E94

High Speed Rail (West Midlands - Crewe)

Environmental Statement

Volume 5: Technical appendices

CA1: Fradley to Colton

Sound, noise and vibration report (SV-002-001)

July 2017

ES 3.5.2.1.13

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Department for Transport

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A report prepared for High Speed Two (HS2) Limited:

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1 Introduction

1.1.1 This document is part of the sound, noise and vibration Appendix to the sound, noise and vibration assessment.

1.1.2 The appendices are split into two sections:

- the first of these is a single document containing an introduction to the relevant route-wide methodology, assumptions and assessment (Volume 5: Appendix SV-001-000) and relates to the sound, noise and vibration assessment for all community areas (CA); and
- the second is split across five documents, one per CA, and contains the detailed sound, noise and vibration levels for that CA.

1.1.3 This document relates to the Fradley to Colton community area (CA1), and contains the detailed baseline, construction and operational sound noise and vibration levels.

1.1.4 The outcomes of the sound, noise and vibration assessment are summarised in Volume 2: Community area reports.

1.1.5 Maps referred to throughout the sound, noise and vibration appendices are contained in the Volume 5: Sound, Noise and Vibration Map Book.

2 Scope, assumptions and limitations

2.1 Regional and local policy guidance

2.1.1 The policy framework for sound, noise and vibration is set out in Volume 1[1] and in Volume 5: Appendix SV-001-000. As part of the engagement with local authorities, where the Proposed Scheme would operate, information regarding any specific local planning guidance in respect of noise and vibration were requested. For the Fradley to Colton area, the guidance within the Lichfield District Council Local Plan Strategy 2008 – 2029[2] has been considered as part of formulating the detailed application of the impact and significance criteria set out in the Volume 5: Appendix SV-001-000, the Scope and Methodology Report (SMR) and the SMR Addendum[3] (Section 6).

2.2 Engagement

2.2.1 Details of engagement on a route-wide basis with the local and county authorities' Environmental Health Practitioners is set out in Volume 1.

Meetings[4] have been held with representatives of Lichfield District Council (LDC) and Staffordshire County Council (SCC) regarding the approach which has been taken to baseline monitoring within this area, the identification of noise and vibration sensitive receptors, the selection of assessment locations and to discuss the development of the mitigation to be included in the Proposed Scheme.

2.2.2 Changes suggested during these meetings have influenced the assessment locations used and the monitoring undertaken and reported in this appendix. LDC officers were also invited to attend baseline sound measurements in this area and witness the measurement procedures used.

2.2.3 Local engagement through the working draft Environmental Impact Assessment (EIA) Report consultation provided the opportunity for local stakeholders to suggest appropriate baseline sound monitoring locations, building uses and review of the draft list of non-residential properties to be considered in the assessment.

2.3 Methodology

2.3.1 The methodology used for the assessment of airborne sound, ground-borne sound and vibration impacts and the determination of significant effects is defined in the SMR. Further information is contained in Volume 5: Appendix SV-001-000.

2.4 Assumptions

2.4.1 Route-wide assumptions are outlined in Volume 1 (Section 8) and are further detailed in Volume 5: Appendix SV-001-000. Local assumptions that apply to the assessment of construction sound noise and vibration within this area are set out Volume 2, Fradley to Colton (CA Report 1), Section 13.

[1] See Environmental Statement Volume 1, Introduction to the Environmental Statement
[2] Lichfield District Council (2015) *Local Plan Strategy 2008 – 2029*, https://www.lichfielddc.gov.uk/Council/Planning/The-local-plan-and-planning-policy/Resource-centre/Local-Plan-documents/Downloads/Local-Plan-Strategy/Lichfield-District-Local-Plan-Strategy-2008-2029.pdf.
[3] Environmental Impact Assessment Scope and Methodology Report, Volume 5: Appendix CT-001-001 and Environmental Impact Assessment Scope and Methodology Report Addendum, Volume 5: Appendix CT-001-002
[4] Meetings held on 22 April 2016, 5 July 2016 and 13 October 2016

2.5 Limitations

2.5.1 The route-wide limitations and the approach adopted to ensure that they will not impact the robust assessment of sound, noise and vibration are presented in Volume 5: Appendix SV-001-000 and Volume 2.

3 Baseline

3.1 Existing acoustic environment

3.1.1 The area is characterised by a mix of small towns, villages, hamlets and isolated residential properties in a predominantly rural setting. The sound environment is generally dominated by local and distant road traffic, overflying aircraft, local neighbourhood sources and natural sounds also contributing. There are several busy main roads within this community area including the A515 Lichfield Road that runs through Rileyhill and Kings Bromley; the A513 Rugeley Road; the B5014 Uttoxeter Road and the B5013 Uttoxeter Road.

3.1.2 The community of Rileyhill is characterised by sound from the A515 Lichfield Road which runs through the area. Daytime sound levels are typically around 50dB and 45 to 50dB during night-time for those dwellings facing the A515 Lichfield Road. Further from the A515 Lichfield Road, sound from distant traffic produces levels typically around 45dB daytime and 40dB night-time.

3.1.3 The community of Kings Bromley is characterised by sound from the A515 Lichfield Road and A513 Rugeley Road which run through the town. Closest to these existing roads, daytime sound levels are typically around 60dB and 55dB in the night-time. Further from these roads noise levels are typically between 40dB and 50dB daytime and 30dB to 40dB night-time.

3.1.4 The community of Pipe Ridware has low existing sound levels as it is removed from major roads. Existing sound levels are typically 50dB during the daytime and 40dB during the night-time.

3.1.5 The B5014 Uttoxeter Road runs through Blithbury, however noise levels in this community are low. Existing sound levels are typically 40dB during the daytime and 35dB during the night-time.

3.1.6 The community of Colton is characterised by sound from the High Street with sound levels typically around 45 dB in the daytime and 35dB in the night-time for dwellings facing the High Street.

3.2 Existing baseline sound monitoring locations

3.2.1 Baseline monitoring locations have been defined in order to provide representative sound levels at each assessment location within the study area. Baseline information has been gathered incrementally through successive rounds of field surveys focused on locations where likely significant effects are forecast.

3.2.2 Areas within the study area where baseline data is required have been divided into a series of smaller sub-areas. Each of these sub-areas is representative of clusters of receptors where the noise climate is influenced by the same sound sources. Within each of the sub-areas, a programme of unattended monitoring has been undertaken, supplemented by attended observations to ensure identification of the contributing sources to the sound climate at the measurement locations. All attended observations have been undertaken simultaneously with the unattended measurements to allow a direct comparison between assessment locations to be established.

3.2.3 Maps showing the baseline sound monitoring locations and assessment locations with this area are included in Map Series SV-03 and SV-04 (Volume 5: Sound, Noise and Vibration Map Book).

3.3 Existing baseline data collection methodology

3.3.1 The overall approach to baseline data collection for sound noise and vibration is described in Volume 5: Appendix SV-001-000. In summary, the approach to defining baseline levels includes a mixture of sound monitoring and – for major transport noise sources – sound modelling verified using results from sound monitoring.

3.3.2 Within the Fradley to Colton area, 45 locations have been defined to represent all sound and vibration sensitive receptors within the spatial scope of the assessment. The assessment locations are shown on the detailed maps in Map Series SV-03 and SV-04 (Volume 5: Sound, Noise and Vibration Map Book). These measurement locations have been classified as follows:

- 15 long-term measurements – unattended measurements of several days duration; and
- 30 medium-term measurements – attended measurements typically of 24 hours duration.

3.4 Existing baseline sound levels

3.4.1 From the measurements described in Section 3.1, baseline sound levels have been ascertained for each assessment location within this area. These levels are presented in terms of the following key sound indicators:

- baseline levels used for the operational sound assessment:
  - $L_{pAeq,16hr}$ weekday daytime (07:00-23:00) sound pressure level;
  - $L_{pAeq,8hr}$ weekday night-time (23:00-07:00) sound pressure level;
  - arithmetic average of $L_{pAFmax,5min}$ night-time sound pressure level; and
  - highest $L_{pAFmax,5min}$ night-time sound pressure level.
- baseline levels used for the construction sound assessment:
  - daytime L_{pAeq} sound pressure level (Monday to Friday 07:00-19:00; Saturday 07:00-13:00);
  - evening/weekend L_{pAeq} sound pressure level (Monday to Friday 19:00-23:00, Saturday 13:00-23:00 and Sunday 07:00-23:00); and
  - night-time L_{pAeq} sound pressure level (Monday to Sunday 23:00-07:00).

3.4.2 These values are presented in Table 1. The data source coding included within this table details how the baseline sound levels allocated to each assessment location have been derived. This coding is summarised in Table 2 and explained in detail in Volume 5: Appendix SV-001-000. Codes contained within parentheses relate to the derivation of night-time baseline noise levels where they are different to the daytime derivation method.

Table 1: Existing baseline sound levels

Assessment location		Measurement location	Existing baseline sound levels (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
Ref	Area represented		Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime, L_{pAeq}	Evening / weekend, L_{pAeq}	Night-time, L_{pAeq}	
8001	Alrewas Hayes	ML155	45	39	53	81	47	37	39	2, A, ii, b
8003	Bromley Hayes Cattery, Rileyhill	ML730	46	43	50	71	47	41	43	1, A, ii, b
8009	Prince Farms Feeds, Kings Bromley	ML146	50	38	49	69	51	45	38	1, A, i, a
8014	Rookery Lodge Boarding Kennels & Cattery	ML58	54	47	61	80	55	51	47	2, A, ii, b
8015	Shaw Lane Farm, Kings Bromley	ML300	49	39	50	63	50	45	39	1, A, i, a
8026	Bromley Hayes Garden Centre	-	51	49	58	65	51	50	49	3, C, -, b
8029	Pipe Hall Farm, Pipe Ridware	ML52	55	40	52	87	56	53	40	1, A, ii, b
8039	Quinton's Orchard Farm	ML132	38	31	41	72	39	34	31	1, A, ii, b
8040	Woodhouse Farm, Pipe Wood Lane	ML132	38	31	41	72	39	34	31	1, A, ii, a
8092	Hamleyheath, Hamley Heath Lodge	ML24	53	38	50	82	54	45	38	3(1), A, i, b
8108	Hamley Cottage Farm, Hamley Heath	ML24	43	38	50	82	43	42	38	1, A, i, a
11003	Fradley Junction, Alrewas	ML12	48	38	50	76	48	47	38	2, A, ii, b
11004	Fradley Junction, Alrewas	ML12	48	38	50	76	48	47	38	2, A, ii, b

Assessment location		Measurement location	Existing baseline sound levels (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
Ref	Area represented		Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime, L_{pAeq}	Evening / weekend, L_{pAeq}	Night-time, L_{pAeq}	
11006	The Swan (Public House), Fradley Junction	ML12	48	38	50	76	48	47	38	2, A, ii, b
11007	Fradley Junction, Alrewas	ML12	48	38	50	76	48	47	38	2, A, ii, b
11008	Kingfisher Holiday Park, Fradley Junction	ML12	48	38	50	76	48	47	38	2, A, ii, b
11009	Fradley Junction, Alrewas	ML12	48	38	50	76	48	47	38	2, A, ii, b
11012	Crawley Lane, Kings Bromley	ML77	42	36	47	70	43	36	36	2, A, i, a
11013	Cockshut Lane, Kings Bromley	ML77	42	36	47	70	43	36	36	2, A, ii, b
11016	Wood End Lane, Curborough	-	40	36	50	65	41	36	38	[5]
11018	Crawley Lane, Kings Bromley	ML77	42	36	47	70	43	36	36	2, A, ii, b
11019	Vicarage Croft, Kings Bromley	-	39	36	61	80	40	36	36	3, A, -, c
11022	Wood End Lane, Curborough	-	40	36	45	60	41	36	38	[5]
11024	Gilliards Croft, Kings Bromley	-	39	36	61	80	40	37	36	3, A, -, c
11025	Alrewas Road, Kings Bromley	-	61	57	61	80	62	57	57	3, A, -, b
11027	Barn Farm, Common Lane, Rileyhill	ML730	46	43	50	71	47	41	43	1, A, i, a

[5] Data collected as part of the HS2 Phase One ES, https://www.gov.uk/government/collections/hs2-phase-one-environmental-statement-documents.

Assessment location		Measurement location	Existing baseline sound levels (dB)							Data source coding
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11028	Crawley Lane, Kings Bromley	ML77	42	36	47	70	43	36	36	2, A, ii, b
11030	Crawley Lane, Kings Bromley	-	51	48	58	65	51	50	48	3, C, -, b
11033	Crawley Lane, Kings Bromley	-	50	47	58	65	50	48	47	3, C, -, b
11034	The Richard Crosse Church Of England Primary School, Kings Bromley	-	48	45	58	65	48	46	45	3, A, -, b
11037	Lichfield Road, Kings Bromley	-	55	53	58	65	55	53	53	3, A, -, b
11038	Bradbury Lane, Kings Bromley	-	45	42	58	65	45	43	42	3, C, -, b
11039	Broome Close, Kings Bromley	-	51	49	58	65	51	49	49	3, C, -, b
11040	Rose Cottage, Rileyhill	ML730	46	43	50	71	47	41	43	1, A, ii, b
11041	Manor Road, Kings Bromley	-	39	35	58	65	40	36	35	3, C, -, b
11042	Common Farm, Rileyhill	ML730	46	43	50	71	47	41	43	1, A, ii, a
11043	Holly Cottage, Rileyhill	ML730	46	43	50	71	47	41	43	1, A, ii, b
11044	Lichfield Road, Kings Bromley	-	59	56	58	65	59	57	56	3, A, -, b
11045	Broome Close, Kings Bromley	-	41	39	58	65	41	39	39	3, C, -, b

Assessment location		Measurement location	Existing baseline sound levels (dB)							Data source coding
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Ref	Area represented		Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime, L_{pAeq}	Evening / weekend, L_{pAeq}	Night-time, L_{pAeq}	
11046	Kings Walk, Kings Bromley	-	59	56	58	65	59	57	56	3, A, -, b
11047	Wood End Lane, Curborough	-	40	36	51	66	41	36	38	[5]
11048	Manor Walk, Kings Bromley	-	36	34	58	65	36	34	34	3, C, -, a
11050	Manor Road, Kings Bromley	-	35	32	58	65	36	33	32	3, C, -, a
11051	Pool Cottage, Rileyhill	ML197	53	51	58	65	53	52	51	3, A, i, b
11052	Manor Park, Kings Bromley	-	40	37	48	71	40	38	37	3, C, -, a
11053	Kings Bromley Nursing Home	-	38	36	48	71	38	36	36	3, C, -, a
11054	Shaw Lane, Rileyhill	-	48	46	58	65	48	47	46	3, A, ii, b
11056	Manor Park, Kings Bromley	-	37	34	48	71	37	35	34	3, C, -, b
11057	Manor Park, Kings Bromley	-	40	37	48	71	40	38	37	3, C, -, a
11058	Wharf Farmhouse, Bromley Hayes	ML197	50	44	58	65	51	47	44	2, A, ii, b
11059	Manor Park, Kings Bromley	ML198	40	35	48	71	41	36	35	2, A, i, a
11061	Shaw Lane, Kings Bromley	-	56	52	61	80	57	54	52	3, A, -, b
11062	Rugeley Road, Kings Bromley	-	58	52	61	80	59	54	52	3, A, -, b

