



Mr G.J.Perry,
G.J.Perry. Planning Consultant,
62 Carter Street,
Uttoxeter,
ST14 8EU.

Ref: L.2394A

Date: 08/05/2018

Dear Graeme,

Noise Measurements at Tearne Quarry, Hollington:

Further to my visit to Tearne Quarry on 15/03/2018, and the subsequent report, you asked for an estimate of the effectiveness of the proposed 2 m earth bund, topped with a 2 m acoustic fence. The manufacturers of acoustic fences claim an attenuation of up to 28 dB(A) for their products which is dependent on integrity of the fence, build quality, wood thickness etc.

I personally prefer to look at the calculations in the Control of Road Traffic Noise book (HMSO 1988). Chart 9 is a graphic of potential barrier correction as a function of path difference. This chart uses the increased difference in length of the path the noise has to travel to predict the amount of noise attenuation created by a barrier. The barrier will deflect the path of the noise upwards, meaning that to reach the receptor the noise path has to bend, which creates a reduction in the noise level.

In this situation with the noise source at the base of the quarry, and the proposed houses 30 metres back from the top edge, the calculation of path difference is not easy, because of the presence of the quarry face. However based on this, my best estimate is that the presence of a 4 m barrier will produce a noise reduction of 14 dB(A) at the façade of the houses, and a 2 m barrier would produce a noise reduction of 11 dB(A) again at the façade of the houses.

If the 2 m barrier was installed, when the machinery was working in the quarry, the noise would be reduced to 51 dB(A), which is actually below the 52 dB(A) LAeq recorded at the quarry face with no working in progress. The effect of the 4 m barrier would be a marginal further reduction in the noise level, but with an aesthetic loss from the 2 m earth bund.

Yours sincerely
For Aspen Environmental Ltd,

A handwritten signature in black ink, appearing to read 'Geoff Buck', written over a light blue rectangular background.

Dr Geoff Buck,
Director.