A1 Birtley to Coal House

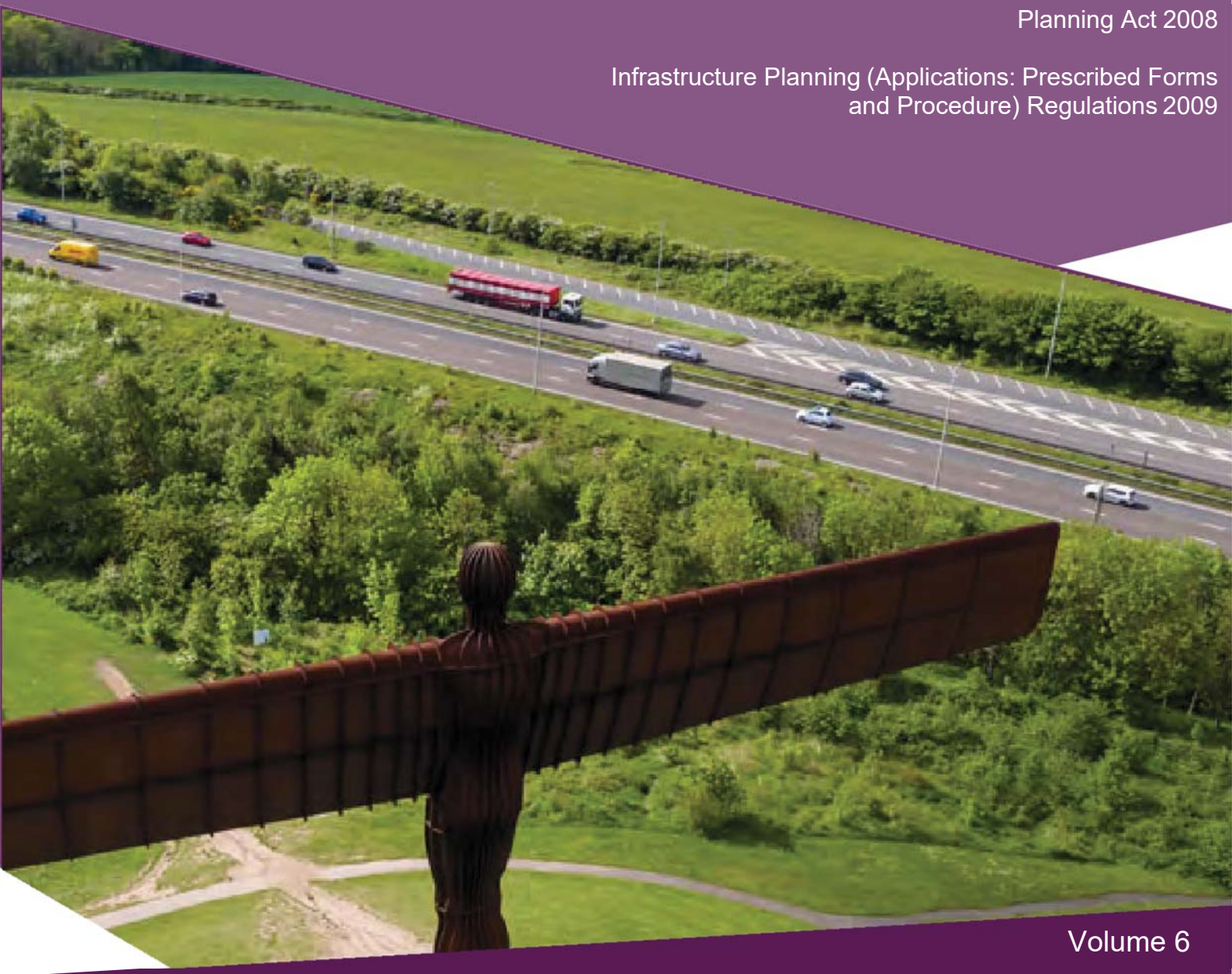
Scheme Number: TR010031

6.3 Environmental Statement – Appendix 11.6 Baseline Noise Survey - Details

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



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Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009

A1 Birtley to Coal House

Development Consent Order 20[xx]

Environmental Statement - Appendix

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TABLES

BASELINE NOISE SURVEY

1.1. BASELINE NOISE SURVEY

SURVEY APPROACH AND DATES

1.1.1. The baseline noise survey comprised a combination of long-term (circa seven day) unattended monitoring at two locations (A and B), and a series of short-term fully attended 'spot' measurements at four additional locations (1 to 4). Each spot measurement was undertaken over a 30-minute period. Five spot measurements were undertaken at each location, encompassing daytime, evening and night-time periods.

1.1.2. The long-term survey started at approximately 1300 hours Monday 24 April 2017, concluding at approximately 1400 hours Tuesday 2 May 2017.

1.1.3. The spot measurements were undertaken over two periods, between approximately 1930 hours Monday 24 April 2017 and approximately 0600 hours Tuesday 25 April 2017, and between approximately 1030 hours Tuesday 2 May 2017 and 0600 hours Wednesday 3 May 2017.

WEATHER CONDITIONS

1.1.4. Meteorological measurement data for the survey period have been obtained from www.wunderground.com for weather station ID reference IGATESHE12, which is that closest to the Scheme.

1.1.5. These data have been analysed and the temperature, precipitation, wind speed and wind direction data are presented as graphs in **Appendix 11.7**.

1.1.6. It can be seen from **Appendix 11.7** that wind speeds remained below 5ms-1 for the vast majority of the survey period (the only exception being a very short period on 24 April), whilst rainfall was only occasional and short lived. Short periods of rain arose on 24, 25, 26 and 27 April. Temperatures also remained above freezing for the full duration of the survey period.