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11063	Kings Bromley Marina - Main Moorings	-	41	37	58	65	41	39	37	3, C, -, b
11064	Shaw Lane Farm, Shaw Lane, Kings Bromley	ML300	49	39	50	63	50	45	39	1, A, i, a
11066	Nethertown, Rugeley	ML45	47	38	51	69	48	44	38	2, A, ii, a
11067	Nethertown, Rugeley	ML45	47	38	51	69	48	44	38	2, A, i, a
11068	Echills Farm, Rugeley Road, Kings Bromley	ML146	50	38	49	69	51	45	38	1, A, i, a
11069	Rugeley Road, Kings Bromley	ML58	54	47	61	80	55	51	47	2, A, ii, b
11070	Lichfield Road, Hamstall Ridware	ML45	47	38	51	69	48	44	38	2, A, iii, b
11071	Nethertown, Rugeley	ML45	47	38	51	69	48	44	38	2, A, ii, a
11072	Shaw Lane, Bromley Hayes	-	34	31	58	65	35	32	31	3, C, -, c
11074	Nethertown, Rugeley	ML45	47	38	51	69	48	44	38	2, A, ii, a
11076	Lichfield Road, Hamstall Ridware	ML29	43	28	47	78	45	34	28	2, A, iii, b
11080	Four Seasons Nature Study Centre Study Centre	ML58	51	44	61	80	52	48	44	2, B, ii, a
11082	Hunger Hill Lane, Rugeley	ML29	43	28	47	78	45	34	28	2, A, iii, b

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11083	Kings Bromley Lane, Rugeley	ML58	48	41	61	80	49	45	41	2, B, i, a
11084	Hunger Hill Lane, Rugeley	ML29	43	28	47	78	45	34	28	2, A, iii, b
11086	Kings Bromley Lane, Rugeley	ML58	54	47	61	80	55	51	47	2, A, i, a
11088	Kings Bromley Lane, Rugeley	ML58	54	47	61	80	55	51	47	2, A, i, a
11089	Ridware Theatre, Pipe Ridware	ML52	55	40	52	87	56	53	40	1, A, ii, a
11090	Pipe Ridware, Rugeley	ML52	55	40	52	87	56	53	40	1, A, ii, a
11091	Pipe Ridware, Rugeley	ML52	55	40	52	87	56	53	40	1, A, ii, b
11092	Pipe Ridware, Rugeley	ML52	55	40	52	87	56	53	40	1, A, i, a
11093	Goldhayfields Farm, Blithbury	ML29	43	28	47	78	45	34	28	2, A, i, a
11095	Pipe Ridware, Rugeley	ML52	55	40	52	87	56	53	40	1, A, ii, a
11097	Kings Bromley Lane, Rugeley	ML720	43	35	46	60	44	42	35	2, A, i, a
11099	Luthbur, Pipe Ridware, Rugeley	ML105	46	40	52	95	47	42	40	1, A, i, a
11101	Kings Bromley Lane, Rugeley	ML719	59	42	56	79	60	54	42	2, A, i, a
11103	The Bungalow & Woodhouse Farm, Blithbury	ML132	38	31	41	72	39	34	31	1, A, ii, a

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11105	Longacre Farm, Blithbury	ML116	41	34	47	73	42	38	34	2, A, ii, b
11106	Quinton's Orchard Farm, Blithbury and committed development CD ref.: 12/01025/COU	ML132	38	31	41	72	39	34	31	1, A, ii, b
11107	Priory School, Rugeley (School)	ML116	41	34	47	73	42	38	34	2, A, ii, b
11108	Uttoxeter Road, Hill Ridware	-	55	46	56	79	56	47	46	3, A, -, c
11109	Applelawn, Blithbury	ML116	41	34	47	73	42	38	34	2, A, i, a
11110	Pipe Lane Farm, Blithbury and committed development CD ref.: 16/00420/PND	ML37	41	38	51	79	43	33	38	2, A, ii, a
11112	Pimpernel, Blithbury	ML37	41	38	51	79	43	33	38	2, A, i, a
11113	4 Pipewood, Blithbury	ML116	41	34	47	73	42	38	34	2, A, i, a
11114	Oakleigh House, Blithbury	ML116	41	34	47	73	42	38	34	2, A, i, a
11115	Uttoxeter Road, Blithbury	ML34	47	42	55	95	47	45	42	1, A, i, a
11116	Sandford Close, Hill Ridware	ML35	44	40	51	67	45	42	40	2, A, ii, b
11117	Uttoxeter Road, Hill Ridware	-	58	49	56	79	59	50	49	3, A, -, c
11118	School Lane, Hill Ridware	ML35	44	40	51	67	45	42	40	2, A, ii, b

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11119	School Lane, Hill Ridware	ML35	44	40	51	67	45	42	40	2, A, ii, b
11120	Uttoxeter Road, Blithbury	-	53	44	45	66	54	49	44	3, A, -, b
11121	Jayvid House, Blithbury	-	43	32	45	66	44	32	32	3, A, -, b
11122	Chadwick Crescent, Hill Ridware	ML35	44	40	51	67	45	42	40	2, A, ii, b
11123	School Lane, Hill Ridware	ML35	44	40	51	67	45	42	40	2, A, ii, b
11124	Chadwick Crescent, Hill Ridware	ML35	44	40	51	67	45	42	40	2, A, ii, b
11125	Uttoxeter Road, Hill Ridware	-	52	44	56	79	53	44	44	3, A, -, c
11126	Uttoxeter Road, Blithbury	-	51	41	45	66	52	43	41	3, A, -, b
11127	Oaklands Close, Hill Ridware	ML35	44	40	51	67	45	42	40	2, A, ii, b
11128	Uttoxeter Road, Blithbury	ML717	49	34	45	66	50	45	34	2, A, i, a
11129	Hawkhurst Drive, Hill Ridware	-	48	39	56	79	49	40	39	3, A, -, c
11130	Blithbury Farm, Blithbury	ML69	44	36	48	76	45	43	36	2, A, i, a
11132	Uttoxeter Road, Blithbury	ML35	44	40	51	67	45	42	40	2, A, i, a
11133	Blithbury Road, Rugeley	-	48	37	44	60	49	41	37	3, A, -, a

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11134	Uttoxeter Road, Hill Ridware	ML35	44	40	51	67	45	42	40	2, A, ii, b
11137	Rake End Court, Hill Ridware	ML35	44	40	51	67	45	42	40	2, A, ii, b
11139	Rake End, Hill Ridware	-	51	42	45	66	52	43	42	3, A, -, b
11141	Stoneyford Farm, Blithbury	-	38	28	45	66	39	32	28	3, C, -, a
11142	Oak Croft House, Blithbury	-	49	39	44	60	50	44	39	3, A, -, a
11143	Blithbury Road, Rugeley	ML145	42	31	45	69	43	39	31	1, A, ii, a
11145	Hadleygate, Blithbury Road	ML109	49	37	52	84	49	48	37	1, A, i, a
11146	Blithbury Road, Rugeley	ML85	55	38	51	79	56	49	38	1, A, i, a
11147	Blithbury Road, Rugeley	ML85	55	38	51	79	56	53	38	1, A, ii, a
11148	Blackflatts Farm, Blithbury	ML56	49	39	53	78	50	46	39	2, A, i, a
11149	Blithbury Road, Rugeley	ML85	55	38	51	79	56	53	38	1, A, ii, b
11150	Blithbury Road, Rugeley	ML127	43	33	45	55	45	40	33	2, A, i, a
11151	Blithbury Road, Rugeley	ML127	43	33	45	55	45	40	33	2, A, ii, a
11152	Park Lane, Stockwell Heath	ML133	39	30	42	56	40	36	30	2, A, i, a

Assessment location		Measurement location	Existing baseline sound levels (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
Ref	Area represented		Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime, L_{pAeq}	Evening / weekend, L_{pAeq}	Night-time, L_{pAeq}	
11155	Hollow Lane, Rugeley	ML136	49	38	50	71	50	46	38	2, A, ii, b
11158	Park Lane, Stockwell Heath	ML75	39	29	42	80	40	38	29	2, A, i, a
11159	Sherracop, Stockwell Heath	ML78	42	36	47	70	43	39	36	1, A, i, a
11160	Hamley Fields, Stockwell Heath	ML78	42	36	47	70	43	39	36	1, A, ii, a
11161	Stockwell, Stockwell Heath	ML78	42	36	47	70	43	39	36	1, A, ii, a
11163	Moor Lane, Rugeley	ML78	48	36	47	70	49	34	36	3(1), A, ii, a
11164	Hollow Lane, Rugeley	ML136	49	38	50	71	50	46	38	2, A, ii, a
11165	High Street, Colton	ML140	44	39	53	72	46	37	39	2, A, ii, b
11166	Rugeley Rescue Centre: Border Collie Trust, Colton	ML139	43	36	50	70	45	37	36	2, A, ii, a
11167	Narrow Lane, Rugeley	ML139	43	36	50	70	45	37	36	2, A, ii, a
11168	Moor Lane, Rugeley	ML78	46	36	47	70	47	32	36	3(1), A, ii, a
11169	High Street, Colton	ML140	44	39	53	72	46	37	39	2, A, ii, b
11170	Narrow Lane, Rugeley	ML139	43	36	50	70	45	37	36	2, A, ii, a

Assessment location		Measurement location	Existing baseline sound levels (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
Ref	Area represented		Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime, L_{pAeq}	Evening / weekend, L_{pAeq}	Night-time, L_{pAeq}	
11171	Heath Way, Rugeley	ML139	43	36	50	70	45	37	36	2, A, ii, a
11172	High Street, Colton	ML140	44	39	53	72	46	37	39	2, A, ii, a
11173	Littlehay Manor, Colton	ML140	44	39	53	72	46	37	39	2, A, i, a
11174	Heath Way, Rugeley	ML139	43	36	50	70	45	37	36	2, A, ii, a
11175	Heath Way, Rugeley	ML139	43	36	50	70	45	37	36	2, A, ii, a
11176	Lea Croft, Colton	ML139	43	36	50	70	45	37	36	2, A, ii, a
11177	Hollow Lane, Rugeley	ML136	49	38	50	71	50	46	38	2, A, i, a
11178	Moor Croft, Rugeley	ML140	44	39	53	72	46	37	39	2, A, i, a
11179	Steenwood Lane, Admaston	ML62	44	38	51	82	45	42	38	2, A, ii, a
11180	Moor Croft, Rugeley	ML140	44	39	53	72	46	37	39	2, A, i, a
11181	High Street, Colton	ML140	44	39	53	72	46	37	39	2, A, ii, a
11182	High Street, Colton	ML140	44	39	53	72	46	37	39	2, A, i, a
11183	Moor Croft, Rugeley	ML139	43	36	50	70	45	37	36	2, A, i, a
11184	High Street, Colton	ML140	44	39	53	72	46	37	39	2, A, ii, a

Assessment location		Measurement location	Existing baseline sound levels (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
Ref	Area represented		Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime, L_{pAeq}	Evening / weekend, L_{pAeq}	Night-time, L_{pAeq}	
11185	High Street, Colton	ML91	44	37	51	77	45	43	37	2, A, i, a
11187	Moor Lane, Rugeley	ML63	43	34	49	115	44	39	34	1, A, i, a
11191	Friary Lodge, Admaston	ML62	44	38	51	82	45	42	38	2, A, i, b
11193	Lea Lane, Rugeley	ML4	47	40	53	80	49	42	40	2, A, i, a
11194	Lea Lane, Rugeley	ML4	47	40	53	80	49	42	40	2, A, i, a
11195	Hamley Heath Lodge, Hamley Heath	ML24	53	46	50	82	54	45	46	3, A, i, c
11196	Uttoxeter Road, Rugeley	ML24	52	38	50	82	53	44	38	3(1), A, ii, b
11197	Uttoxeter Road, Rugeley	ML24	54	38	50	82	55	46	38	3(1), A, ii, b
11198	Hamley Cottage Farm, Hamley Heath	ML24	43	38	50	82	43	42	38	1, A, i, a
11200	Lea Lane, Rugeley	ML65	38	32	45	84	39	31	32	1, A, ii, a
11201	Lea Lane, Rugeley	ML62	44	38	51	82	45	42	38	2, A, iii, b
11202	Jonghams Cottage, Hamley Heath	ML65	38	32	45	84	39	31	32	1, A, i, a
11203	Lea Lane, Rugeley	ML62	44	38	51	82	45	42	38	2, A, iii, b
11204	Uttoxeter Road, Colton	ML1	44	36	46	69	45	41	36	2, A, i, a

Assessment location		Measurement location	Existing baseline sound levels (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
Ref	Area represented		Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime, L_{pAeq}	Evening / weekend, L_{pAeq}	Night-time, L_{pAeq}	
11205	Barn Farm, Rileyhill	ML730	46	43	50	71	47	41	43	1, A, i, a
11206	Blithbury Reindeer Lodge, Uttoxeter Road, Blithbury and committed development 15/00955/	-	38	28	45	66	39	30	28	3, C, -, b
11207	Hamley House Farm	ML63	43	34	49	115	44	39	34	1, A, i, a
11208	Moor Lane, Rugeley	ML63	43	34	49	115	44	39	34	1, A, i, a
11210	Lichfield Road, Kings Bromley (CD Ref.:14/00683/OUTM)	-	54	51	58	65	54	52	51	3, C, -, b
11211	Brookhouse Farm, Rugeley (CD ref.: 15/01011/FUL)	ML45	47	38	51	69	48	44	38	2, A, ii, b
11212	Malt House Farm, Newlands Lane, Stockwell Heath (CD Ref.: 14/01231/PND)	ML78	42	36	47	70	43	39	36	1, A, ii, b
11213	Moor Lane, Rugeley (CD Ref.: 16/00462/COU)	ML78	42	36	47	70	43	39	36	1, A, ii, a
11214	Wharf Farm Barn, Bromley Hayes	-	36	33	50	71	36	34	33	3, C, -, c
11215	Alrewas Hayes, Alrewas	ML77	42	36	47	70	43	36	36	2, A, ii, b
11216	Alrewas Hayes, Alrewas	ML155	45	39	53	81	47	37	39	2, A, ii, b
11217	Rugeley Road, Kings Bromley	ML146	47	35	49	69	48	42	35	1, B, ii, c

Assessment location		Measurement location	Existing baseline sound levels (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
Ref	Area represented		Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime, L_{pAeq}	Evening / weekend, L_{pAeq}	Night-time, L_{pAeq}	
11218	Nethertown, Rugeley	ML45	47	38	51	69	48	44	38	2, A, ii, b
11219	Trentside Meadows, East (East Of Hs2)	ML58	43	36	51	69	44	40	36	2, B, iii, c
11220	Trentside Meadows, Central (West Of Hs2)	ML58	44	37	51	69	45	41	37	2, B, ii, b
11221	Trentside Meadows, West (West Of Hs2)	ML58	44	37	51	69	45	41	37	2, B, ii, b
11222	Nethertown, Rugeley	ML45	47	38	51	69	48	44	38	2, A, ii, b
11223	Quintins Orchard Farm, Blithbury	ML132	38	31	41	72	39	34	31	1, A, ii, b
11224	Goldhayfields Barn, Blithbury	ML29	43	28	47	78	45	34	28	2, A, ii, b
11225	Blithbury Road, Rugeley	ML137	39	28	42	62	39	39	28	2, A, iii, c
11226	Park Lane, Stockwell Heath	ML137	39	28	42	62	39	39	28	2, A, iii, c
11227	Wayside, Stockwell Heath	ML78	42	36	47	70	43	39	36	1, A, ii, a
11228	Steenwood Lane, AdmastonSteenwood Lane, Admaston	ML62	44	38	51	82	45	42	38	2, A, ii, b
11229	Fradley Junction, Alrewas	ML12	48	38	50	76	48	47	38	2, A, ii, b
11230	Alrewas Hayes, Fradley	ML155	45	39	53	81	47	37	39	2, A, ii, b

