the NOISE consultancy
planning specialists

# Noise assessment for a proposed kennel development at Riddle Pit Farm, Penistone Road, Carlecotes, Barnsley

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## 1 Introduction

1.1 In May 2008 The Noise Consultancy was commissioned to carry out a noise impact assessment for a proposed dog boarding kennels at Riddle Pit Farm, Penistone Road, Carlecotes, Barnsley, South Yorkshire.

1.2 The assessment considers the potential impact of noise from the proposed boarding kennels on the area with regard to relevant guidance. The assessment compares the existing background noise levels in the area with predicted noise from the proposed kennels.

## 2 Site Description

2.1 The development site is a rural location at Riddle Pit Farm, Penistone Road Carlecotes, Barnsley. Riddle Pit Farm is a small holding with a house, stables and a barn and lies in a landscape of undulating fields and moorland close to the edge of the Peak District National Park. It is situated *in a rural* location some 800m to the north of the hamlet of Carlecotes.

2.2 The nearest noise sensitive premises to Riddle Pit farm are the Fox House Public House and Fox House Farm. The Fox House Public House lies 250m to the north and is a restaurant and carvery with no residential accommodation or outdoor area for customers. Fox House Farm is a small holding with fields and stables and is the nearest residential property. It is home to a number of horses, dogs, domestic reared guinea fowl and geese and lies some 300m to the north west of the development site. A row of stone cottages lies beyond Fox House Farm.

2.3 Hepworth Iron Company Ltd, a clay pipe manufacturers is a large industrial land use which lies to the east of the site beyond a screen of trees on the far side of Penistone Road.

2.4 The proposal is to erect a building comprising 50 kennels, use part of the existing barn for an animal hydrotherapy pool and convert the stables into a reception area and dog grooming facility.

2.5 The proposed kennels are to be purpose-built and the layout and orientation of the kennels have been carefully designed to minimise noise breakout. The building will be constructed in UPVC panels with a Plasticol profiled metal and translucent sheeting roof. The kennels will be located on land to the rear of the existing barn and will be set into the hillside so maximising the natural sound attenuation afforded by the setting. In addition it is proposed that an earth bund will be provided around the rear and side of the kennels to screen the kennels from view from the nearest noise sensitive properties and to provide additional noise attenuation. The existing barn will provide screening to the front elevation of the kennels.

## 3 Standards and Noise Assessment Criteria

3.1 In the absence of any specific guidance or recommended noise standards relating to dog boarding establishments, reliance must be placed upon proven methods of measurement such as the Supplementary Planning Guidance published by South Holland District Council.

3.2 In general, a noise is liable to provoke complaints whenever it exceeds the background noise by a certain margin or when it attains a certain absolute level. Noise levels at or below the existing background level are unlikely to give rise to complaints. This fundamental *acoustic* principle underpins the guidance contained in British Standard BS 4142 'Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas' (1997) and the South Holland DC guidance.

3.3 **British Standard BS 4142 'Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas' (1997)** describes a method of determining the level of a noise of an industrial nature together with procedures for assessing whether the noise is likely to give rise to complaints from people living in the vicinity. The standard gives an indication of the likelihood of complaints by comparing the dominant noise (expressed as a rating level) with the background noise. The standard states that "a difference of around +10dB or higher indicates that complaints are likely. A difference of around +5dB is of marginal significance. If the rating level is more than 10dB below the measured background noise level then this is a positive indication that complaints are unlikely."

3.4 **Planning Policy Guidance Note PPG24: Planning and Noise 1994**
This document gives guidance to Local Authorities in determining planning applications both for noise-sensitive developments and for those activities that will generate noise. The guidance requires local planning authorities to ensure that development does not cause an unacceptable degree of disturbance.

3.5 **World Health Organisation: Guidelines for Community Noise**

This document states that in dwellings, the critical effects of noise are on sleep, annoyance and speech interference. To avoid sleep disturbance, the guideline value for inside bedrooms is 30dB $L_{Aeq}$. Further, the document recommends that to protect the majority of people from being seriously annoyed during the daytime, the noise level at outdoor living areas should not exceed 55dB $L_{Aeq}$ for a steady continuous noise.

3.6 **Supplementary Planning Guidance published by South Holland District Council** on the 'Location of Premises for the Boarding and Breeding of Dogs and Other Animals – Noise Issues' (1999). This guidance was produced following detailed research in the late 1990s and provides a means of assessing the suitability of proposals for dog boarding and breeding premises in the vicinity of noise sensitive premises. It states that "the objective shall be that the specific noise level does not exceed the background noise level".

## 4 Noise Measurement Survey

4.1 Noise measurement surveys were carried out between 1015hrs and midday on Friday 13 June 2008 and between 1430 and 1545hrs on Sunday 15 June 2008. These times were chosen as being representative of the most noise sensitive times when local residents are likely to want to sit out and enjoy their gardens.

