NOISE ASSESSMENT OF
SITE AT
WEST STREET
WORSBROUGH

An Assessment on Behalf of
John R Paley Associates

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Environmental Studies

April 2014

1. Background

It was proposed that the site of the planned development at West Street Worsbrough be assessed so as to determine noise levels with particular reference to road traffic.

2. Criteria

In terms of road traffic noise, Local Planning Authorities still tend to base their assessments on the guidance contained in the Department of Environment publication 'Planning Policy Guidance : Planning and Noise' (PPG 24). This document considers the daytime and night-time noise environment of a site and categorises it based upon these noise levels.

NOISE LEVELS CORRESPONDING TO THE NOISE EXPOSURE **Categories for New Dwellings L_{AeqT} dB**				
	NOISE EXPOSURE CATEGORY			
NOISE SOURCE	**A**	**B**	**C**	**D**
Road traffic				
07.00 – 23.00	<55	55 – 63	63 –72	>72
23.00 – 07.00	<45	45 – 57	57 – 66	>66
Rail traffic				
07.00 – 23.00	<55	55 – 66	66 – 74	>74
23.00 – 07.00	<45	45 – 59	59 – 66	>66
Air traffic				
07.00 – 23.00	<57	57 – 66	66 – 72	>72
23.00 – 07.00	<48	48 – 57	57 – 66	>66
Mixed sources				
07.00 – 23.00	<55	55 – 63	63 – 72	>72
23.00 – 07.00	<45	45 – 57	57 – 66	>66

Where:-

NEC	
A	Noise need not be considered as a determining factor in granting planning permission, although the noise level at the high end of the category should not be regarded as a desirable level.
B	Noise should be taken into account when determining planning applications and, where appropriate, conditions imposed to ensure an adequate level of protection against noise.
C	Planning permission should not normally be granted. Where it is considered that permission should be given, for example because there are no alternative quieter sites available, conditions should be imposed to ensure a commensurate level of protection against noise.
D	Planning permission should normally be refused.

BS 8233:1999 ('Sound insulation and noise reduction for buildings – Code of practice') gives guidance on acceptable noise levels within dwellings (Table 5 Section 7.6.1.3). The following table shows the internal noise levels it recommends with regard to housing:-

Criterion	Typical Situations	Design range $L_{Aeq,T}$ dB	
		Good	Reasonable
Reasonable resting/sleeping conditions	Living Rooms	30	40
	Bedrooms	30	35

For amenity garden areas a daytime L_{Aeq} noise level in the low 50's is generally deemed desirable.

3. Method of Assessment

The site at Worsbrough was visited on the 3rd April 2014 and a long-term noise measurement was set up in the existing office on the site. Due to security concerns the noise was measured through an open window, with an off-set being established by conducting some short-term simultaneous noise measurements outside. Comparison of the outside noise measurements with those taken inside allowed a correction-factor to be established whereby the long-term noise measurement results could be corrected to reflect the 'free field' outdoor noise climate.
A further short-term noise measurement was made at the proposed 'build-line' to establish the difference in noise levels here as compared to the long-term measurement position. (See Figure 1 overleaf).

4. Noise Measurements

Noise measurements were conducted between 3rd April and 7th April 2014.

Equipment used: CEL 268 Type 1 Environmental Noise Meters. (serial nos. 074161/047260)

Calibration: Field calibration was carried out before and after the noise measures using CEL 284/2 Acoustical Calibrator. (ser no. 06411727)

All equipment used was within manufacturer's spec. calibration.

Weather: At the time of the noise measures the weather was overcast (with some brighter spells) with a slight westerly breeze, remaining dry until 7th April when damp weather was moving across the country.

Noise Sources: The site of the proposal is bordered to the north by the B6100 (West Street) and to the west by commercial premises (occasional vehicular movements on their access road was the only observed noise from this source).

Figure 1



Site boundary

A — Long-term noise measurement location

B — Short-term noise measurement to correct ‘A’ to outside measurement

C — Short-term noise measurement to correct ‘A’ to ‘build-line’ measurement

5. Results

The table below shows the measured noise values for the positions within the site shown in Figure 1.

	Noise Measurement Position		
Noise parameter	'A'	'B'	'C'
L_{A10} (18 hour)	43.0 dB	59.0 dB	61.0 dB
L_{Aeq} (16 hour) [daytime]	41.5 dB	57.5 dB	59.5 dB
L_{Aeq} (8 hour) [night-time]	36.6 dB	52. dB	54.6 dB

Notes

- *Noise Measurement Position 'A' represents the long-term measured noise values.*
- *Noise Measurement Position 'B' represents the long-term values corrected to be external 'free-field' noise values.*
- *Noise Measurement Position 'C' represents the long-term values corrected to represent levels at the closest proposed façades to West Street.*

6. Discussion

Under PPG 24 guidance, the site at Worsbrough would fall into Noise Exposure Category 'B' (for both the daytime and night-time periods) whereby :-

"Noise should be taken into account when determining planning applications and, where appropriate, conditions imposed to ensure an adequate level of protection against noise."

Whilst based on the noise measurement exercise a standard sealed unit glazing configuration would reduce internal noise levels within the closest proposed dwellings to West Street to within the 'good' standard quoted in BS 8233, the windows would need to remain closed for this to be the case. Some form of alternative acoustic ventilation might therefore be considered for habitable rooms (Living Rooms, Dining Rooms and Bedrooms) with windows which face onto West Street ('front line' properties only).

As the amenity gardens of these properties are shielded from traffic noise by the buildings themselves, it is assessed that their daytime noise levels will be 50 dB (L_{Aeq}) or lower.

7. Conclusions

The noise measurement showed that whilst the Worsbrough site is adjacent to a fairly busy road, the noise levels generated by it within the site not excessive. Standard glazed sealed units would be sufficient to give a good internal noise standard when closed, but an alternative means of acoustic ventilation might be considered for habitable rooms in the properties immediately adjacent to West St (based on J R Paley Drawing No. D12 4558 01, Rev B).

Tim Summers AMIOA
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