Assessment location		Measurement location	Existing baseline sound levels (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
Ref	Area represented		Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime, L_{pAeq}	Evening / weekend, L_{pAeq}	Night-time, L_{pAeq}	
11231	Woodhouse Farm, Pipe Lane, Pipe Ridware (CD Ref: 15/00940/COU)	ML132	38	31	41	72	39	34	31	1, A, ii, a
11232	Wood End Lock Moorings, Trent & Mersey Canal	-	40	36	50	65	41	36	38	[5]
11233	Fradley Junction Moorings, Trent & Mersey Canal	ML12	48	38	50	76	48	47	38	2, A, ii, b
11234	Weighhouse Wharf Moorings - Trent & Mersey Canal	ML197	50	44	58	65	51	47	44	2, A, ii, b
11235	Kings Bromley Marina - Canal-Side Moorings - Trent & Mersey Canal	ML197	50	44	58	65	51	47	44	2, A, ii, b
11236	Common Farm Bed and Breakfast, Rileyhill	ML730	46	43	50	71	47	41	43	1, A, ii, a
11237	Woodshoot Bed And Breakfast, Kings Bromley	ML77	42	36	47	70	43	36	36	2, A, ii, b
11238	Hamley House Farm, Hamley Heath (CD/16/01032/PND, CD/16/01019/FUL, CD/14/00779/FUL, CD/14/00690/FUL)	ML63	43	34	49	115	44	39	34	1, A, i, a
11239	Hamley Heath House, Hamley Heath	ML24	53	46	50	82	54	45	46	3, A, i, c
11240	Hadley Gate Farm, Hadley Gate Lane (16/00753/PND)	ML109	49	37	52	84	49	48	37	1, A, i, a

Table 2: Data source coding key

Code	Data source type
1	Long-term measurement location (c. 7 days)
2	Short-term (c. 24 hours)
3	Specific road traffic validated prediction
4	Specific rail traffic validated prediction
5	Specific combined road and rail traffic validated prediction
6	Levels adopted from nearby assessment location
Code	**Corrections applied**
A	Data from above source applied directly
B	Correction applied for distance from source
C	Correction applied for downwind conditions
D	Minimum level cut-off applied
Code	**Distance from measurement**
i	Data applied from a measurement at or very close to the assessment location.
ii	Data applied from a local measurement location at a greater distance but noted to have equivalent acoustic climate.
iii	Data applied from a distant measurement location where sound levels would be expected to be similar.
Code	**Uncertainty**
a	Data are considered highly representative of the prevailing sound climate
b	Data are considered representative of the prevailing sound climate, but uncertainties and/or variations in measured levels indicate that there may be a higher degree of uncertainty than for (a).
c	Data are considered to be an estimate of the sound climate due to assumptions made.

3.5 Future baseline methodology

Construction

3.5.1 The assessment of noise from construction activities assumes a future baseline year of 2020. As a conservative assumption it has been assumed that no change in baseline sound levels will occur between the existing baseline (2016) and the future baseline year of 2020.

Operation

3.5.2 Future baseline sound levels for operation (2027) have been calculated to account for changes in baseline sound sources between the date of the existing baseline sound levels and 2027. Changes in existing sound sources between 2016 and 2027 may result in changes to baseline sound levels.

3.5.3 For major transportation sources, data for existing and future baseline operations have been reviewed. Where changes may occur between the existing baseline and future baseline (2027) situations which may influence the assessment of likely significant effects, expected changes in baseline sound levels have been derived. For example, expected changes in traffic flow, composition and speed have been used to calculate changes in sound emission from roads using the methodology from the Calculation of Road Traffic Noise[6].

3.5.4 The changes to major sound sources which have been identified in this area are summarised in Table 3.

Table 3: 2027 future baseline sound levels

Sound source affected	Cause of change in levels	Change in sound levels (existing baseline to 2027 future baseline (dB))	
		Daytime, $L_{pAeq,16hr}$	Night-time, $L_{pAeq,8hr}$
Wood End Lane, Curborough[7]	Increased traffic flow	0.9	0.3
A515 Lichfield Road throughout Rileyhill[7]	Increased traffic flow	0.6	0.3
Gorse Lane[7]	Increased traffic flow	1.0	0.7
A513 Rugeley Road	Increased traffic flow	0.6	0.3
B5013 Uttoxeter Road through Hamley Heath	Increased traffic flow	0.6	0.3

[6] DoT memorandum, Calculation of road traffic noise, 1988

[7] As presented in the HS2 Phase One Environmental Statement, Volume 5, Appendix SV-002-022, Table 3, https://www.gov.uk/government/collections/hs2-phase-one-environmental-statement-documents.

4 Construction

4.1 Evaluation of impacts and effects

4.1.1 This appendix provides a quantitative assessment of construction noise and vibration impacts/effects and a qualitative assessment of likely significant effects, based on the impacts/effects identified and other local context information consistent with the scope and methodology defined for the Proposed Scheme.

4.1.2 Indirect effects arising from temporary changes in traffic patterns on the existing road network as a consequence of constructing the Proposed Scheme are reported where they are likely to occur within the study area as defined in Volume 5: Appendix SV-001-000.

4.1.3 In undertaking the assessment of sound, noise and vibration, consistent with the EIA Directive[8] and National Planning Practice Guidance[9] a differentiation between impacts and effects, adverse effects and significant effects is made. Further information is provided in Volume 5: Appendix SV-001-000.

4.1.4 The assessment of impacts and effects has been undertaken at assessment locations that are representative of a number of dwellings or other sensitive receptors. The construction assessment locations employed in this assessment are presented on Map Series SV-03 (Volume 5: Sound, Noise and Vibration Map Book).

4.1.5 Baseline sound level data has been collected at locations representative of the airborne sound-sensitive receptors and presented in Table 1.

4.2 Effects during construction

Introduction

4.2.1 The assessment is reported first for ground-borne vibration and then for airborne sound. Under each of these headings, the results of the quantitative identification of impacts, effects and significant effects are presented. The significant effects and the evidence used to support these conclusions are presented in Volume 2, Fradley to Colton (CA Report 1), Section 13.

4.2.2 The structure of this section of the assessment report is:

- avoidance and mitigation measures; and
- quantitative identification of impact and effects:
  - ground-borne sound and vibration:
    - residential; and
    - non-residential.

[8] European Commission (2014), EC Directive 85/337/EEC, as amended by 97/11/EC, 2003/35/EC, 2011/92/EC and 2014/52/EU ('the EIA Directive')
[9] National Planning Practice Guidance – Noise, http://planningguidance.planningportal.gov.uk; refer to the table summarising noise exposure hierarchy

- Airborne sound:
  - residential; and
  - non-residential.

Avoidance and mitigation measures

4.2.3 These are set out in, Volume 2, Fradley to Colton (CA Report 1), Section 13.

Quantitative identification of impacts and effects

Ground-borne vibration

4.2.4 Assessment locations defined for the quantitative assessment of impacts are shown on Map Series SV-03 (Volume 5: Sound, Noise and Vibration Map Book).

4.2.5 For each assessment location, the assessment results are presented in Table 5. Explanation of the information in Tables 5 – 7 are provided in Volume 5: Appendix SV-001-000, with the following additional notes in Table 4.

Table 4: Explanatory notes for assessment results – direct construction effects

Symbol	Explanation
	Where the significant effect column is highlighted, then a significant effect is identified at the referenced community, or individual receptor
	Yellow denotes a low ground-borne noise impact or a minor ground-borne vibration impact
	Orange denotes a medium ground-borne noise impact or a moderate ground-borne vibration impact
	Red denotes a high ground-borne noise impact or a major ground-borne vibration impact
	Dark red denotes a very high ground-borne noise impact
*	Significant effect – the quantitative impact methodology has identified an impact at this receptor which, based upon further qualitative receptor information, (see assessment text) does not gives rise to a significant effect
~	When considered under the significance criteria set out in Volume 5: Appendix SV-001-000, Annex A, Section 1.3, these adverse effects are not considered to be significant on a community basis.
A	Sound levels from HS2 exceed Lowest Observed Adverse Effect Level (LOAEL): the significance criteria set out in Volume 5: Appendix SV-001-000, Annex A, Section 1.3 are considered when establishing significant effects
S	Sound levels from HS2 exceed Significant Observed Adverse Effect Level (SOAEL): noise insulation (or temporary rehousing at higher noise levels) therefore provided
NA	Sound levels from HS2 do not exceed Lowest Observed Adverse Effect Level (LOAEL), therefore generally no adverse effect
B	Type of receptor - residential
R	Type of receptor - residential

G1 – G5	Type of receptor - (G1) theatres, large auditoria and concert halls, (G2) sound recording and broadcast studios, (G3) places of meeting for religious worship, courts, cinemas, lecture theatres, museums and small auditoria or halls, (G4) schools, colleges, hospitals, hotels and libraries, and (G5) offices and general commercial premises
V1-V4	Type of receptor – (V1) vibration sensitive research and manufacturing, hospital, and university equipment, (V2) hotels, hospital wards and education dormitories, (V3) offices, schools and places of worship, (V4) workshops
T	Receptor design – typical
S	Receptor design - special
H	Existing environment – high existing ambient noise levels, day >75 dB, evening >65 dB or night >55 dB L_{pAeq} at the facade
L	Existing environment – low existing ambient noise levels, day and evening ≤45 dB, or night ≤35 dB L_{pAeq} at the facade
D,E,N	Impact duration (months) – duration of impact during the day (D), evening (E) or night (N)
O, CT, V	Combined Impact: If impacts from other construction activities occur at this location: Onsite activities (O), off-site construction traffic activities (CT), or construction Vibration (V)
NI	Mitigation effect - identified as likely to qualify for noise insulation under the Draft Code of Construction Practice (CoCP)[10]
TR	Mitigation effect - identified as likely to qualify for temporary rehousing under the Draft CoCP

[10] *Draft Code of Construction Practice*, Volume 5: Appendix CT-003-000

Table 5: Assessment of construction induced ground-borne vibration at residential and non-residential receptors

Assessment location		Impact criteria				Significance criteria									
Ref.	Area represented	Peak particle velocity (PPV) [mm/s] on foundation	Typical/highest monthly indoor vibration dose value (VDV) [M/S$^{1.75}$]		Construction activity resulting in highest forecast vibration levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [m]	Mitigation effect	Significant Effect
			Day 0700-2300	Night 2300-0700											
11027	Barn Farm, Common Lane, Rileyhill	0.9	0.42/0.70	-	Road construction	A	1	R	T	-	-	-	0.75	-	[11]
11051	Pool Cottage, Rileyhill	0.5	0.03/0.36	-	Road construction	A	2	R	T	-	-	-		-	~
11061	Shaw Lane, Kings Bromley	0.7	0.03/0.49	-	Road construction	A	1	R	T	-	-	O	0.75	-	[11]
11064	Shaw Lane Farm, Shaw Lane, Kings Bromley	0.4	0.12/<0.8[12]	-	Viaduct piling	A	1	R	T	-	-	O	0.2	-	[11]
11092	Pipe Ridware, Rugeley	0.2	0.05/0.11	-	Underground utility diversion	NA	4	R	T	-	-	-	-	-	
11099	Luthbur, Pipe Ridware, Rugeley	1.1	0.04/<0.8[12]	-	Road construction	A	1	R	T	-	-	O	0.5	-	[11]
11126	Uttoxeter Road, Blithbury	2.5	0.01/<0.8[12]	-	Road construction	A	2	R	T	-	-	O	1	-	~
11128	Uttoxeter Road, Blithbury	0.5	0.20/0.50	-	Piling	A	1	R	T	-	-	CT O	Up to 3	-	~
11143	Blithbury Road, Rugeley	1	0.19/0.49	-	Road construction	A	1	R	T	-	-	-	0.5	-	[11]
11145	Hadley Gate, Blithbury Road	0.9	0.12/<0.8[12]	-	Road construction	A	1	R	T	-	-	CT O	1	-	~

[11] Impacts with durations of less than 1 month are not generally considered significant
[12] Construction methods will be selected to ensure that the on a monthly basis the significant adverse effect level is not exceeded

Assessment location		Impact criteria				Significance criteria									
Ref.	Area represented	Peak particle velocity (PPV) [mm/s] on foundation	Typical/highest monthly indoor vibration dose value (VDV) [M/S$^{1.75}$]		Construction activity resulting in highest forecast vibration levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [m]	Mitigation effect	Significant Effect
			Day 0700-2300	Night 2300-0700											
11160	Hamley Fields, Stockwell Heath	0.4	0.21/0.53	-	Piling	A	2	R	T	-	-	O	Up to 3	-	~
11168	Moor Lane, Rugeley	0.3	0.03/0.20	-	Underground utility diversion	NA	2	R	T	-	-	-	-	-	
11195	Hamley Heath Lodge, Hamley Heath	0.4	0.07/0.30	-	Overhead utility diversion	A	3	R	T	-	-	O	0.2	-	[11]
11202	Jonghams Cottage, Hamley Heath	4.5	0.07/<0.8[12]	-	Underground utility diversion	A	1	R	T	-	-	O	0.2	-	[11]

Airborne sound: direct impacts and effects

4.2.6 Activities associated with the construction phases of the Proposed Scheme will generate airborne noise. The assessment of the likely impacts and significant effects as a result of the construction noise has considered the effects on:

- residential receptors, both as individual dwellings and communities; and
- non-residential receptors, including quiet areas.

4.2.7 For each type of receptor, subject to the screening distances identified, and based upon supplied plant information from engineers, the typical and highest monthly $L_{Aeq,T}$ noise levels from construction activities have been calculated at the façade of all assessment locations, which are representative of a number of receptors in the study area.

4.2.8 The assessment results, impact criteria and significance criteria for the assessment of the scheme at residential and non-residential receptors are presented in Table 6 and Table 7 respectively. Explanation of the information within Table 6 and Table 7 is provided in Volume 5: Appendix SV-001-000, with the additional notes presented in Table 4.