4.2 The main noise sources audible at the noise sensitive premises were vehicles occasionally on Penistone Road, birdsong, aircraft, a cockerel, tractors and dogs barking at Fox House Farm. Riddle Pit Farm is currently home to 5 dogs which are pets. There was no noise from these dogs during the noise assessment.

4.3 Noise measurements were carried out at the two nearest noise sensitive locations. Measurement position 1 was to the rear corner of the Fox House Public House on the boundary of the pub site with a line of sight to Riddle Pit Farm. Measurement position 2 was at Fox House Farm some 4m in front of the gable end facing Riddle Pit Farm. There was no line of sight to Riddle Pit Farm from this location. The measurement positions are shown on the site plan in Appendix I.

4.4 Noise measurements were taken using a Casella CEL 500 Series precision sound level meter. The instrument was set to frequency weighting "A" and the time weighting "Fast". It was calibrated on site before and after noise monitoring with no variance noted.

4.5 Weather conditions were suitable for noise monitoring during both monitoring periods. The temperature was approximately 14°C and there was a light breeze with no rain.

## 5 Results of Noise Monitoring

As would be expected in such a rural location existing noise levels are low with the ambient noise level dominated by road traffic on Penistone Road.

The measurement data is summarised in the following tables:

Fox House Public House

| Date | Time (hrs) | dB $L_{Aeq}$ | dB $L_{A90}$ | dB $L_{A1}$ |
|---|---|---|---|---|
| Friday 13 June 2008 | 1030 - 1045 | 46 | 41 | 54 |
| | 1045 - 1100 | 46 | 40 | 52 |
| Sunday 15 June 2008 | 1430 - 1445 | 47 | 40 | 53 |
| | 1445 - 1500 | 46 | 40 | 54 |

Fox House Farm

| Date | Time(hrs) | dB $L_{Aeq}$ | dB $L_{A90}$ | dB $L_{A1}$ |
|---|---|---|---|---|
| Friday 13 June 2008 | 1050 - 1110 | 46 | 36 | 56 |
| | 1110 - 1125 | 45 | 35 | 52 |
| Sunday 15 June 2008 | 1505 - 1520 | 44 | 35 | 50 |
| | 1520 - 1545 | 46 | 36 | 51 |

## 6 Noise Impact Assessment

6.1 This assessment has been carried out in accordance with the Supplementary Planning Guidance provided by South Holland DC. The guidance recognises that the impact on the nearest noise sensitive receptor will be dependent on the noise level from dogs barking and the noise reduction measures that are in place at the kennels together with distance and screening attenuation.

6.2 Using the assessment method detailed in the Supplementary Planning Guidance produced by South Holland DC (1999) the noise level at the nearest noise sensitive premises can be predicted in the following way.

(i) Determine activity noise levels from the kennels
(ii) Determine the distance attenuation between source and receiver
(iii) Determine screening effects due to barriers and kennels construction
(iv) Subtract the attenuation from the activity noise level to obtain the specific noise level at the receiver location
(v) Add prevailing wind penalty correction (+3dB) to the specific noise level downwind of kennels where applicable
(vi) Compare the corrected specific noise level with the background noise level

6.3 The activity noise level from the proposed 50 kennels is taken as being 80dB LAeqT (from figure D1 of the Supplementary Planning Guidance). This is based on the assumed worst case situation of 25 dogs barking in the open air at a distance of 10m for a cumulative period of 10 minutes in any hour.

6.4 The distance to the nearest noise sensitive properties, the Fox House Public House and Fox House Farm, is approximately 250m and 300m respectively. From table D2 of the Supplementary Planning Guidance the distance attenuation over soft ground is taken as 35dBA.

6.5 An earth bund is to be provided between the kennels and the nearest noise sensitive property which will completely screen the kennels from view and is estimated to provide an additional 10dBA attenuation.

### 6.6 Noise Assessment at Fox House Public House

| | |
|---|---|
| Activity noise level | 80dB LAeqT. |
| Distance attenuation | 35dBA |
| Barrier attenuation | 10dBA |
| Specific Noise Level at receiver | 35dBA |
| Prevailing wind correction | +3dBA |
| Corrected Specific Noise Level | 38dBA |
| Background levels (Fox House PH) | 40dB LA90 |

The assessment at the Fox House Public House shows that as the specific noise level does not exceed the background level there are unlikely to be complaints and the development would be considered appropriate.

### 6.7 Noise Assessment at Fox House Farm

| | |
|---|---|
| Activity noise level | 80dB LAeqT. |
| Distance attenuation | 35dBA |
| Barrier attenuation | 10dBA |
| Specific Noise Level at receiver | 35dBA |
| Prevailing wind correction | 0 |
| Corrected Specific Noise Level | 35dBA |
| Background levels (Fox House Farm) | 35dB LA90 |

The assessment at Fox House Farm shows that as the specific noise level does not exceed the background level there are unlikely to be complaints and the development would be considered appropriate.

