
Our ref: NIA/5235/14/4936/Addendum

16th July 2014

Mr Andrew Bailey
AA2L Architects
85 Lundhill Road
Wombwell
Barnsley
S73 0RL

ANC
THE ASSOCIATION OF
NOISE CONSULTANTS



Sent by email only: aa2larchitects@btconnect.com

Dear Sir

NOISE IMPACT ASSESSMENT FOR PROPOSED REMOVAL/VARIATION OF CONDITION RELATING TO ON SITE CRUSHING/SCREENING, UNIT 1-3 SHAWFIELD ROAD, CARLTON INDUSTRIAL ESTATE, S71 3HS

1.00 INTRODUCTION

1.01 Thank you for forwarding the comments from Mr James Gardham, Pollution Prevention and Control Officer, Barnsley Metropolitan Borough Council (BMBC).

1.02 For reference:

- The background noise level at the boundary of nearest residential dwellings on Fylde Close was 48 dB L_{A90} (1 hour).
- Based on historical data, ENS adopted a crusher noise level of 72 dB L_{Aeq} at 10 metres, which, in the absence of any screening, results in a BS 4142 rating level of +2 decibels (less than marginal significance).
- Based on historical data, BMBC has a crusher noise level of 85 to 87 dB L_{Aeq} at 10 metres, which, in the absence of any screening, results in a BS 4142 rating level of +15 to + 17 decibels (complaints likely).
- The exact make and model of crusher has not been determined by the applicant at this stage.
- May I suggest, as a robust way forward, that a condition be set such that, for example: *'The specific noise level associated with the proposed crusher, determined by either measurement or calculation, shall not exceed 53 dB LAeq (1 hour) at the boundary of the nearest residential dwelling'*. This then provides the applicant with the opportunity to source a suitable crusher unit and/or provide localised screening to the crusher unit, as required.

I trust the foregoing is sufficient for your needs. Should you have any queries regarding the above, please do not hesitate to contact me.

Yours sincerely

Jonathan Rigg
MIOA, Diploma in Acoustics & Noise Control, MEng (Hons)
Environmental Noise Solutions Limited

Appendix 1 Glossary of Acoustic Terms

Sound Pressure Level (L_p)

The basic unit of sound measurement is the sound pressure level. As the pressures to which the human ear responds can range from 20 μ Pa to 200 Pa, a linear measurement of sound levels would involve many orders of magnitude. Consequently, the pressures are converted to a logarithmic scale and expressed in decibels (dB) as follows:

$$L_p = 20 \log_{10}(p/p_0)$$

Where L_p = sound pressure level in dB; p = rms sound pressure in Pa; and p_0 = reference sound pressure (20 μ Pa).

A-weighting Network

A frequency filtering system in a sound level meter, which approximates under defined conditions the frequency response of the human ear. The A-weighted sound pressure level, expressed in dB(A), has been shown to correlate well with subjective response to noise.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq, T}$

The value of the A-weighted sound pressure level in decibels of continuous steady sound that within a specified time interval, T, has the same mean-square sound pressure as a sound that varies with time. $L_{Aeq, 16h}$ (07:00 to 23:00 hours) and $L_{Aeq, 8h}$ (23:00 to 07:00 hours) are used to qualify daytime and night time noise levels.

$L_{A10, T}$

The A-weighted sound pressure level in decibels exceeded for 10% of the measurement period, T. $L_{A10, 18h}$ is the arithmetic mean of the 18 hourly values from 06:00 to 24:00 hours.

$L_{A90, T}$

The A-weighted sound pressure level of the residual noise in decibels exceeded 90% of a given time interval, T. L_{A90} is typically taken as representative of background noise.

$L_{AF \max}$

The maximum A-weighted noise level recorded during the measurement period. The subscript 'F' denotes fast time weighting, slow time weighting 'S' is also used.

Sound Exposure Level (SEL or L_{AE})

The energy produced by a discrete noise event averaged over one second, no matter how long the event actually took. This allows for comparison between different noise events which occur over different lengths of time.

Weighted Sound Reduction Index (R_w)

Single number quantity which characterises the airborne sound insulation properties of a material or building element over a defined range of frequencies (R_w is used to characterise the insulation of a material or product that has been measured in a laboratory).

Appendix 2
Site Location Plan with Approximate Monitoring Position