Table 6: Assessment of construction noise at residential receptors

Assessment location		Impact criteria				Significance criteria									
Ref	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Impact duration (Months)	Combined impact	Mitigation effect	Significant effect
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11003	Fradley Junction, Alrewas	47/52 [A]	-	-	Day: Earthworks	NA	2	R	T	-	-	-	-	-	
11004	Fradley Junction, Alrewas	47/51 [A]	-	-	Day: Demolitions	NA	3	R	T	-	-	-	-	-	
11007	Fradley Junction, Alrewas	50/54 [A]	-	-	Day: Earthworks	NA	2	R	T	-	-	-	-	-	
11009	Fradley Junction, Alrewas	54/59 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11012	Crawley Lane, Kings Bromley	51/53 [A]	-	-	Day: Borrow pit excavation	NA	1	R	T	-	-	-	-	-	
11013	Cockshut Lane, Kings Bromley	49/51 [A]	-	-	Day: Borrow pit excavation	NA	5	R	T	-	-	-	-	-	
11016	Wood End Lane, Curborough	56/59 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11018	Crawley Lane, Kings Bromley	53/55 [A]	-	-	Day: Borrow pit excavation	NA	7	R	T	-	-	-	-	-	
11019	Vicarage Croft, Kings Bromley	51/53 [A]	-	-	Day: Borrow pit excavation	NA	22	R	T	-	-	-	-	-	
11022	Wood End Lane, Curborough	55/57 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									
Ref	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Impact duration (Months)	Combined impact	Mitigation effect	Significant effect
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11024	Gilliards Croft, Kings Bromley	51/53 [A]	-	-	Day: Borrow pit excavation	NA	21	R	T	-	-	-	-	-	
11025	Alrewas Road, Kings Bromley	49/52 [B]	-	-	Day: Borrow pit excavation	NA	12	R	T	-	-	-	-	-	
11027	Barn Farm, Common Lane, Rileyhill	59/64 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	
11028	Crawley Lane, Kings Bromley	56/57 [A]	-	-	Day: Borrow pit excavation	NA	1	R	T	-	-	-	-	-	
11030	Crawley Lane, Kings Bromley	49/50 [A]	-	-	Day: Borrow pit excavation	NA	42	R	T	-	-	-	-	-	
11033	Crawley Lane, Kings Bromley	52/54 [A]	-	-	Day: Borrow pit excavation	NA	4	R	T	-	-	-	-	-	
11037	Lichfield Road, Kings Bromley	48/52 [A]	-	-	Day: Earthworks	NA	13	R	T	-	-	-	-	-	
11038	Bradbury Lane, Kings Bromley	49/52 [A]	-	-	Day: Earthworks	NA	19	R	T	-	-	-	-	-	
11039	Broome Close, Kings Bromley	49/52 [A]	-	-	Day: Borrow pit excavation	NA	6	R	T	-	-	-	-	-	
11040	Rose Cottage, Rileyhill	61/67 [A]	-	-	Day: Site set-up/takedown	A	1	R	T	-	-	D3	CT	-	~
11041	Manor Road, Kings Bromley	46/49 [A]	-	-	Day: Earthworks	NA	16	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									
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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11042	Common Farm, Rileyhill	54/56 [A]	-	-	Day: Borrow pit excavation	NA	2	R	T	-	-	-	-	-	
11043	Holly Cottage, Rileyhill	58/63 [A]	-	-	Day: Site set-up/takedown	NA	1	R	T	-	-	-	-	-	
11044	Lichfield Road, Kings Bromley	56/58 [A]	-	-	Day: Borrow pit excavation	NA	4	R	T	-	-	-	-	-	
11045	Broome Close, Kings Bromley	52/55 [A]	-	-	Day: Earthworks	NA	12	R	T	-	-	-	-	-	
11046	Kings Walk, Kings Bromley	56/57 [A]	-	-	Day: Borrow pit excavation	NA	5	R	T	-	-	-	-	-	
11047	Wood End Lane, Curborough	49/52 [A]	-	-	Day: Borrow pit excavation	NA	1	R	T	-	-	-	-	-	
11048	Manor Walk, Kings Bromley	50/52 [A]	-	-	Day: Earthworks	NA	4	R	T	-	-	-	-	-	
11050	Manor Road, Kings Bromley	52/54 [A]	-	-	Day: Borrow pit excavation	NA	8	R	T	-	-	-	-	-	
11051	Pool Cottage, Rileyhill	58/62 [A]	-	-	Day: ATS foundation	NA	2	R	T	-	-	-	-	-	
11052	Manor Park, Kings Bromley	55/57 [A]	-	-	Day: Borrow pit excavation	NA	5	R	T	-	-	-	-	-	
11053	Kings Bromley Nursing Home, Kings Bromley	55/57	-	-	Day: Borrow pit excavation	NA	1	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									
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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11054	Shaw Lane, Rileyhill	57/59 [A]	-	-	Day: Road construction	NA	4	R	T	-	-	-	-	-	
11056	Manor Park, Kings Bromley	53/56 [A]	-	-	Day: Borrow pit excavation	NA	3	R	T	-	-	-	-	-	
11057	Manor Park, Kings Bromley	56/58 [A]	-	-	Day: Earthworks	NA	2	R	T	-	-	-	-	-	
11058	Wharf Farmhouse, Bromley Hayes	52/54 [A]	-	-	Day: Borrow pit excavation	NA	2	R	T	-	-	-	-	-	
11059	Manor Park, Kings Bromley	57/60 [A]	-	-	Day: Earthworks	NA	3	R	T	-	-	-	-	-	
11061	Shaw Lane, Kings Bromley	63/66 [A]	-	-	Day: Earthworks	A	1	R	T	-	-	D12	V	-	CSV01-C01
11062	Rugeley Road, Kings Bromley	62/65 [A]	-	-	Day: Earthworks	A	1	R	T	-	-	D2	-	-	CSV01-C01
11064	Shaw Lane Farm, Shaw Lane, Kings Bromley	67/70 [A]	-	-	Day: Demolitions	A	1	R	T	-	-	D36	V	-	CSV01-C01
11066	Nethertown, Rugeley	55/58 [A]	-	-	Day: Borrow pit excavation	NA	6	R	T	-	-	-	-	-	
11067	Nethertown, Rugeley	54/57 [A]	-	-	Day: Borrow pit excavation	NA	5	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									
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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11068	Echills Farm, Rugeley Road, Kings Bromley	64/69 [A]	-	-	Day: Footpath diversion	A	1	R	T	-	-	D21	-	-	CSV01-C01
11069	Rugeley Road, Kings Bromley	64/67 [A]	-	-	Day: Road construction	A	1	R	T	-	-	D16	-	-	CSV01-C01
11070	Lichfield Road, Hamstall Ridware	51/53 [A]	-	-	Day: Borrow pit excavation	NA	1	R	T	-	-	-	-	-	
11071	Nethertown, Rugeley	54/57 [A]	-	-	Day: Borrow pit excavation	NA	4	R	T	-	-	-	-	-	
11072	Shaw Lane, Bromley Hayes	53/55 [A]	-	-	Day: Borrow pit excavation	NA	1	R	T	-	-	-	-	-	
11074	Nethertown, Rugeley	55/58 [A]	-	-	Day: Borrow pit excavation	NA	1	R	T	-	-	-	-	-	
11076	Lichfield Road, Hamstall Ridware	52/55 [A]	-	-	Day: Borrow pit excavation	NA	4	R	T	-	-	-	-	-	
11082	Hunger Hill Lane, Rugeley	52/56 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	
11083	Kings Bromley Lane, Rugeley	56/59 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11084	Hunger Hill Lane, Rugeley	53/57 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									
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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11086	Kings Bromley Lane, Rugeley	54/57 [A]	-	-	Day: Landscaping	NA	1	R	T	-	-	-	-	-	
11088	Kings Bromley Lane, Rugeley	54/57 [A]	-	-	Day: Landscaping	NA	1	R	T	-	-	-	-	-	
11090	Pipe Ridware, Rugeley	60/63 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11091	Pipe Ridware, Rugeley	54/59 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	
11092	Pipe Ridware, Rugeley	63/67 [A]	-	-	Day: Underground utility diversion	A	4	R	T	-	-	D14	CT	-	CSV01-C02
11093	Goldhayfields Farm, Blithbury	53/58 [A]	-	-	Day: Earthworks	NA	3	R	T	-	-	-	-	-	
11095	Pipe Ridware, Rugeley	57/62 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11097	Kings Bromley Lane, Rugeley	52/56 [A]	-	-	Day: Landscaping	NA	2	R	T	-	-	-	-	-	
11099	Luthbur, Pipe Ridware, Rugeley	63/68 [A]	-	-	Day: Vegetation clearance	A	1	R	T	-	-	D6	V	-	CSV01-C02
11101	Kings Bromley Lane, Rugeley	52/56 [B]	-	-	Day: Landscaping	NA	1	R	T	-	-	-	-	-	

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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11103	The Bungalow & Woodhouse Farm, Blithbury	62/67 [A]	-	-	Day: Earthworks	A	2	R	T	-	-	D5	-	-	~
11105	Longacre Farm, Blithbury	50/54 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11106	Quinton's Orchard Farm, Blithbury and committed development 12/01025/COU	58/63 [A]	-	-	Day: Earthworks	NA	3	R	T	-	-	-	-	-	
11108	Uttoxeter Road, Hill Ridware	51/56 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11109	Applelawn, Blithbury	50/53 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	
11110	Pipe Lane Farm, Blithbury and committed development 16/00420/PND	63/65 [A]	-	-	Day: Earthworks	A	3	R	T	-	-	D1	CT	-	~
11112	Pimpernel, Blithbury	57/61 [A]	-	-	Day: Earthworks	NA	2	R	T	-	-	-	-	-	
11113	4 Pipewood, Blithbury	52/56 [A]	-	-	Day: Overbridge pile breakdown	NA	7	R	T	-	-	-	-	-	
11114	Oakleigh House, Blithbury	51/55 [A]	-	-	Day: On-site traffic	NA	2	R	T	-	-	-	-	-	

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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11115	Uttoxeter Road, Blithbury	60/63 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	
11116	Sandford Close, Hill Ridware	51/56 [A]	-	-	Day: Earthworks	NA	24	R	T	-	-	-	-	-	
11117	Uttoxeter Road, Hill Ridware	50/55 [A]	-	-	Day: Earthworks	NA	24	R	T	-	-	-	-	-	
11118	School Lane, Hill Ridware	51/56 [A]	-	-	Day: Earthworks	NA	10	R	T	-	-	-	-	-	
11119	School Lane, Hill Ridware	52/56 [A]	-	-	Day: Earthworks	NA	8	R	T	-	-	-	-	-	
11120	Uttoxeter Road, Blithbury	51/54 [A]	-	-	Day: On-site traffic	NA	6	R	T	-	-	-	-	-	
11121	Jayvid House, Blithbury	52/55 [A]	-	-	Day: On-site traffic	NA	4	R	T	-	-	-	-	-	
11122	Chadwick Crescent, Hill Ridware	53/56 [A]	-	-	Day: Earthworks	NA	33	R	T	-	-	-	-	-	
11123	School Lane, Hill Ridware	52/56 [A]	-	-	Day: Earthworks	NA	10	R	T	-	-	-	-	-	
11124	Chadwick Crescent, Hill Ridware	52/56 [A]	-	-	Day: Earthworks	NA	21	R	T	-	-	-	-	-	
11125	Uttoxeter Road, Hill Ridware	50/55 [A]	-	-	Day: Earthworks	NA	26	R	T	-	-	-	-	-	

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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11126	Uttoxeter Road, Blithbury	62/67 [A]	-	-	Day: Vegetation clearance	A	2	R	T	-	-	D3	V	-	~
11127	Oaklands Close, Hill Ridware	51/55 [A]	-	-	Day: Earthworks	NA	30	R	T	-	-	-	-	-	
11128	Uttoxeter Road, Blithbury	65/68 [A]	-	-	Day: Overbridge pile breakdown	A	1	R	T	-	-	D18	CT, V	-	~
11129	Hawkhurst Drive, Hill Ridware	52/55 [A]	-	-	Day: Earthworks	NA	48	R	T	-	-	-	-	-	
11130	Blithbury Farm, Blithbury	51/55 [A]	-	-	Day: On-site traffic	NA	3	R	T	-	-	-	-	-	
11132	Uttoxeter Road, Blithbury	55/58 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11133	Blithbury Road, Rugeley	55/60 [A]	-	-	Day: Overbridge pile breakdown	NA	2	R	T	-	-	-	-	-	
11134	Uttoxeter Road, Hill Ridware	50/54 [A]	-	-	Day: Earthworks	NA	17	R	T	-	-	-	-	-	
11137	Rake End Court, Hill Ridware	51/55 [A]	-	-	Day: Earthworks	NA	20	R	T	-	-	-	-	-	
11139	Rake End, Hill Ridware	51/55 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	

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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11141	Stoneyford Farm, Blithbury	57/61 [A]	-	-	Day: Overbridge pile breakdown	NA	1	R	T	-	-	-	-	-	
11142	Oak Croft House, Blithbury	56/60 [A]	-	-	Day: Overbridge pile breakdown	NA	2	R	T	-	-	-	-	-	
11143	Blithbury Road, Rugeley	60/64 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	
11145	Hadley Gate, Blithbury Road	77/83 [A]	-	-	Day: Demolitions	S	1	R	T	-	-	D32	CT, V	NI	CSV01-C03
11146	Blithbury Road, Rugeley	62/66 [A]	-	-	Day: Underground utility diversion	A	1	R	T	-	-	D6	CT	-	CSV01-C03
11147	Blithbury Road, Rugeley	62/66 [A]	-	-	Day: On-site traffic	A	2	R	T	-	-	D4	CT	-	CSV01-C03
11148	Blackflatts Farm, Blithbury	50/54 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	
11149	Blithbury Road, Rugeley	54/58 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	
11150	Blithbury Road, Rugeley	52/57 [A]	-	-	Day: Pond construction/planting	NA	3	R	T	-	-	-	-	-	
11151	Blithbury Road, Rugeley	48/52 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									
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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11152	Park Lane, Stockwell Heath	52/55 [A]	-	-	Day: On-site traffic	NA	2	R	T	-	-	-	-	-	
11155	Hollow Lane, Rugeley	51/57 [A]	-	-	Day: Underground utility diversion	NA	3	R	T	-	-	-	-	-	
11158	Park Lane, Stockwell Heath	54/58 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11159	Sherracop, Stockwell Heath	60/63 [A]	-	-	Day: On-site traffic	NA	4	R	T	-	-	-	-	-	
11160	Hamley Fields, Stockwell Heath	67/71 [A]	-	-	Day: On-site traffic	A	2	R	T	-	-	D26	V	-	CSV01-C04
11161	Stockwell, Stockwell Heath	65/69 [A]	-	-	Day: Overbridge pile breakdown	A	1	R	T	-	-	D19	-	-	CSV01-C04
11163	Moor Lane, Rugeley	66/70 [A]	-	-	Day: Earthworks	A	1	R	T	-	-	D19	-	-	CSV01-C04
11164	Hollow Lane, Rugeley	50/55 [A]	-	-	Day: Earthworks	NA	2	R	T	-	-	-	-	-	
11165	High Street, Colton	57/60 [A]	-	-	Day: Earthworks	NA	10	R	T	-	-	-	-	-	
11167	Narrow Lane, Rugeley	61/65 [A]	-	-	Day: Overbridge pile breakdown	NA	1	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									
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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11168	Moor Lane, Rugeley	78/82 [A]	-	-	Day: On-site traffic	S	2	R	T	-	-	D39	-	NI	CSV01-C04
11169	High Street, Colton	57/60 [A]	-	-	Day: Earthworks	NA	5	R	T	-	-	-	-	-	
11170	Narrow Lane, Rugeley	59/62 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11171	Heath Way, Rugeley	58/61 [A]	-	-	Day: Earthworks	NA	8	R	T	-	-	-	-	-	
11172	High Street, Colton	51/55 [A]	-	-	Day: On-site traffic	NA	14	R	T	-	-	-	-	-	
11173	Littlehay Manor, Colton	50/53 [A]	-	-	Day: On-site traffic	NA	11	R	T	-	-	-	-	-	
11174	Heath Way, Rugeley	57/60 [A]	-	-	Day: Earthworks	NA	8	R	T	-	-	-	-	-	
11175	Heath Way, Rugeley	50/54 [A]	-	-	Day: On-site traffic	NA	4	R	T	-	-	-	-	-	
11176	Lea Croft, Colton	54/58 [A]	-	-	Day: On-site traffic	NA	4	R	T	-	-	-	-	-	
11177	Hollow Lane, Rugeley	44/48 [A]	-	-	Day: On-site traffic	NA	9	R	T	-	-	-	-	-	
11178	Moor Croft, Rugeley	52/56 [A]	-	-	Day: On-site traffic	NA	7	R	T	-	-	-	-	-	
11179	Steenwood Lane, Admaston	49/53 [A]	-	-	Day: Earthworks	NA	4	R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									
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		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11180	Moor Croft, Rugeley	49/52 [A]	-	-	Day: On-site traffic	NA	13	R	T	-	-	-	-	-	
11181	High Street, Colton	48/51 [A]	-	-	Day: On-site traffic	NA	11	R	T	-	-	-	-	-	
11182	High Street, Colton	50/54 [A]	-	-	Day: On-site traffic	NA	7	R	T	-	-	-	-	-	
11183	Moor Croft, Rugeley	54/58 [A]	-	-	Day: Earthworks	NA	7	R	T	-	-	-	-	-	
11184	High Street, Colton	49/52 [A]	-	-	Day: Earthworks	NA	10	R	T	-	-	-	-	-	
11185	High Street, Colton	49/52 [A]	-	-	Day: On-site traffic	NA	25	R	T	-	-	-	-	-	
11187	Moor Lane, Rugeley	57/61 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11191	Friary Lodge, Admaston	49/54 [A]	-	-	Day: Earthworks	NA	16	R	T	-	-	-	-	-	
11193	Lea Lane, Rugeley	47/51 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	
11194	Lea Lane, Rugeley	52/57 [A]	-	-	Day: Earthworks	NA	3	R	T	-	-	-	-	-	
11195	Hamley Heath Lodge, Hamley Heath	63/69 [A]	-	-	Day: Vegetation clearance	A	3	R	T	-	-	D7	V	-	~

