under consideration that varies with time.
Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$ (BS 4142:2014)	Value of the A-weighted sound pressure level in decibels of continuous steady sound that, within a specified time interval, $T = t_2 - t_1$, has the same mean-squared sound pressure as a sound that varies with time.
Equivalent sound absorption area of a room, A	Hypothetical area of a totally absorbing surface without diffraction effects, expressed in square metres (m ²), which, if it were the only absorbing element in the room, would give the same reverberation time as the room under consideration
Facade level	Sound pressure level 1 m in front of the façade. <i>NOTE: Facade level measurements of L_{pA} are typically 1 dB to 2 dB higher than corresponding free-field measurements because of the reflection from the facade.</i>
Free-field level	Sound pressure level away from reflecting surfaces. <i>NOTE: Measurements made 1.2 m to 1.5 m above the ground and at least 3.5 m away from other reflecting surfaces are usually regarded as free-field. To minimize the effect of reflections the measuring position has to be at least 3.5 m to the side of the reflecting surface (i.e. not 3.5 m from the reflecting surface in the direction of the source). Estimates of noise from aircraft overhead usually include a correction of 2 dB to allow for reflections from the ground.</i>
Measurement time interval, T_m (BS 4142:2014)	Total time over which measurements are taken. <i>NOTE: This may consist of the sum of a number of non-contiguous, short-term measurement time intervals.</i>

Noise criteria	Numerical indices used to define design goals in a given space.
Octave band	Band of frequencies in which the upper limit of the band is twice the frequency of the lower limit.
Reference interval, T_r (BS 4142:2014)	Specified interval over which the specific sound level is determined. <i>NOTE: This is 1 h during the day from 07:00 h to 23:00 h and a shorter period of 15 min at night from 23:00 h to 07:00 h.</i>
Residual sound (BS 4142:2014)	Ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound.
Residual sound level, $L_r = L_{Aeq,T}$ (BS 4142:2014)	Equivalent continuous A-weighted sound pressure level of the residual sound at the assessment location over a given time interval, T .
Rating level, L_{Ar,T_r}	Equivalent continuous A-weighted sound pressure level of the noise, plus any adjustment for the characteristic features of the noise. <i>NOTE: This is used in BS 7445 and BS 4142 for rating industrial noise, where the noise is the specific noise from the source under investigation.</i>
Sound pressure, p	Root-mean-square value of the variation in air pressure, measured in pascals (Pa) above and below atmospheric pressure, caused by the sound.
Sound pressure level, L_p	Quantity of sound pressure, in decibels (dB).
Sound reduction index, R	Laboratory measure of the sound insulating properties of a material or building element in a stated frequency band.
Specific sound level, $L_s = L_{Aeq,T_r}$ (BS 4142:2014)	Equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T_r .
Specific sound source (BS 4142:2014)	Sound source being assessed.
Third octave band	Band of frequencies in which the upper limit of the band is 2% times the frequency of the lower limit.
Weighted level difference, D_w	Single-number quantity that characterizes airborne sound insulation between rooms, but which is not adjusted to reference conditions. <i>NOTE Weighted level difference is used to characterize the insulation between rooms in a building as they are. Values cannot normally be compared with measurements made under other conditions (see BS EN ISO 717-1).</i>

Symbols

D_w	Weighted level difference (dB)
D_{nT}	Standardized level difference (dB)
$D_{nT,w}$	Weighted standardized level difference (dB)
L_{Amax}	Maximum noise level (dB)
$L_{A,T}$	Rating level (dB)
L_n	Normalised impact sound pressure level (dB)
L'_{nT}	Standardised impact sound pressure level (dB)
$L'_{nT,w}$	Weighted standardised impact sound pressure level (dB)
$L'_{n,w}$	Weighted normalised impact sound pressure level (dB)
L_p	Sound pressure level (dB)
L_{pA}	A-weighted sound pressure level (dB)
$L_{AN,T}$	Percentile level (dB)
L_{AE}	Sound exposure level (dB)
$L_{Aeq,T}$	Equivalent continuous A-weighted sound pressure level (dB)
p	Sound pressure (Pa)
p_A	A-weighted sound pressure (dB)
$p_{A(t)}$	Instantaneous A-weighted sound pressure (Pa)

R	Sound reduction index (dB)
R_w	Weighted sound reduction index (dB)
T	Time interval (also used for reverberation time) (s)
t_0	Reference time interval (s)

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TEL. 0116 272 5908

EMAIL. INFO@NOISEAIR.CO.UK

