

Technical Memorandum

P_2013_01530

To: Martyn Manning (East Staffs BC)
From: Mike Potts (Echo Affiliates Ltd)
CC: James Malkin (East Staffs BC), Grant Anderson (Addleshaw Goddard LLP)
Date: 9 April 2014
Re: Addendum technical memorandum on noise issues related to JCB Beamhurst development

The following addresses queries raised with respect to potential noise effects associated with the proposed development of a new factory at the JCB operations near Beamhurst, Uttoxeter and follows on from your response to the planning application consultation, and a telephone conversation between us.

During our telephone conversation we discussed your response and were able to clarify your further information requirements, which I would summarise as follows:

1. Is there a need to undertake further noise monitoring to establish the longer-term noise arising from traffic movements on the A50?
2. Is there a need to assess the proposed JCB factory in more detail and in accordance with the guidance in BS 4142?
3. What will be the effect for residents at Chapel Farm and Brookside Cottage and is further noise monitoring needed?
4. What are the potential traffic impacts for residents adjacent to the A522 immediately either side of the roundabout which leads to/from the A50 west-bound access/exit?
5. What are the potential traffic impacts along the A 522 through the village of Beamhurst?

We agreed the following at the time of our conversation as follows:

1. No. The noise from the A50 is relatively constant throughout the day and night and additional noise monitoring would not further inform the assessment.
2. There is very little noise of any description arising from the current JCB operations at this site and it is intended that the new facility will be operated in the same fashion; there is,

therefore, no effective 'source' noise with which to undertake a BS 4142 assessment and such assessment is not required.

3. The construction of the new factory building will create a very significant screen against existing traffic noise arising from traffic movements on the A50 although it is not possible to precisely quantify the degree of sound attenuation that the new factory building will provide, with respect to the A50 traffic noise, but it can be suggested that it will be significant. Thus, whilst the new factory access road may give rise to increased light and heavy vehicle movements in closer proximity to the residential properties than the A50, these movements will tend to be slow-speed, on new road surfacing and, in the case of light (staff) vehicle traffic, concentrated into a relatively short period of time, several times a day; as a purely precautionary measure, in order to minimise noise from the new access road affecting the residents at Chapel Farm and Brookside Cottage, JCB Ltd intend to install a fence/noise barrier along the northern side of the access road even though this is has not been shown at any time to be specifically necessary; I have advised that this should, ideally, be approximately 1.5 metres in height and they have agreed to this suggestion and plans will be amended accordingly. This is simply an additional, precautionary measure provided by the company in the interests of being a good neighbour and should not be taken to imply that an adverse noise effect is predicted due to vehicle movements on the access road; it is suggested that the development-generated vehicle movements on the new site access road will produce only a marginal increase in noise. On balance, it can be inferred that the residents of Chapel Farm and Brookside Cottage will experience an improved noise situation.

Since our conversation further data has become available which allows the remaining two points to be addressed, as follows:

4. The traffic impact assessment has been awaiting updated traffic data that were being produced by BWB Consulting in co-ordination with the Local Authority. The data relating to this section of the road network are set out in Table 1 at Appendix A. The data show the 2012 measured baseline traffic, 2015 scheme development opening year baseline and development traffic (taking account of two other Committed Developments) and 2018 baseline and development traffic. The data used were for the PM peak period which showed greater traffic volumes and, therefore, potentially greater noise effects

The data show that staff traffic increases in 2015 are less than 15% and will, therefore, have a negligible effect in terms of noise, based on the convention that a 25% increase in traffic will give rise to a 1 dB increase in noise levels¹. The data for that year do suggest a relatively significant percentage increase in heavy goods vehicle traffic of approximately 26%; however, the numbers of vehicles this relates to is only an extra 4 heavy goods vehicles in the PM peak. It can be inferred from this that in the context of the existing significant traffic volumes on these road links, including numerous existing heavy goods vehicles, this is unlikely to have any more than a minor noise impact.