Assessment location		Impact criteria				Significance criteria									
Ref	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Impact duration (Months)	Combined impact	Mitigation effect	Significant effect
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11196	Uttoxeter Road, Rugeley	53/57 [A]	-	-	Day: Earthworks	NA	2	R	T	-	-	-	-	-	
11197	Uttoxeter Road, Rugeley	50/54 [A]	-	-	Day: Earthworks	NA	3	R	T	-	-	-	-	-	
11198	Hamley Cottage Farm, Hamley Heath	58/63 [A]	-	-	Day: Underground utility diversion	NA	1	R	T	-	-	-	-	-	
11200	Lea Lane, Rugeley	55/60 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11201	Lea Lane, Rugeley	48/52 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11202	Jonghams Cottage, Hamley Heath	68/75 [A]	-	-	Day: Underground utility diversion	A	1	R	T	-	-	D3	V	-	~
11203	Lea Lane, Rugeley	46/50 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	
11204	Uttoxeter Road, Colton	53/58 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11208	Moor Lane, Rugeley	59/63 [A]	-	-	Day: Earthworks	NA	2	R	T	-	-	-	-	-	
11210	Lichfield Road, Kings Bromley (Cd Ref.: 14/00683/OUTM)	53/55 [A]	-	-	Day: Borrow pit excavation	NA	16	CD-R	T	-	-	-	-	-	

Assessment location		Impact criteria				Significance criteria									
Ref	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Impact duration (Months)	Combined impact	Mitigation effect	Significant effect
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
11212	Malt House Farm, Newlands Lane, Stockwell Heath (CD Ref.: 14/01231/PND)	60/64 [A]	-	-	Day: Vegetation clearance	NA	1	CD-R	T	-	-	-	-	-	
11213	Moor Lane, Rugeley (CD Ref.: 16/00462/COU)	62/66 [A]	-	-	Day: On-site traffic	NA	1	CD-R	T	-	-	-	-	-	
11229	Fradley Junction, Alrewas	50/54 [A]	-	-	Day: Earthworks	NA	2	R	T	-	-	-	-	-	
11230	Dwellings At Alrewas Hayes Countryside Venue, Alrewas	48/50 [A]	-	-	Day: Earthworks	NA	1	R	T	-	-	-	-	-	
11240	Hadley Gate Farm (CD ref: 16/00753/PND)	66/70 [A]	-	-	Day: On-site traffic	NA	1	R	T	-	-	-	-	-	~

Table 7: Assessment of construction noise at non-residential receptors

Assessment location		Impact criteria					Significance criteria									
Ref	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [assessment category A/B/C]		Change		Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Impact duration (months)	Combined impact	Mitigation effect	Significant effect
		Day 0700-1900	Night 2300-0700	Day 0700-1900	Night 2300-0700											
8001(N)	Alrewas Hayes Countryside Venue, Alrewas	50/54	-	6	-	Day: Haul road setup	B	1	G4	T	-	-	-	-	-	*
8003(N)	Bromley Hayes Cattery, Rileyhill	61/67	-	18	-	Day: Site set-up/takedown Eve: Site set-up/takedown	B	1	G5	T	-	-	-	-	-	*
8014(N)	Rookery Lodge Boarding Kennels & Cattery, Kings Bromley	64/68	-	11	-	Day: Road construction	B	1	G5	T	-	-	D3	V	-	CSV01-N01
11008(N)	Kingfisher Holiday Park, Fradley Junction	50/54	-	5	-	Day: Earthworks	B	1	G4	T	-	-	D8	-	-	*
11034(N)	The Richard Crosse Church Of England Primary School, Kings Bromley	51/53	-	4	-	Day: Borrow pit excavation	B	1	G4	T	-	-	-	-	-	
11080(N)	Four Seasons Nature Study Centre	59/62	-	8	-	Day: Earthworks	B	1	G3	T	-	-	D48	-	-	CSV01-N02
11089(N)	Ridware Theatre, Pipe Ridware	63/66	-	8	-	Day: Earthworks	B	1	G3	T	-	-	D47	-	-	CSV01-N03
11107(N)	Priory School, Rugeley	48/51	-	11	-	Day: Earthworks	B	1	G4	T	-	-		-	-	

Assessment location		Impact criteria					Significance criteria									
Ref	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [assessment category A/B/C]		Change		Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Impact duration (months)	Combined impact	Mitigation effect	Significant effect
		Day 0700-1900	Night 2300-0700	Day 0700-1900	Night 2300-0700											
11166(N)	Rugeley Rescue Centre: Border Collie Trust, Colton	61/65	-	20	-	Day: Overbridge pile breakdown	B	1	G5	T	-	-	-	-	-	
11231(N)	Woodhouse Farm, Pipe Lane, Pipe Ridware (CD Ref: 15/00940/COU)	59/63	-	22	-	Day: Earthworks	B	7	G4	T	-	-	D5	-	-	CSV01-N04

Airborne sound: indirect effects

4.2.9 Construction road traffic associated with the construction phases of the Proposed Scheme would generate airborne noise. Based upon traffic information for the Proposed Scheme, the change in traffic noise level at a reference distance of 10m from the edge of the nearside carriageway resulting from the presence of construction traffic for a given road has been predicted. Data has been produced for a typical month during the construction period and for a worst-case month during the construction period. The results for potentially significant road links are presented in Table 9.

4.2.10 Explanation of the information within Table 9 is provided in Volume 5: Appendix SV-001-000, with the following additional notes in Table 8.

Table 8: Explanatory notes for assessment results – indirect construction effects

Colour	Explanation
	Where the significant effect column is highlighted, then a significant effect is identified on nearby communities or individual receptors
	Yellow denotes a minor impact – a change is of 3-5 dB or 1-3dB where a high existing sound level is identified
	Orange denotes a moderate impact – a change is of 5-10 dB or 3-5dB where a high existing sound level is identified
	Red denotes a major impact – a change is of >10 dB or >5dB where a high existing sound level is identified

Table 9: Assessment of construction traffic noise levels

Road name	Portion of road affected	Number of dwellings affected (approx.)	Daytime traffic sound levels $L_{A10,18hr}$ dB			Change compared to current traffic sound level (dB)		Combined impact	Significant effect
			Without HS2 (2017)	Typical month during construction	Peak month during construction	Typical month during construction	Peak month during construction		
Common Lane, Rileyhill	From the junction with the A515 In Rileyhill to the junction with Crawley Lane near Common Farm South of Kings Bromley	3	45	48	49	3	4	-	
Uttoxeter Road (B5014)	From the junction with Stonyford Lane to the junction with Blithbury Road in the centre of Blithbury	3	58	59	61	2	3	-	
Pipe Wood Lane	From the junction with the track connecting Pipe Wood Lane to Quinton's Orchard Fish Farm and the junction with Blithbury Road in the centre of Blithbury	8	44	47	47	3	4	-	
Pipe Lane, Pipe Ridware	From the T-junction immediately to the west of Pipe Ridware to the junction with Pipe Wood Lane	5	53	54	57	2	4	-	
Blithbury Road / Hollow Lane	Between the junction with Uttoxeter Road in Blithbury and the junction with Bellamour Way & High Street in Colton	40	57	60	63	3	6	O	CSV01-C05

Road name	Portion of road affected	Number of dwellings affected (approx.)	Daytime traffic sound levels $L_{A10,18hr}$ dB			Change compared to current traffic sound level (dB)		Combined impact	Significant effect
			Without HS2 (2017)	Typical month during construction	Peak month during construction	Typical month during construction	Peak month during construction		
Access serving Goldmayfields Farm	From the junction with Pipe Wood Lane to the junction with Blithbury Road	2	35	50	57	15	21	-	

Airborne sound levels used in other assessments

4.2.11 The construction sound results contained in this document have been used by other disciplines, namely agriculture, cultural heritage, landscape and visual, communities and socio economics, in their assessments. This includes the information in Table 6 and Table 7. Locations of interest to these other disciplines which may not appear in Table 6 or Table 7 are presented in Table 10.

Table 10: Construction airborne sound levels for use in cross discipline assessments

Assessment location ID		Impact information					Discipline				
Ref.	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [Assessment category A/B/C]		Change		Construction activity resulting in highest forecast noise levels	Agriculture	Communities	Heritage	Landscape & visual	Socio-economic
		Day 0700-1900	Night 2300-0700	Day 0700-1900	Night 2300-0700						
8001(N)	Alrewas Hayes Countryside Venue, Alrewas	50/54	-	6	-	Day: Haul road setup	-	Y	Y	-	Y
8003(N)	Bromley Hayes Cattery, Rileyhill	61/67	-	18	-	Day: Site set-up/takedown	-	-	-	-	-
8009(N)	Prince Farms Feeds, Echills	65/69	-	16	-	Day: Footpath diversion	-	-	-	-	Y
8014(N)	Rookery Lodge Boarding Kennels & Cattery, Kings Bromley	64/68	-	11	-	Day: Road construction	-	-	-	-	-
8015(N)	Shaw Lane Farm, Kings Bromley	72/74	-	21	-	Day: Demolitions	-	-	Y	-	-
8026(N)	Bromley Hayes Garden Centre, Rileyhill	57/59	-	7	-	Day: Road construction	-	-	-	-	Y
8029(N)	Pipe Hall Farm, Pipe Ridware	63/66	-	8	-	Day: Earthworks	Y	-	-	-	-
8039(N)	Quinton's Orchard Farm, Rake End	61/66	-	24	-	Day: Earthworks	Y	-	-	-	-

Assessment location ID		Impact information					Discipline				
Ref.	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [Assessment category A/B/C]		Change		Construction activity resulting in highest forecast noise levels	Agriculture	Communities	Heritage	Landscape & visual	Socio-economic
		Day 0700-1900	Night 2300-0700	Day 0700-1900	Night 2300-0700						
8040(N)	Woodhouse Farm, Pipe Wood Lane	62/67	-	25	-	Day: Earthworks	-	-	Y	-	-
8092(N)	Hamleyheath, Hamley Heath Lodge	63/69	-	13	-	Day: Vegetation clearance	-	-	Y	-	Y
8108(N)	Hamley Cottage Farm, Hamley Heath	60/67	-	21	-	Day: Underground utility diversion	-	-	-	-	Y
11006(N)	The Swan (Public House), Fradley Junction	50/54	-	5	-	Day: Earthworks	-	-	Y	-	-
11008(N)	Kingfisher Holiday Park, Fradley Junction	50/54	-	5	-	Day: Earthworks	-	-	-	-	-
11034(N)	The Richard Crosse Church Of England Primary School, Kings Bromley	51/53	-	4	-	Day: Borrow pit excavation	-	-	-	-	-
11053	Kings Bromley Nursing Home, Kings Bromley	55/57	-	17	-	Day: Borrow pit excavation	-	-	-	-	-
11063(N)	Kings Bromley Marina - Main Moorings, Kings Bromley	54/55	-	12	-	Day: Borrow pit excavation	-	Y	-	-	Y
11080(N)	Four Seasons Nature Study Centre	59/62	-	8	-	Day: Earthworks	-	Y	-	-	-
11089(N)	Ridware Theatre, Pipe Ridware	63/66	-	8	-	Day: Earthworks	-	-	Y	-	-
11107(N)	Priory School, Rugeley	47/50	-	11	-	Day: Earthworks	-	Y	-	-	-

Assessment location ID		Impact information					Discipline				
Ref.	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [Assessment category A/B/C]		Change		Construction activity resulting in highest forecast noise levels	Agriculture	Communities	Heritage	Landscape & visual	Socio-economic
		Day 0700-1900	Night 2300-0700	Day 0700-1900	Night 2300-0700						
11166(N)	Rugeley Rescue Centre: Border Collie Trust, Colton	63/68	-	20	-	Day: Overbridge pile breakdown	Y	-	-	-	-
11205(N)	Barn Farm, Rileyhill	62/66	-	17	-	Day: Track laying	Y	-	-	-	-
11206(N)	Blithbury Reindeer Lodge, Uttoxeter Road, Blithbury and committed development 15/00955/FUL	56/60	-	18	-	Day: Overbridge pile breakdown	Y	Y	-	-	-
11207(N)	Hamley House Farm	65/68	-	21	-	Day: Earthworks	Y	-	-	-	Y
11211(N)	Brookhouse Farm, Rugeley (CD: 15/01011/FUL)	55/58	-	10	-	Day: Borrow pit excavation	-	-	-	-	Y
11214(N)	Wharf Farm Barn, Bromley Hayes	49/52	-	14	-	Day: Borrow pit excavation	-	-	-	Y	-
11215(N)	Alrewas Hayes, Alrewas	50/55	-	10	-	Day: Haul road setup	-	-	-	Y	-
11216(N)	Alrewas Hayes, Alrewas	53/56	-	8	-	Day: Borrow pit excavation	-	-	-	Y	-
11217(N)	Rugeley Road, Kings Bromley	57/60	-	10	-	Day: Borrow pit excavation	-	-	-	Y	-
11218(N)	Nethertown, Rugeley	56/59	-	9	-	Day: Earthworks	-	-	-	Y	-
11219(N)	Trentside Meadows, East (East Of Hs2)	66/69	-	23	-	Day: Earthworks	-	Y	-	Y	-

