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Project No:	TBC	Sheet No:	1
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TITLE	Barlestone Road Bottesford	Approved for Construction by:		Date:	
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Vibration Assessment

Rig 4501-2 No. * Although different calculation methods use different wording and notation, these values are the same as the system energy

Separation of piling and structure 15.00 m

System Energy = 720.00 kJ/cycle

From BS5228-2 (2009)

$$V_{res} = \frac{Kc}{x^{1.4}}$$

where; V_{res} = resultant PPV (mm/s)
 x = Surface distance (m)
 Kc = 95 (Scaling factor)

Therefore, projected vibration = 2.1 mm/s

From Ciria 142 (1992) (after Attewell et al (1990/1) and Oliver and Selby (1991))

$$v = b \left(\frac{\sqrt{E}}{r} \right)^x$$

where; v = peak particle velocity at r
 E = pile energy input *
 r = radial distance between source and receiver
 b = 1.18
 x = 0.98

Therefore, projected vibration = 2.1 mm/s

Summary

BS5228-2 (2009)	=	2.1 mm/s
Ciria 142 (1992)	=	2.1 mm/s

Calculated Vibration Vs. Distance from Source