¹ Highways Agency, 2009. *Design Manual for Roads and Bridges* (Volume 11, Part 3, Section 7)

In 2018, the data in Table 1 suggest that staff traffic increases are just over 25% which would be approximately equivalent to a 1dB increase in noise; however, longer term noise changes of approximately 3dB are taken as being necessary in order for there to be a potentially audible change in noise levels, and that would require a doubling of traffic (100% increase). It is also worth noting that the transport assessment takes account of a new junction from the A50 closer to the JCB factories and this effectively removes all the JCB heavy goods traffic from the road links under consideration. It can be inferred from this that the traffic noise situation may actually improve for the residents adjacent to the A522 by the A50 west-bound off-slip roundabout.

5. With respect to JCB-related traffic passing through Beamhurst, the data provided by BWB Consulting (Figures 1 and 2 at Appendix A) indicate that in 2015 3 heavy goods vehicles would travel along the A522 through the village in the PM peak period whilst in 2018 an additional 2 vehicles would use this route. This is, as previously, a seemingly significant percentage increase but actually only relates to a very small number of vehicles and there are unlikely to be any significant adverse noise effects.

I trust that this provides sufficient information to answer the outstanding queries but, should you require further information or clarification, please don't hesitate to contact me.

Yours sincerely,

Mike Potts

Director & Principal Acoustic Consultant
Echo Affiliates Ltd

Appendix A: Traffic data and assessment

Link	2012 baseline			2015 Base Flows w other CD			2015 JCB Cabs Dev traffic			2015 Impact	
	Two-Way Flow, PM (1645-1745)										
	Lights	HGVs	HGV %	Lights	HGVs	HGV %	Lights	HGVs	HGV %	Lights	HGVs
A522 (west of Tunncliffe Way)	689	18	2.5%	838	19	2.2%	119	4	3.5%	14.2%	23.4%
A522 (west of A50 on/off slip rbt)	766	16	2.0%	917	17	1.8%	119	4	3.5%	13.0%	26.3%
A522 (east of A50 on/off slip rbt)	664	11	1.6%	777	11	1.4%	104	0	0.0%	13.4%	0.0%
			2015 totals inc JCB Cabs								
			957	23	2.3%						
			1036	21	2.0%						
			882	11	1.3%						

Link	2018 Base Flows w other CD			2018 JCB Cabs Dev traffic			2018 Impact		Impact 2018 v 2015		
	Two-Way Flow, PM (1645-1745)										
	Lights	HGVs	HGV %	Lights	HGVs	HGV %	Lights	HGVs	Lights	HGVs	
A522 (west of Tunncliffe Way)	860	19	2.2%	230	0	0.0%	26.7%	0.0%	27.4%	0.0%	
A522 (west of A50 on/off slip rbt)	942	17	1.8%	230	0	1.8%	24.4%	0.0%	25.1%	0.0%	
A522 (east of A50 on/off slip rbt)	798	12	1.4%	230	0	1.4%	28.8%	0.0%	29.6%	0.0%	
			2018 totals inc JCB Cabs								
			1090	19	1.7%						
			1172	17	1.8%						
			1028	12	1.4%						

Figure 1: 2015 PM peak HGV traffic assignment

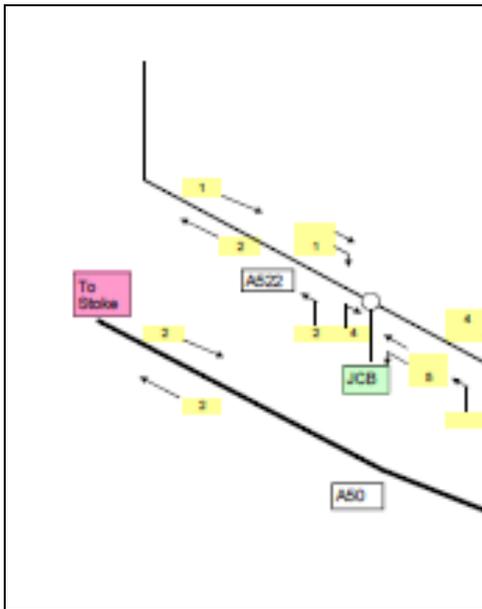


Figure 2: 2018 PM peak HGV traffic assignment