Assessment location ID		Impact information					Discipline				
Ref.	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [Assessment category A/B/C]		Change		Construction activity resulting in highest forecast noise levels	Agriculture	Communities	Heritage	Landscape & visual	Socio-economic
		Day 0700-1900	Night 2300-0700	Day 0700-1900	Night 2300-0700						
11220(N)	Trentside Meadows, Central (West Of Hs2)	63/67	-	19	-	Day: Earthworks	-	Y	-	Y	-
11221(N)	Trentside Meadows, West (West Of Hs2)	58/61	-	14	-	Day: Landscaping	-	Y	-	Y	-
11222(N)	Nethertown, Rugeley	58/61	-	11	-	Day: Borrow pit excavation	-	-	-	Y	-
11223(N)	Quintins Orchard Farm, Blithbury	64/68	-	26	-	Day: Pond construction/planting	-	-	-	Y	-
11224(N)	Goldhayfields Barn, Blithbury	54/59	-	12	-	Day: Earthworks	-	-	-	Y	-
11225(N)	Blithbury Road, Rugeley	54/59	-	17	-	Day: Footpath overbridge construction	-	-	-	Y	-
11226(N)	Park Lane, Stockwell Heath	54/59	-	17	-	Day: Earthworks	-	-	-	Y	-
11227(N)	Wayside, Stockwell Heath	57/60	-	15	-	Day: Earthworks	-	-	-	Y	-
11228(N)	Steenwood Lane, Admaston	50/55	-	8	-	Day: Earthworks	-	-	-	Y	-
11232(N)	Wood End Lock Moorings, Trent & Mersey Canal	56/59	-	16	-	Day: Earthworks	-	Y	-	-	-
11233(N)	Fradley Junction Moorings, Trent & Mersey Canal	52/56	-	7	-	Day: Earthworks	-	Y	-	-	-

Assessment location ID		Impact information					Discipline				
Ref.	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] at the facade [Assessment category A/B/C]		Change		Construction activity resulting in highest forecast noise levels	Agriculture	Communities	Heritage	Landscape & visual	Socio-economic
		Day 0700-1900	Night 2300-0700	Day 0700-1900	Night 2300-0700						
11234(N)	Weighhouse Wharf Moorings - Trent & Mersey Canal	51/54	-	3	-	Day: Earthworks	-	Y	-	-	-
11235(N)	Kings Bromley Marina - Canal-Side Moorings - Trent & Mersey Canal	53/55	-	4	-	Day: Earthworks	-	Y	-	-	-

5 Operational

5.1 Evaluation of impacts and effects

5.1.1 This appendix provides a quantitative assessment of operational noise and vibration impacts and effects and a qualitative assessment of likely significant effects, based on the impacts and effects identified and other local context information consistent with the scope and methodology defined for the Proposed Scheme.

5.1.2 Indirect effects arising from permanent changes in traffic patterns on the existing road and rail networks as a consequence of the Proposed Scheme are also reported in this appendix, where they would occur within the study area as defined in Volume 5: Appendix SV-001-000. Route-wide impacts, effects and significant effects associated with noise or vibration from the operation of the Proposed Scheme are reported in Volume 3[13].

5.1.3 Off-route effects of noise or vibration arising from the operation of the Proposed Scheme, including those likely to arise from permanent changes in traffic patterns on roads or railways outside of the study area for direct effects are reported in Volume 4[14].

5.1.4 In undertaking the assessment of sound, noise and vibration, consistent with EIA Directive[8] and National Planning Practice Guidance[9] a differentiation between impacts effects, adverse effects and significant effects is made. Further information is provided in Volume 5: Appendix SV-001-000.

5.1.5 The assessment of impacts has been undertaken at assessment locations that are representative of a number of dwellings or other sensitive receptors. The operational assessment locations employed in this assessment are presented on Map Series SV-02 (Volume 5: Sound, Noise and Vibration Map Book).

5.1.6 Baseline sound level data has been collected at locations representative of the airborne sound-sensitive receptors and presented in Table 1, and corrected where applicable using the values in Table 3.

5.2 Effects arising during operation

Introduction

5.2.1 The assessment is reported first for ground-borne sound and vibration and then for airborne sound. Under each of these headings, the results of the quantitative identification of impacts, effects and significant effects are presented. The significant effects and the evidence used to support these conclusions are presented in Volume 2, Fradley to Colton (CA Report 1), Section 13.

Avoidance and mitigation measures

5.2.2 These are set out in Volume 2, Fradley to Colton (CA Report 1), Section 13.

[13] See ES Volume 3, Route-wide effects
[14] See ES Volume 4, Off-route effects

Quantitative identification of impacts and effects

Ground-borne sound and vibration

5.2.3 Assessment locations defined for the quantitative assessment of impacts are shown on Map Series SV-02 (Volume 5: Sound, Noise and Vibration Map Book). SV-02 also displays ground-borne noise and vibration impacts and any resultant significant effects.

5.2.4 For each assessment location, the assessment results for residential and non-residential receptors are presented in Table 12. Explanation of the information in Table 12 is provided in Appendix SV-001-000, with the following additional notes in Table 11.

Table 11: Explanatory notes for assessment results

Symbol	Explanation
B	For non-residential receptors further detail about the type of effect is set out in the text of Volume 5: Appendix SV-001-000
NA	Type of effect - Generally no adverse effect
A	Ground-borne sound or vibration levels from HS2 exceed Lowest Observed Adverse Effect Level (LOAEL): the significance criteria set out in Volume 5: Appendix SV-001-000, Annex A, Section 1.3 are considered when establishing significant effects
S	Ground-borne sound or vibration levels from HS2 exceed Significant Observed Adverse Effect Level (SOAEL):
VDV	Vibration Dose Value
~	When considered under the significance criteria set out in Volume 5: Appendix SV-001-000, Annex A, Section 1.3, these adverse effects are not considered to be significant on a community basis
	Where the significant effect column is highlighted in pink, then a significant effect is identified at the referenced residential community area, or individual receptor
	Yellow denotes a low ground-borne noise impact or a minor ground-borne vibration impact
	Orange denotes a medium ground-borne noise impact or a moderate ground-borne vibration impact
	Red denotes a high ground-borne noise impact or a major ground-borne vibration impact
	Dark red denotes a very high ground-borne noise impact

Table 12: Operational ground-borne sound and vibration levels, noise and vibration impacts and effects for residential and non-residential receptors

Assessment location		Impact criteria				Significance criteria								
Ref	Area represented	Groundborne sound level dB L_{pASmax}	VDV m/s$^{1.75}$ Daytime (07:00 - 23:00)	VDV m/s$^{1.75}$ Night time (23:00 – 07:00)	% increase or decrease in VDV	Number of impacts represented	Type of effect	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
11027	Barn Farm, Common Lane, Rileyhill	-	0.07	0.03	-	1	NA	R	T					
11145	Hadleygate, Blithbury Road	-	0.16	0.07	-	1	NA	R	T					
11168	Moor Lane, Rugeley	-	0.07	0.03	-	2	NA	R	T					

Ground-borne sound and vibration impact summary

5.2.5 The operational ground-borne noise and vibration impacts identified in Table 12 are summarised in Table 13.

Table 13: Summary of operational ground-borne noise and vibration impacts

Property type	Number of ground-borne noise impacts			
	Low	Medium	High	Very high
Residential properties	0	0	0	0
Non-residential properties			0	0
	Number of ground-borne vibration impacts			
	Minor	Moderate	Major	Risk of building damage
Residential properties	0	0	0	0
Non-residential properties			0	0

Airborne sound: direct impacts and effects

5.2.6 The direct effects from the operation of the Proposed Scheme as well as any new, amended or altered roads or railway lines, which are identified as part of the scheme, are presented in Table 15 for residential receptors and Table 16 for non-residential receptors.

5.2.7 The assessment information, impact criteria and significance criteria for the assessment of the incorporated mitigation case at residential and non-residential receptors are presented in Table 15 and Table 16 respectively. The results should be considered in conjunction with the information contained in Map Series SV-02 (Volume 5: Sound, Noise and Vibration Map Book).

5.2.8 Explanation of the information in Table 15 and Table 16 is provided in Volume 5: Appendix SV-001-000, with the following additional notes in Table 14.

Table 14: Explanatory notes for operational assessment results

Symbol	Explanation
	Where the significant effect column is marked, then a significant effect is identified at the referenced group of dwellings, or individual residential or non-residential receptor.
	Yellow denotes a minor impact at a residential building – a change is of 3-5 dB
	Orange denotes a moderate impact at a residential building – a change is of 5-10 dB
	Red denotes a major impact at a residential building – a change is of >10 dB
*	Day - $L_{pAeq,07:00-23:00}$
**	Night - $L_{pAeq,23:00-07:00}$

Symbol	Explanation
***	Max - L_{pAFmax} In the Proposed Scheme only column, two values are presented. The first is the value for the HS2 mitigated train and the second is the value for the TSI compliant train. For further information refer to Volume 5: Appendix SV-001-000.
****	Where the Proposed Scheme modifies an existing source, i.e. road or railway realignments, the *Proposed Scheme only* and *(Opening year baseline + Year 15 traffic)* levels in the table include the sound from the modified source.
A	Sound levels from HS2 exceed Lowest Observed Adverse Effect Level (LOAEL): the significance criteria set out in Appendix SV-001-000, Annex A, Section 1.3 are considered when establishing significant effects
B	For non-residential receptors further detail about the type of effect is set out in the text of Appendix SV-001-000
CD	Committed Development. The 'Area represented' column contains information about the potential number of impacts included in the development.
G	(G1)Theatres, large auditoria and concert halls, (G2) Sound recording and broadcast studios, (G3) Places of meeting for religious worship, courts, cinemas, lecture theatres, museums and small auditoria or halls, (G4) Schools, colleges, hospitals, hotels and libraries, and (G5) Offices and general commercial premises
H	High existing ambient sound level. Defined as >65dB$L_{Aeq,\ day}$ and/or >55dB$L_{Aeq,\ night}$
L	Low existing ambient sound level. Defined as <42dB$L_{Aeq,\ day}$ and/or <32dB$L_{Aeq,\ night}$
LD	Landscape receptor
NA	Sound levels from HS2 do not exceed Lowest Observed Adverse Effect Level (LOAEL), therefore generally no adverse effect
NI	The receptor is predicted to qualify for mitigation, which shall be provided to the specification defined in the Noise Insulation (Railways and other Guided Rail Systems) Regulations 1996
R	Residential receptor
RM	Residential mooring
S	Sound levels from HS2 exceed Significant Observed Adverse Effect Level (SOAEL): noise insulation therefore provided.
#	A change of 3dB or greater has been identified however, the assessment methodology only defines an impact where the absolute sound level from the Proposed Scheme is greater or equal to 50 dB $L_{pAeq,\ 23:00-07:00}$ during the daytime or 40 dB $L_{pAeq,\ 07:00-23:00}$ at night. At the receptor denoted the absolute level condition is not met and therefore no impact is identified.
~	When considered under the significance criteria set out in Annex A, Section 1.3 Volume 5: Appendix SV-001-000, these adverse effects are not considered to be significant on a community basis.
$	A change of 3dB or greater has been identified however, the impact methodology for non-residential receptors includes a screening criteria for G3 building use of 50 dB $L_{pAeq,07:00-23:00,}$ for G4 building use 55 dB $L_{pAeq,07:00-23:00}$ and 45 dB $L_{pAeq,23:00-07:00}$, for G5 building use 55 dB $L_{pAeq,07:00-23:00}$. At the receptor denoted the screening criteria is not met and therefore no impact is identified. Further information is provided in Volume 5: Appendix SV-001-000

Table 15: Operational airborne sound, noise impacts and significant effects: residential receptors

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
21095[15]	Wood End Farm, Rileyhill	55	46	70/72	63	56	78	60	53	-3	-3	A	5	R	T	-	-	-	-	
11003	Fradley Junction, Alrewas	48	38	63/64	48	38	50	51	41	3	3	A	2	R	T	-	-	-	-	#
11004	Fradley Junction, Alrewas	47	37	62/63	48	38	50	51	41	3	3	A	3	R	T	-	-	-	-	#
11007	Fradley Junction, Alrewas	51	42	67/68	48	38	50	53	43	5	5	A	2	R	T	-	-	-	-	~
11009	Fradley Junction, Alrewas	57	48	73/74	48	38	50	58	48	10	10	A	1	R	T	-	-	-	-	~
11012	Crawley Lane, Kings Bromley	49	40	63/65	42	36	47	50	41	8	5	A	1	R	T	-	-	-	-	OSV01-C01
11013	Cockshut Lane, Kings Bromley	42	32	57/58	42	36	47	45	37	3	1	A	5	R	T	-	-	-	-	#
11016	Wood End Lane, Curborough	57	47	71/72	40	36	50	57	48	17	12	A	1	R	T	-	-	-	-	~
11018	Crawley Lane, Kings Bromley	49	40	65/66	42	36	47	50	41	8	5	A	7	R	T	-	-	-	-	OSV01-C01
11019	Vicarage Croft, Kings Bromley	42	32	60/61	39	36	61	43	37	4	1	A	22	R	T	-	-	-	-	#

[15] Results from HS2 Phase One Additional Provisions 2 assessment, https://www.gov.uk/government/collections/hs2-phase-one-environmental-statement-documents.