6.8 In addition to the attenuation covered in the assessment above, further attenuation will be provided by the following:

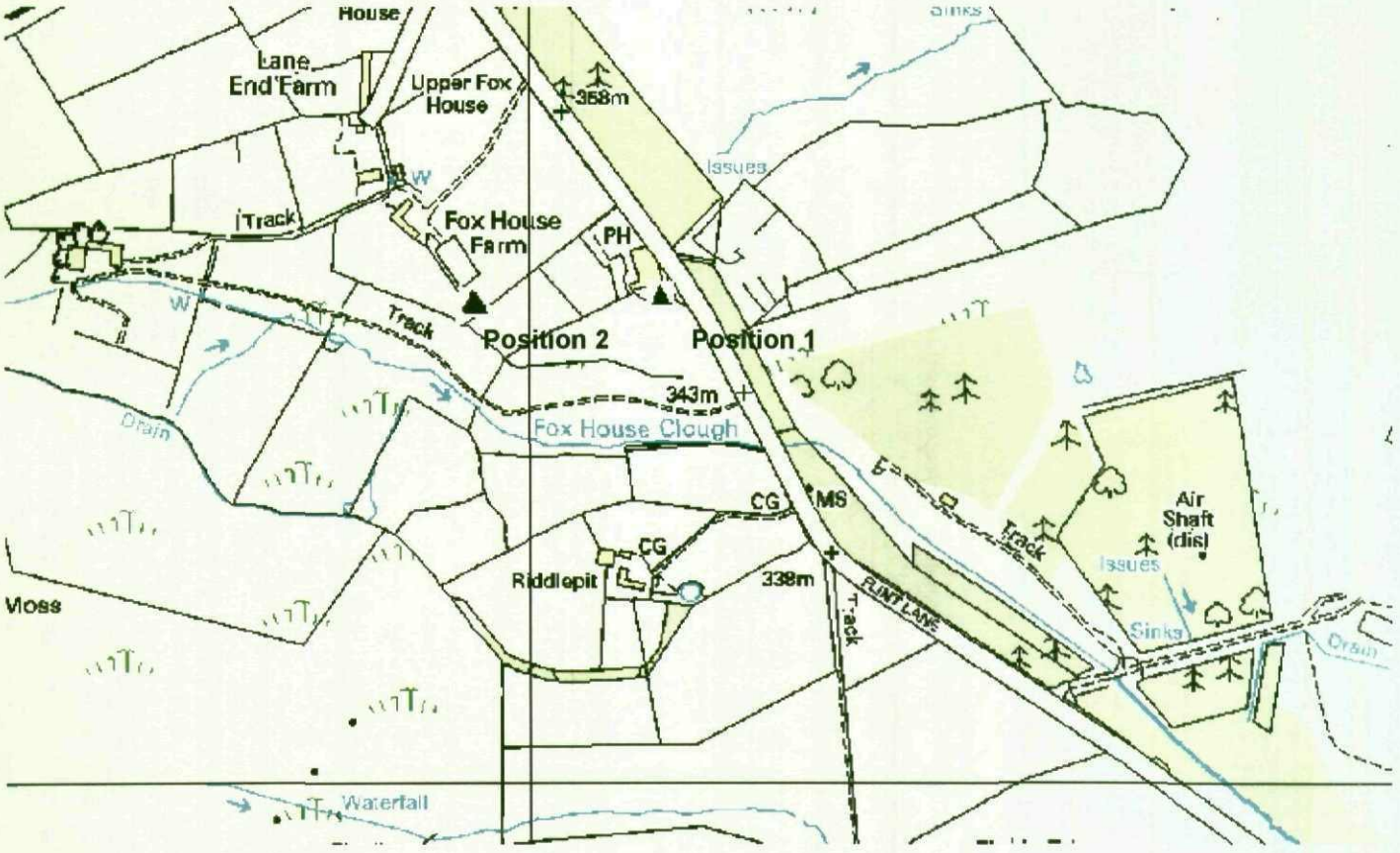
(i) building the kennels into the hillside to the rear of the existing barn
(ii) minimising the disruption to resident dogs and therefore minimising the propensity for barking by locating the kennels away from other properties, the road and screening it from the reception area by the existing barn
(iii) constructing modular kennels to separate the dogs from each other
(iv) using construction materials to minimise reverberation within the kennels

## 7 Conclusion

7.1 A noise impact assessment has been undertaken which has shown that the proposed kennels would not have an adverse impact on the amenity of the nearest noise sensitive premises. There are no reasons on noise grounds why the development should not go ahead.

## Appendix I

Site Plan showing measurement positions



## Appendix II

### Explanation of Terms

**dBA**: Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dBA broadly agree with people's assessment of loudness.

$L_{Aeq,T}$: The equivalent continuous sound level – the sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period, T.

$L_{A90,T}$: The A weighted noise level exceeded for 90% of the time measurement period, T.

$L_{A10,T}$: The A weighted noise level exceeded for 10% of the time measurement period, T.

$L_{A10}$**(18hr)**: The A weighted noise level exceeded for 10% of an 18 hour measurement period.