Contents

13 Construction Noise - Appendix 13B

13.1 Construction Traffic Noise Predictions - A-Roads

13.1.1. Road traffic noise has been predicted based on Calculation of Road Traffic Noise (CRTN). CRTN uses Annual Average Weekday Traffic flows (AAWT) over the 18-hour period between 06:00 and midnight, to predict road traffic noise in terms of the noise descriptor $L_{A10,18hr}$.

13.1.2. Basic Noise Levels (BNL) have been predicted, which, as set out in CRTN are road traffic noise level predictions at 10 m from the road.

13.1.3. Road traffic noise predictions have been undertaken for the following scenarios:

- Scenario 1: Traffic flows in 2030
- Scenario 2: Traffic flows in 2030 plus Proposed Development construction traffic
- Scenario 3: Traffic flows in 2030 plus Proposed Development construction traffic plus cumulative development (Mynydd Maen Wind Farm, Trecelyn Wind Farm and Cil-lonydd Solar farm)

13.1.4. The traffic data adopted for the assessment is presented in **Table 13.5**.

Table 13. 5 Traffic data used for the construction road traffic assessment

Road Link Name, DfT Count ID and (location)	Notes	Average Speed (km/h)	Scenario 1		Scenario 2		Scenario 3	
			Total Vehicles	HGV %	Total Vehicles	HGV %	Total Vehicles	HGV %
A4046, Count ID: 86052, (Ebbw Vale) - (North of Central Avenue)	Local authority: Blaenau Gwent Priority Area: None	48	16,900	1.7	16,924	1.9	16,958	2.1
A467, Count ID: 73077, (Swffryd) - (North of Central Avenue)	Local authority: CCBC Priority Area: None	97	14,509	2.8	14,534	2.9	14,568	3.2
A467, Count ID: 78421, (Pantside) - (South of Central Avenue)	Local authority: CCBC Priority Area: Priority Area	32	19,718	4.1	19,742	4.2	19,866	4.6

	(Road) - ID 618

13.1.5. **Table 13.5** includes comments to state where the road links are part of a Priority Area. The Priority Areas highlight 'hotspot' locations where people's homes are exposed to a L_{den} noise level greater than 73 dB according to the strategic noise maps, or where people live alongside concrete trunk roads.

13.1.6. The change in road traffic noise levels has been calculated by comparing the basic noise levels for each scenario. The results are presented in **Table 13.6**.

Table 13. 6 Predicted change in construction traffic noise levels

Road Link Name, Department for Transport Count ID and (location)	Basic Noise Level, dB $L_{A10,18hr}$			Change in Noise Level, dB		
	Scenario 1	Scenario 2	Scenario 3	[3] – [2]	[3] – [1]	[2] – [1]
A4046, Count ID: 86052, (Ebbw Vale) - (North of Central Avenue)	69.1	69.2	69.2	0.0	0.1	0.1
A467, Count ID: 73077, (Swffryd) - (North of Central Avenue)	73.5	73.5	73.6	0.1	0.1	0.0
A467, Count ID: 78421, (Pantside) - (South of Central Avenue)	69.5	69.5	69.8	0.3	0.3	0.0

13.2 Construction Traffic Noise Predictions - Local Access Roads

13.2.1. Noise level predictions for the construction traffic noise on local access roads, namely Central Avenue and Old Pant Road, have been undertaken adopting the *Method for mobile plant using a regular well-defined route (e.g. haul road)* given in BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Part 1: Noise* (BS 5228-1).

13.2.2. The haul road calculation method predicts an equivalent continuous sound level based on the general formula:

$$L_{Aeq,T} = L_{WA} - 33 + 10\log 10_{Q} - 10\log_{10} V - 10\log_{10} d$$

where:

L_{WA} is the sound power level of the plant, in decibels (dB);

Q is the number of vehicles per hour;

V is the average vehicle speed, in kilometres per hour (km/h);

d is the distance of receiving position from the centre of haul road, in metres (m).

13.2.3. Adjustments may also be applied for reflections, screening, angle of view and percentage of the assessment period for which an activity takes place.

13.2.4. In the absence of baseline noise levels to establish the relevant BS 5228-1 threshold, the lowest daytime Category 'A' threshold has been selected, 60 dB $L_{Aeq,T}$, daytime (07:00-19:00) and Saturdays (07:00-13:00).

13.2.5. Construction traffic noise levels from HGVs accessing the Proposed Development site via Central Avenue and Old Pant Road have been calculated for the peak construction traffic scenario, which is predicted to occur in January 2030. There will be up to 24 HGV movements in a day, is it assumed that up to 8 vehicle movements occur in a single hour.

13.2.6. There are predicted to be up to 24 daily car movements to and from the Proposed Development site during the peak construction traffic scenario. Assessment of car movements has been scoped out as it is not considered to be potentially significant.

13.2.7. An adjustment is applied for on-time, based on an estimated 60 seconds taken for each vehicle movement.

13.2.8. An adjustment is applied for reflection because the noise level is calculated at 1 m in front of the building façade.

13.2.9. The haul road calculation parameters are:

L_{WA}: 111 dB. lorry sound power information has been adopted from BS 5228-1, Table C.11 *'Lorry movements on access road'*, ref. no. 4 'Lorry' (power rating 350kW, 44 tonne)

Q: 8 vehicles per hour

V: 32 km/h

d: 5m.

Reflection: +3dB

On-time: 8 mins

Angle of view: no adjustment

Screening: no adjustment

13.2.10. Predicted noise levels and comparison against the BS 5228-1 threshold level are presented in

Table 13. 7 Predicted construction noise levels on local access roads

HGV movements per hour	Construction HGV traffic noise level at closest receptors, $L_{Aeq,1hr}$ [A]	BS 5228-1 category A daytime threshold [B]	Excess of construction traffic noise level over threshold [A - B]
8	60	65	-5

13.2.11. The hourly noise level during peak construction traffic is predicted to be 5dB below the BS 5228-1 Category ‘A’ threshold level.

13.2.12. Construction traffic noise levels along the local access roads (Central Avenue and Old Pant Road) are not predicted to result in significant effects.