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11022	Wood End Lane, Curborough	56	47	73/74	40	36	45	57	47	17	11	A	1	R	T	-	-	-	-	~
11024	Gilliards Croft, Kings Bromley	42	32	58/59	39	36	61	44	38	5	2	A	21	R	T	-	-	-	-	#
11025	Alrewas Road, Kings Bromley	40	30	58/59	61	57	61	61	57	0	0	A	12	R	T	H	-	-	-	
11027	Barn Farm, Common Lane, Rileyhill	69	59	86/87	46	43	50	69	60	23	17	S	1	R	T	-	-	-	NI	OSV01-C01/ OSV01-D01
11028	Crawley Lane, Kings Bromley	49	40	67/68	42	36	47	50	41	8	5	A	1	R	T	-	-	-	-	OSV01-C01
11030	Crawley Lane, Kings Bromley	43	33	58/59	51	48	58	52	48	1	0	A	42	R	T	-	-	-	-	
11033	Crawley Lane, Kings Bromley	44	35	61/62	50	47	58	51	47	1	0	A	4	R	T	-	-	-	-	
11037	Lichfield Road, Kings Bromley	43	34	59/60	55	53	58	55	53	0	0	A	13	R	T	-	-	-	-	
11038	Bradbury Lane, Kings Bromley	44	34	57/59	45	42	58	47	43	2	1	A	19	R	T	-	-	-	-	
11039	Broome Close, Kings Bromley	43	34	58/60	51	49	58	52	49	1	0	A	6	R	T	-	-	-	-	
11040	Rose Cottage, Rileyhill	59	50	76/77	46	43	50	59	50	13	7	A	1	R	T	-	-	-	-	OSV01-C01

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11041	Manor Road, Kings Bromley	42	33	55/57	39	35	58	44	37	5	2	NA	16	R	T	-	-	-	-	#
11042	Common Farm, Rileyhill	57	47	72/73	46	43	50	57	49	11	6	A	2	R	T	-	-	-	-	OSV01-C01
11043	Holly Cottage, Rileyhill	58	49	75/77	46	43	50	58	50	12	7	A	1	R	T	-	-	-	-	OSV01-C01
11044	Lichfield Road, Kings Bromley	48	38	60/62	59	56	58	59	56	0	0	A	4	R	T	H	-	-	-	
11045	Broome Close, Kings Bromley	45	36	59/61	41	39	58	47	41	6	2	A	12	R	T	-	-	-	-	#
11046	Kings Walk, Kings Bromley	47	37	61/63	59	56	58	59	56	0	0	A	5	R	T	H	-	-	-	
11047	Wood End Lane, Curborough	51	41	70/71	40	36	51	51	42	11	6	A	1	R	T	-	-	-	-	~
11048	Manor Walk, Kings Bromley	42	33	55/57	36	34	58	43	36	7	2	NA	4	R	T	-	-	-	-	#
11050	Manor Road, Kings Bromley	44	34	57/59	35	32	58	45	36	10	4	A	8	R	T	-	-	-	-	#
11051	Pool Cottage, Rileyhill	57	48	71/73	53	51	58	57	48	4	-3	A	2	R	T	-	-	-	-	OSV01-C01
11052	Manor Park, Kings Bromley	46	36	59/61	40	37	48	47	40	7	3	A	5	R	T	-	-	-	-	#

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11053	Kings Bromley Nursing Home, Kings Bromley	47	37	60/62	38	36	48	47	39	9	3	A	1	R	T	-	-	-	-	#
11054	Shaw Lane, Rileyhill	55	47	69/70	48	46	58	55	47	7	1	A	4	R	T	-	-	-	-	OSV01-C01
11056	Manor Park, Kings Bromley	46	36	60/61	37	34	48	47	38	10	4	A	3	R	T	-	-	-	-	#
11057	Manor Park, Kings Bromley	48	38	61/63	40	37	48	48	40	8	3	A	2	R	T	-	-	-	-	#
11058	Wharf Farmhouse, Bromley Hayes	49	40	63/65	50	44	58	53	45	3	1	A	2	R	T	-	-	-	-	#
11059	Manor Park, Kings Bromley	49	39	63/64	40	35	48	50	41	10	6	A	3	R	T	-	-	-	-	#
11061	Shaw Lane, Kings Bromley	58	48	73/75	56	52	61	60	54	4	2	A	1	R	T	-	-	-	-	OSV01-C01
11062	Rugeley Road, Kings Bromley	56	46	72/73	58	52	61	60	53	2	1	A	1	R	T	-	-	-	-	
11064	Shaw Lane Farm, Shaw Lane, Kings Bromley	62	52	80/81	49	39	50	62	52	13	13	S	1	R	T	-	-	-	NI	OSV01-C01/ OSV01-D02
11066	Nethertown, Rugeley	50	41	64/65	47	38	51	52	43	5	5	A	6	R	T	-	-	-	-	OSV01-C02
11067	Nethertown, Rugeley	50	40	63/64	47	38	51	52	42	5	4	A	5	R	T	-	-	-	-	OSV01-C02

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11068	Echills Farm, Rugeley Road, Kings Bromley	63	53	78/79	50	38	49	63	54	13	16	S	1	R	T	-	-	-	NI	OSV01-D03
11069	Rugeley Road, Kings Bromley	60	51	76/78	54	47	61	61	52	7	5	A	1	R	T	-	-	-	-	~
11070	Lichfield Road, Hamstall Ridware	43	33	58/60	47	38	51	48	39	1	1	A	1	R	T	-	-	-	-	
11071	Nethertown, Rugeley	49	39	62/63	47	38	51	51	42	4	4	A	4	R	T	-	-	-	-	#
11072	Shaw Lane, Bromley Hayes	46	36	60/62	34	31	58	46	37	12	6	A	1	R	T	-	-	-	-	#
11074	Nethertown, Rugeley	52	42	65/66	47	38	51	53	43	6	5	A	1	R	T	-	-	-	-	OSV01-C02
11076	Lichfield Road, Hamstall Ridware	45	36	61/62	43	28	47	47	36	4	8	A	4	R	T	-	-	-	-	#
11082	Hunger Hill Lane, Rugeley	47	37	61/63	43	28	47	48	38	5	10	A	1	R	T	-	-	-	-	#
11083	Kings Bromley Lane, Rugeley	54	44	66/67	48	41	61	55	46	7	5	A	1	R	T	-	-	-	-	~
11084	Hunger Hill Lane, Rugeley	49	39	63/64	43	28	47	50	39	7	11	A	1	R	T	-	-	-	-	#
11086	Kings Bromley Lane, Rugeley	54	44	67/68	54	47	61	57	49	3	2	A	1	R	T	-	-	-	-	~

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11088	Kings Bromley Lane, Rugeley	51	41	64/65	54	47	61	56	48	2	1	A	1	R	T	-	-	-	-	
11090	Pipe Ridware, Rugeley	58	48	72/74	55	40	52	60	49	5	9	A	1	R	T	-	-	-	-	OSV01-C03
11091	Pipe Ridware, Rugeley	55	45	69/71	55	40	52	58	46	3	6	A	1	R	T	-	-	-	-	OSV01-C03
11092	Pipe Ridware, Rugeley	60	50	76/77	55	40	52	61	50	6	10	A	4	R	T	-	-	-	-	OSV01-C03
11093	Goldhayfields Farm, Blithbury	52	42	67/68	43	28	47	53	43	10	15	A	3	R	T	-	-	-	-	~
11095	Pipe Ridware, Rugeley	57	47	73/75	55	40	52	59	48	4	8	A	1	R	T	-	-	-	-	OSV01-C03
11097	Kings Bromley Lane, Rugeley	47	38	61/62	43	35	46	49	40	6	5	A	2	R	T	-	-	-	-	#
11099	Luthbur, Pipe Ridware, Rugeley	63	54	79/80	46	40	52	64	54	18	14	S	1	R	T	-	-	-	NI	OSV01-C03/ OSV01-D04
11101	Kings Bromley Lane, Rugeley	46	37	60/62	59	42	56	59	43	0	1	A	1	R	T	-	-	-	-	
11103	The Bungalow & Woodhouse Farm, Blithbury	67	57	83/85	38	31	41	67	57	29	26	S	2	R	T	-	-	-	NI	OSV01-D05
11105	Longacre Farm, Blithbury	41	32	54/55	41	34	47	44	36	3	2	NA	1	R	T	-	-	-	-	#

Assessment location		Impact criteria									Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11106	Quinton's Orchard Farm, Blithbury and committed development 12/01025/COU	56	46	74/75	38	31	41	56	46	18	15	A	3	R	T	-	-	-	-	~
11108	Uttoxeter Road, Hill Ridware	46	37	61/62	55	46	56	56	46	1	0	A	1	R	T	-	-	-	-	
11109	Applelawn, Blithbury	45	35	58/59	41	34	47	46	38	5	4	A	1	R	T	-	-	-	-	#
11110	Pipe Lane Farm, Blithbury and committed development 16/00420/PND	56	46	69/70	41	38	51	56	47	15	9	A	3	R	T	-	-	-	-	~
11112	Pimpernel, Blithbury	52	42	65/67	41	38	51	52	44	11	6	A	2	R	T	-	-	-	-	~
11113	4 Pipewood, Blithbury	47	37	59/61	41	34	47	48	39	7	5	A	7	R	T	-	-	-	-	#
11114	Oakleigh House, Blithbury	46	36	59/60	41	34	47	47	38	6	4	A	2	R	T	-	-	-	-	#
11115	Uttoxeter Road, Blithbury	59	50	75/76	47	42	55	60	50	13	8	A	1	R	T	-	-	-	-	~
11116	Sandford Close, Hill Ridware	45	36	60/61	44	40	51	48	41	4	1	A	24	R	T	-	-	-	-	#
11117	Uttoxeter Road, Hill Ridware	44	35	59/60	58	49	56	58	49	0	0	A	24	R	T	-	-	-	-	

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11118	School Lane, Hill Ridware	45	36	61/62	44	40	51	48	41	4	1	A	10	R	T	-	-	-	-	#
11119	School Lane, Hill Ridware	46	37	61/63	44	40	51	48	42	4	2	A	8	R	T	-	-	-	-	#
11120	Uttoxeter Road, Blithbury	44	34	57/58	53	44	45	53	44	0	0	A	6	R	T	-	-	-	-	
11121	Jayvid House, Blithbury	48	38	60/62	43	32	45	49	39	6	7	A	4	R	T	-	-	-	-	#
11122	Chadwick Crescent, Hill Ridware	46	36	61/63	44	40	51	48	41	4	1	A	33	R	T	-	-	-	-	#
11123	School Lane, Hill Ridware	45	35	59/61	44	40	51	47	41	3	1	A	10	R	T	-	-	-	-	#
11124	Chadwick Crescent, Hill Ridware	45	36	61/63	44	40	51	48	41	4	1	A	21	R	T	-	-	-	-	#
11125	Uttoxeter Road, Hill Ridware	43	33	59/60	52	44	56	52	44	0	0	A	26	R	T	-	-	-	-	
11126	Uttoxeter Road, Blithbury	54	44	65/66	51	41	45	54	44	3	3	A	2	R	T	-	-	-	-	~
11127	Oaklands Close, Hill Ridware	44	34	59/61	44	40	51	47	41	3	1	A	30	R	T	-	-	-	-	#
11128	Uttoxeter Road, Blithbury	60	50	75/76	49	34	45	60	50	11	16	A	1	R	T	-	-	-	-	~

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11129	Hawkhurst Drive, Hill Ridware	42	32	58/60	48	39	56	49	40	1	1	A	48	R	T	-	-	-	-	
11130	Blithbury Farm, Blithbury	43	33	56/57	44	36	48	46	38	2	2	NA	3	R	T	-	-	-	-	
11132	Uttoxeter Road, Blithbury	52	42	68/69	44	40	51	52	44	8	4	A	1	R	T	-	-	-	-	~
11133	Blithbury Road, Rugeley	52	42	65/66	48	37	44	53	43	5	6	A	2	R	T	-	-	-	-	~
11134	Uttoxeter Road, Hill Ridware	42	33	58/59	44	40	51	46	41	2	1	A	17	R	T	-	-	-	-	
11137	Rake End Court, Hill Ridware	44	34	58/59	44	40	51	47	41	3	1	A	20	R	T	-	-	-	-	#
11139	Rake End, Hill Ridware	45	35	59/60	51	42	45	52	43	1	1	A	1	R	T	-	-	-	-	
11141	Stoneyford Farm, Blithbury	56	47	71/72	38	28	45	56	47	18	19	A	1	R	T	-	-	-	-	~
11142	Oak Croft House, Blithbury	54	45	69/70	49	39	44	54	45	5	6	A	2	R	T	-	-	-	-	~
11143	Blithbury Road, Rugeley	55	45	69/70	42	31	45	55	45	13	14	A	1	R	T	-	-	-	-	OSV01-C04
11145	Hadley Gate, Blithbury Road	76	66	94/95	49	37	52	76	66	27	29	S	1	R	T	-	-	-	NI	OSV01-C04/ OSV01-D06

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11146	Blithbury Road, Rugeley	56	46	70/71	55	38	51	57	46	2	8	A	1	R	T	-	-	-	-	OSV01-C04
11147	Blithbury Road, Rugeley	56	46	70/71	55	38	51	58	46	3	8	A	2	R	T	-	-	-	-	OSV01-C04
11148	Blackflatts Farm, Blithbury	43	33	58/59	49	39	53	50	40	1	1	A	1	R	T	-	-	-	-	
11149	Blithbury Road, Rugeley	51	41	66/67	55	38	51	56	42	1	4	A	1	R	T	-	-	-	-	~
11150	Blithbury Road, Rugeley	48	38	63/65	43	33	45	49	39	6	6	A	3	R	T	-	-	-	-	#
11151	Blithbury Road, Rugeley	43	33	59/60	43	33	45	46	36	3	3	A	1	R	T	-	-	-	-	#
11152	Park Lane, Stockwell Heath	43	34	61/62	39	30	42	45	35	6	5	A	2	R	T	-	-	-	-	#
11155	Hollow Lane, Rugeley	46	36	64/65	49	38	50	51	40	2	2	A	3	R	T	-	-	-	-	
11158	Park Lane, Stockwell Heath	49	39	67/68	39	29	42	49	40	10	11	A	1	R	T	-	-	-	-	#
11159	Sherracop, Stockwell Heath	52	42	69/70	42	36	47	52	43	10	7	A	4	R	T	-	-	-	-	OSV01-C06
11160	Hamley Fields, Stockwell Heath	55	45	71/73	42	36	47	55	46	13	10	A	2	R	T	-	-	-	-	OSV01-C06

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11161	Stockwell, Stockwell Heath	55	45	70/72	42	36	47	55	45	13	9	A	1	R	T	-	-	-	-	OSV01-C06
11163	Moor Lane, Rugeley	55	46	73/74	48	36	47	56	46	8	10	A	1	R	T	-	-	-	-	OSV01-C06
11164	Hollow Lane, Rugeley	42	32	57/58	49	38	50	50	39	1	1	A	2	R	T	-	-	-	-	
11165	High Street, Colton	48	39	62/64	44	39	53	50	42	6	3	A	10	R	T	-	-	-	-	#
11167	Narrow Lane, Rugeley	53	43	68/69	43	36	50	53	44	10	8	A	1	R	T	-	-	-	-	OSV01-C05
11168	Moor Lane, Rugeley	57	47	73/74	46	36	47	57	47	11	11	A	2	R	T	-	-	-	-	OSV01-C06
11169	High Street, Colton	48	39	62/64	44	39	53	50	42	6	3	A	5	R	T	-	-	-	-	#
11170	Narrow Lane, Rugeley	51	41	65/67	43	36	50	52	42	9	6	A	1	R	T	-	-	-	-	OSV01-C05
11171	Heath Way, Rugeley	49	39	63/65	43	36	50	50	41	7	5	A	8	R	T	-	-	-	-	#
11172	High Street, Colton	46	36	59/61	44	39	53	48	41	4	2	A	14	R	T	-	-	-	-	#
11173	Littlehay Manor, Colton	44	34	58/59	44	39	53	47	40	3	1	A	11	R	T	-	-	-	-	#
11174	Heath Way, Rugeley	49	40	63/65	43	36	50	50	41	7	5	A	8	R	T	-	-	-	-	OSV01-C05