1.1.7. Overarchingly, weather conditions remained conducive to accurate environmental noise measurement over the course of the baseline noise survey.

MEASUREMENT EQUIPMENT

1.1.8. The Class 1 sound pressure level measurement systems and hand held acoustic calibrators as detailed within **Table 6-1** below were used over the course of the baseline noise survey.

Table 6-1 - Sound pressure level measurement systems

Internal company equipment reference	Equipment	Make/model	Serial number
SOLO 14	Sound Level Meter	01dB-METRAVIB Solo Master	65469
	Pre-amplifier	01dB-Stell PRE 21 S	15983
	Microphone	Microtech Gefell GmbH MCE212	271264
	Calibrator	01dB-Metravib Cal 21	35113822
SOLO 17	Sound Level Meter	01dB-METRAVIB Solo Master	65773
	Pre-amplifier	01dB-Stell PRE 21 S	16554
	Microphone	Microtech Gefell GmbH MCE212	181879
	Calibrator	01dB-Metravib Cal 21	34134165
Fusion 2	Sound Level Meter	01 dB-Metravib Fusion	10796
	Pre-amplifier	01dB PRE22	10882
	Microphone	GRAS 40CD	207588
	Calibrator	01 dB-Stell CAL 21	34254632

1.1.9. Each of the measurement systems had been calibrated to traceable standards within the previous 24 months, and the handheld calibrators within the previous 12 months. Using the paired handheld calibrator for each system, the measurement chain was subject to calibration at the beginning and end of each measurement. No significant calibration drafts arose.

1.1.10. At each measurement location, the microphone of the installed measurement system was fitted with a windshield.

MEASUREMENT LOCATIONS

1.1.11. The adopted measurement locations are described in **Table 6-2** and are depicted in **Figure 11.3**.

Table 6-2 - Baseline noise survey - Measurement locations

Measurement location	Grid Co-ordinates	WSP equipment reference	Description	Purpose
A	425805, 558278	Solo 17	Subject to a continuous measurement over a circa seven-day period. The microphone was mounted under free-field conditions, 13m north of the nearside kerb edge of the A1, 24m south of Smithy Lane, to the south-west of Allerdene/Harlow Green. The noise environment was dominated by road traffic noise from the A1, with a lesser contribution from Smithy Lane.	To benchmark the prevailing road traffic noise from the A1 for subsequent use in checking the accuracy of baseline road traffic noise level predictions.
B	427485, 557066	Fusion 2	Subject to a continuous measurement over a circa seven-day period. The microphone was mounted under free-field conditions, east of dwellings at Crathie (Birtley), 36m south-west of the nearside kerb edge of the A1. The noise environment was dominated by road traffic noise from the A1.	To benchmark the prevailing road traffic noise from the A1 for subsequent use in checking the accuracy of baseline road traffic noise level predictions. To establish the prevailing local noise environment in the general vicinity of noise sensitive receptors at Birtley, including those on Crathie,

Measurement location	Grid Co-ordinates	WSP equipment reference	Description	Purpose
				North Dene, the northern end of Long Bank and Lockwood Avenue.
1	424444, 558446	Solo 14 and Fusion 2	Subject to a series of daytime, evening and night-time 30-minute spot measurements. The microphone was mounted under free-field conditions, 8m west of the nearside kerb edge of Banesley Lane and at a height of 1.5m. The noise environment consisted primarily of road traffic noise arising from the local pass-bys on Banesley Lane and more distant but constant contribution from the A1.	To provide an indication of the prevailing local noise environment in the general vicinity of noise sensitive receptors at Lady Park, including those on Banesley Lane and Coach Road.
2	425769, 558500	Solo 14 and Fusion 2	Subject to a series of daytime, evening and night-time 30-minute spot measurements. The microphone was mounted under free-field conditions, 7m south-west of the nearside kerb edge of Woodford and at a height of 1.5m. The noise environment consisted primarily of road	To provide an indication of the prevailing local noise environment in the general vicinity of noise sensitive receptors at Allerdene/Harlow Green north of the A1.

Measurement location	Grid Co-ordinates	WSP equipment reference	Description	Purpose
			traffic noise arising from the local pass-bys on Woodford and more distant but constant contribution from the A1.	
3	428048, 556434	Solo 14 and Fusion 2	Subject to a series of daytime, evening and night-time 30-minute spot measurements. The microphone was mounted under free-field conditions, 4.5m south-east of the nearside kerb edge of Northside, south-west of the A1231, and at a height of 1.5m. The noise environment consisted primarily of road traffic noise arising from the local pass-bys on Northside, road traffic on the B1288 to the south, the A1231 to the east and more distant but constant contribution from the A1.	To provide an indication of the prevailing local noise environment in the general vicinity of noise sensitive receptors at Northside, south of the A1.
4	427640, 557178	Solo 14 and Fusion 2	Subject to a series of daytime, evening and night-time 30-minute spot measurements. The microphone was mounted under free-field conditions, 110m north-east of the nearside kerb edge of the A1, close to a lane linking Northside Farm, Bowes Incline Hotel and other	To provide an indication of the prevailing local noise environment at Northside Farm and other Noise sensitive receptors in its vicinity.

Measurement location	Grid Co-ordinates	WSP equipment reference	Description	Purpose
			isolated dwellings with Eighton Road and at a height of 1.5m. The noise environment consisted primarily of road traffic noise from the A1, with additional contribution from localised vehicular pass-bys to and from the hotel and local dwellings.	
Over the course of the survey, other contributors to the measured environment (in addition to road traffic) included natural sources such as wildlife (birds, cows and trees rustling in wind as well as horses), but these sources were not prominent at any location, with road traffic noise being the primary source.				

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