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11175	Heath Way, Rugeley	47	37	60/62	43	36	50	48	40	5	4	A	4	R	T	-	-	-	-	#
11176	Lea Croft, Colton	47	37	62/64	43	36	50	48	40	5	4	A	4	R	T	-	-	-	-	#
11177	Hollow Lane, Rugeley	37	27	50/51	49	38	50	49	38	0	0	NA	9	R	T	-	-	-	-	
11178	Moor Croft, Rugeley	45	36	58/59	44	39	53	48	41	4	2	A	7	R	T	-	-	-	-	#
11179	Steenwood Lane, Admaston	42	32	59/60	44	38	51	46	39	2	1	A	4	R	T	-	-	-	-	
11180	Moor Croft, Rugeley	45	35	58/60	44	39	53	47	40	3	1	A	13	R	T	-	-	-	-	#
11181	High Street, Colton	41	31	54/55	44	39	53	46	40	2	1	NA	11	R	T	-	-	-	-	
11182	High Street, Colton	43	33	56/58	44	39	53	46	40	2	1	A	7	R	T	-	-	-	-	
11183	Moor Croft, Rugeley	45	35	60/62	43	36	50	47	39	4	3	A	7	R	T	-	-	-	-	#
11184	High Street, Colton	41	32	56/57	44	39	53	46	40	2	1	NA	10	R	T	-	-	-	-	
11185	High Street, Colton	39	29	53/54	44	37	51	45	38	1	1	NA	25	R	T	-	-	-	-	
11187	Moor Lane, Rugeley	54	44	71/72	43	34	49	54	44	11	10	A	1	R	T	-	-	-	-	OSV01-C06

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11191	Friary Lodge, Admaston	43	34	58/60	44	38	51	47	39	3	1	A	16	R	T	-	-	-	-	#
11193	Lea Lane, Rugeley	47	37	61/62	47	40	53	50	42	3	2	A	1	R	T	-	-	-	-	#
11194	Lea Lane, Rugeley	50	40	65/66	47	40	53	52	43	5	3	A	3	R	T	-	-	-	-	~
11195	Hamley Heath Lodge, Hamley Heath	55	45	70/72	53	46	50	55	46	2	0	A	3	R	T	-	-	-	-	
11196	Uttoxeter Road, Rugeley	44	34	60/61	52	38	50	53	40	1	2	A	2	R	T	-	-	-	-	
11197	Uttoxeter Road, Rugeley	42	32	58/59	54	38	50	54	39	0	1	A	3	R	T	-	-	-	-	
11198	Hamley Cottage Farm, Hamley Heath	55	46	71/72	43	38	50	56	46	13	8	A	1	R	T	-	-	-	-	~
11200	Lea Lane, Rugeley	56	46	70/71	38	32	45	56	47	18	15	A	1	R	T	-	-	-	-	~
11201	Lea Lane, Rugeley	44	35	58/59	44	38	51	47	40	3	2	A	1	R	T	-	-	-	-	#
11202	Jonghams Cottage, Hamley Heath	66	56	81/83	38	32	45	66	56	28	24	S	1	R	T	-	-	-	NI	OSV01-D07
11203	Lea Lane, Rugeley	42	32	59/60	44	38	51	46	39	2	1	A	1	R	T	-	-	-	-	

Assessment location		Impact criteria										Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11204	Uttoxeter Road, Colton	51	42	65/67	44	36	46	52	43	8	7	A	1	R	T	-	-	-	-	~
11208	Moor Lane, Rugeley	56	46	73/75	43	34	49	56	46	13	12	A	2	R	T	-	-	-	-	OSV01-C06
11210	Lichfield Road, Kings Bromley (CD Ref.: 14/00683/OUTM)	46	36	61/63	54	51	58	55	51	1	0	A	16	CD-R	T	-	-	-	-	
11212	Malt House Farm, Newlands Lane, Stockwell Heath (Cd Ref.: 14/01231/PND)	55	45	71/72	42	36	47	55	46	13	10	A	1	CD-R	T	-	-	-	-	OSV01-C05
11213	Moor Lane, Rugeley (CD Ref.: 16/00462/COU)	54	44	69/71	42	36	47	54	45	12	9	A	1	CD-R	T	-	-	-	-	OSV01-C06
11229	Fradley Junction, Alrewas	50	40	64/65	48	38	50	52	42	4	4	A	2	R	T	-	-	-	-	~
11230	Dwellings At Alrewas Hayes Countryside Venue, Alrewas	47	37	60/61	45	39	53	49	41	4	2	A	1	R	T	-	-	-	-	#
11238	Hamley House Farm Area (CD ref.: 16/01032/PND, 16/01019/FUL, 14/00779/FUL, and 14/00690/FUL	54	44	71/72	43	34	49	54	44	11	10	A	6	CD-R	T	-	-	-	-	OSV01-C06

Assessment location		Impact criteria									Significance criteria								
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11240	Hadley Gate Farm, Hadley Gate (CD ref.: 16/00753/PND)	61	51	76/78	49	37	52	61	51	12	14	A	1	CD-R	T	-	-	-	-	OSV01-C04

Table 16: Operational airborne sound, noise impacts and significant effects: non-residential receptors

Assessment location		Impact criteria										Significance criteria								
ID	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
8001(N)	Alrewas Hayes Countryside Venue, Alrewas	50	41	65/66	45	39	53	51	43	6	4	B	1	G4	T	-	-	-	-	
8003(N)	Bromley Hayes Cattery, Rileyhill	59	50	76/77	46	43	50	59	50	13	7	B	1	G5	T	-	-	-	-	OSV01-No2
8014(N)	Rookery Lodge Boarding Kennels & Cattery, Kings Bromley	61	51	77/78	54	47	61	62	52	8	5	B	1	G5	T	-	-	-	-	OSV01-No3
11008(N)	Kingfisher Holiday Park, Fradley Junction	50	41	65/66	48	38	50	52	43	4	5	B	1	G4	T	-	-	-	-	
11034(N)	The Richard Crosse Church Of England Primary School, Kings Bromley	44	34	61/62	48	45	58	49	45	1	0	B	1	G4	T	-	-	-	-	
11080(N)	Four Seasons Nature Study Centre Study Centre	59	49	72/73	51	44	61	59	50	8	6	B	1	G3	T	-	-	-	-	OSV01-No4
11089(N)	Ridware Theatre, Pipe Ridware	60	50	74/75	55	40	52	61	50	6	10	B	1	G3	T	-	-	-	-	OSV01-No5

Assessment location		Impact criteria										Significance criteria								
ID	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Mitigation effect	Significant effect
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **									
11107(N)	Priory School, Rugeley	46	37	59/60	41	34	47	47	38	6	4	B	1	G4	T	-	-	-	-	
11166(N)	Rugeley Rescue Centre: Border Collie Trust, Colton	55	45	70/71	43	36	50	55	45	12	9	B	1	G5	T	-	-	-	-	~
11231(N)	Woodhouse Farm, Pipe Lane, Pipe Ridware (CD Ref: 15/00940/COU)	59	49	74/75	38	31	41	59	49	21	18	B	1	G4	T	-	-	-	-	OSV01-N06
11236(N)	Common Farm Bed And Breakfast, Rileyhill	57	47	72/73	46	43	50	57	49	11	6	B	1	G4	T	-	-	-	-	OSV01-N01
11237(N)	Woodshoot Bed And Breakfast, Kings Bromley	42	32	57/58	42	36	47	45	37	3	1	B	1	G4	T	-	-	-	-	
11239(N)	Hamley Heath House, Hamley Heath	55	45	70/72	53	46	50	55	48	2	2	B	1	G5	T	-	-	-	-	

Direct impact - Summary

5.2.9 The operational airborne noise impacts identified in Table 15 and Table 16 are summarised in Table 17.

Table 17: Summary of operational airborne sound impacts

Receptor type	**Numbers of impact (numbers of impacts excluding those in committed developments)**				
	Above LOAEL	**Above SOAEL**	**Impacts**		
			Minor	**Moderate**	**Major**
Residential properties	753 (728)	11 (11)	9 (9)	53 (53)	68 (52)
Non-residential properties	N/A	N/A			6
Schools	N/A	N/A			None
Quiet areas	N/A	N/A			None

Airborne sound: indirect impacts and effects

5.2.10 The transport assessment presented in Volume 5: Appendix TR-000-001, has been used to identify those roads or railways within this study area where the alignment remains as at present, but a change in flow or composition is identified which is greater than the screening criteria defined in Volume 5: Appendix SV-001-000.

5.2.11 No roads or railways which exceed the criteria defined in Volume 5: Appendix SV-001-000 have been identified in this study area. The assessment of operational noise and vibration indicates that significant indirect effects on residential receptors are unlikely to occur in this area.

Airborne sound levels used in other assessments

5.2.12 The operational sound results contained in this document have been used by other disciplines, namely agriculture, cultural heritage, landscape and visual, communities and socio economics, in their assessments. This includes the information in Table 15 and Table 16. Locations of interest to these other disciplines which may not appear in Table 15 and Table 16 are presented in Table 18.

Table 18: Operational airborne sound levels for use in cross discipline assessments

Assessment location		Impact criteria										Discipline				
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Agriculture	Communities	Heritage	Landscape & visual	Socio-economic
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **					
8001(N)	Alrewas Hayes Countryside Venue, Alrewas	50	41	65/66	45	39	53	51	43	6	4	-	Y	Y	-	Y
8003(N)	Bromley Hayes Cattery, Rileyhill	59	50	76/77	46	43	50	59	50	13	7	-	-	-	-	Y
8009(N)	Prince Farms Feeds, Echills	63	53	78/79	50	38	49	63	54	13	16	-	-	-	-	Y
8014(N)	Rookery Lodge Boarding Kennels & Cattery, Kings Bromley	61	51	77/78	54	47	61	62	52	8	5	-	-	-	-	Y
8015(N)	Shaw Lane Farm, Kings Bromley	61	52	79/81	49	39	50	62	52	13	13	-	-	Y	-	-
8026(N)	Bromley Hayes Garden Centre, Rileyhill	55	49	68/69	51	49	58	55	49	4	0	-	-	-	-	Y
8029(N)	Pipe Hall Farm, Pipe Ridware	60	50	76/77	55	40	52	61	51	6	11	Y	-	-	-	-
8039(N)	Quinton's Orchard Farm, Rake End	63	53	79/80	38	31	41	63	53	25	22	Y	-	-	-	-
8040(N)	Woodhouse Farm, Pipe Wood Lane	67	57	83/85	38	31	41	67	57	29	26	-	-	Y	-	-
8092(N)	Hamleyheath, Hamley Heath Lodge	55	45	70/72	53	38	50	55	45	2	7	-	-	Y	-	Y
8108(N)	Hamley Cottage Farm, Hamley Heath	58	48	74/76	43	38	50	58	49	15	11	-	-	-	-	Y
11006(N)	The Swan (Public House), Fradley Junction	50	40	64/65	48	38	50	52	42	4	4	-	-	Y	-	-

Assessment location		Impact criteria										Discipline				
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Agriculture	Communities	Heritage	Landscape & visual	Socio-economic
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **					
11008(N)	Kingfisher Holiday Park, Fradley Junction	50	41	65/66	48	38	50	52	43	4	5	-	-	-	-	Y
11034(N)	The Richard Crosse Church Of England Primary School, Kings Bromley	44	34	61/62	48	45	58	49	45	1	0	-	Y	-	-	-
11053	Kings Bromley Nursing Home, Kings Bromley	47	37	60/62	38	36	48	47	39	9	3	-	-	-	-	Y
11063(N)	Kings Bromley Marina - Main Moorings, Kings Bromley	48	38	62/63	41	37	58	49	41	8	4	-	Y	-	-	Y
11080(N)	Four Seasons Nature Study Centre Study Centre	59	49	72/73	51	44	61	59	50	8	6	-	Y	-	-	-
11089(N)	Ridware Theatre, Pipe Ridware	60	50	74/75	55	40	52	61	50	6	10	-	Y	Y	-	Y
11107(N)	Priory School, Rugeley	46	37	59/60	41	34	47	47	38	6	4	-	Y	-	-	-
11166(N)	Rugeley Rescue Centre: Border Collie Trust, Colton	55	45	70/71	43	36	50	55	45	12	9	-	Y	-	-	Y
11205(N)	Barn Farm, Rileyhill	71	61	89/90	46	43	50	71	61	25	18	Y	-	-	-	-
11206(N)	Blithbury Reindeer Lodge, Uttoxeter Road, Blithbury and committed development 15/00955/FUL	51	41	64/65	38	28	45	51	41	13	13	Y	Y	-	-	-
11207(N)	Hamley House Farm	60	50	76/78	43	34	49	60	50	17	16	Y	-	-	-	Y

Assessment location		Impact criteria										Discipline				
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Agriculture	Communities	Heritage	Landscape & visual	Socio-economic
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **					
11211(N)	Brookhouse Farm, Rugeley (CD: 15/01011/FUL)	51	41	65/66	47	38	51	52	43	5	5	-	-	-	-	Y
11214(N)	Wharf Farm Barn, Bromley Hayes	50	40	63/64	36	33	50	50	41	14	8	-	-	-	Y	-
11215(N)	Alrewas Hayes, Alrewas	47	38	61/62	42	36	47	49	40	7	4	-	-	-	Y	-
11216(N)	Alrewas Hayes, Alrewas	55	45	70/72	45	39	53	55	46	10	7	-	-	-	Y	-
11217(N)	Rugeley Road, Kings Bromley	56	46	70/72	47	35	49	57	47	10	12	-	-	-	Y	-
11218(N)	Nethertown, Rugeley	53	43	67/68	47	38	51	54	44	7	6	-	-	-	Y	-
11219(N)	Trentside Meadows, East (East Of Hs2)	65	56	81/83	43	36	51	65	56	22	20	-	Y	-	Y	-
11220(N)	Trentside Meadows, Central (West Of Hs2)	63	53	77/78	44	37	51	63	53	19	16	-	Y	-	Y	-
11221(N)	Trentside Meadows, West (West Of Hs2)	57	47	70/71	44	37	51	57	47	13	10	-	Y	-	Y	-
11222(N)	Nethertown, Rugeley	56	46	69/71	47	38	51	56	47	9	9	-	-	-	Y	-
11223(N)	Quintins Orchard Farm, Blithbury	66	56	82/83	38	31	41	66	56	28	25	-	-	-	Y	-
11224(N)	Goldhayfields Barn, Blithbury	52	42	66/67	43	28	47	52	42	9	14	-	-	-	Y	-
11225(N)	Blithbury Road, Rugeley	50	41	65/66	39	28	42	51	41	12	13	-	-	-	Y	-

Assessment location		Impact criteria										Discipline				
Ref	Area represented	Proposed Scheme only (year 15 traffic)			Do nothing (opening year baseline)			Do something (opening year baseline + year 15 traffic) ****		Change		Agriculture	Communities	Heritage	Landscape & visual	Socio-economic
		Day *	Night **	Max ***	Day *	Night **	Max ***	Day *	Night **	Day *	Night **					
11226(N)	Park Lane, Stockwell Heath	48	38	63/64	39	28	42	49	39	10	11	-	-	-	Y	-
11227(N)	Wayside, Stockwell Heath	52	42	72/73	42	36	47	52	43	10	7	-	-	-	Y	-
11228(N)	Steenwood Lane, Admaston	46	36	62/64	44	38	51	48	40	4	2	-	-	-	Y	-
11232(N)	Wood End Lock Moorings, Trent & Mersey Canal	57	47	72/73	40	36	50	57	48	17	12	-	Y	-	-	-
11233(N)	Fradley Junction Moorings, Trent & Mersey Canal	55	46	71/72	48	38	50	56	46	8	8	-	Y	-	-	-
11234(N)	Weighhouse Wharf Moorings - Trent & Mersey Canal	49	40	63/64	50	44	58	53	45	3	1	-	Y	-	-	-
11235(N)	Kings Bromley Marina - Canal-Side Moorings - Trent & Mersey Canal	49	39	62/63	50	44	58	52	45	2	1	-	Y	-	-	-

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