

Harworth Estates Ltd

North Gawber

Planning Noise Assessment

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This work has been undertaken in accordance with the quality management system of RSK Environment.

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1 INTRODUCTION

1.1 Instruction

RSK Environment Ltd have been instructed by Harworth Estates Ltd to undertake a baseline noise survey and noise assessment for a proposed residential development on the former North Gawber colliery site in Mapplewell, Barnsley.

Full planning permission is sought for the remediation and restoration of the site and outline planning permission is sought for up to 325 dwellings, open space and associated infrastructure with all matters reserved except for access

1.1.1 The assessment considers the impact of new noise sources within the proposed development on the surrounding environment. Potential new noise sources include:

- Noise during the construction phase;
- Noise from traffic associated with the proposed development;
- Noise from external building services plant.

The assessment uses data from the previous Kirby Charles Associates Ltd report (dated March 2008) and survey data obtained by RSK on a survey in January 2014.

1.2 Regulatory Framework

The noise issues relating to the proposed development have been considered with reference to the following documents:

1.2.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) (published March 2012) has replaced Planning Policy Guidance (including PPG 24: Planning and Noise) as the means by which noise is considered within the planning regime. The NPPF does not contain assessment criteria, instead providing a series of policies, giving local authorities the flexibility in meeting the needs of local communities. The NPPF states:

The planning system should contribute to and enhance the natural and local environment by [...] preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of [...] noise pollution.

Planning policies and decisions should aim to [...]

- *avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;*
- *mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;*

- *recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and*
- *identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*

1.2.2 BS 7445-1:2003 "Description and measurement of environmental noise. Guide to quantities and procedures"

The three-part standard BS 7445 provides the framework within which environmental noise should be quantified. Part 1 provides a guide to quantities and procedures and Part 2 provides a guide to the acquisition of data pertinent to land use. Part 3 provides a guide to the application of noise limits.

BS 7445 also refers to a further standard, BS EN 61672, which prescribes the equipment necessary for such measurements.

Whilst BS 7445 does not prescribe the meteorological conditions under which noise measurements should or should not be taken, it does (part 2, paragraph 5.4.3.3) recommend that in order

> *"...to facilitate the comparison of results (measurements of noise from different sources), it may be necessary to carry out measurements under selected meteorological conditions which are reproducible and correspond to quite stable propagation conditions."*

These conditions include:

- wind speed not exceeding 5 m/s (measured at a height of 3 to 11 m above the ground);
- no strong temperature inversions near the ground; and
- no heavy precipitation.

1.2.3 BS 5228-1 2009 Code of Practice for noise and vibration control on construction and open sites

Construction phase noise impacts arising from equipment, vehicular movements and processes related to the construction of the proposed development have the potential for a short-term impact on noise sensitive receptors in the vicinity of the development site. These impacts are assessed by calculating the change in ambient noise level ($L_{Aeq,1hr}$) as a result of such processes using the methods described by BS 5228. To do this, noise emissions from various anticipated construction activities are calculated.

Noise assessment methodology and criteria for construction sites is covered by the British Standard BS 5228-1:2009 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise. The method for assessing the criteria of noise from construction activities are provided within Appendix E of BS 5228 and described as follows.

A detailed criterion for comparing the predicted noise levels from the site against background noise levels at residential receptors is provided in section E.3 of BS 5228. One such method of applying significance to noise effects is repeated in Table 1.1.

Table 1.1 Example threshold of significant effect at dwellings

Assessment category and threshold value period (L_{Aeq})	Threshold value, in decibels (dB)		
	Category A A)	Category B B)	Category C C)
Night-time (23.00–07.00)	45	50	55
Evenings and weekends D)	55	60	65
Daytime (07.00–19.00) and Saturdays (07.00–13.00)	65	70	75

NOTE1A significant effect has been deemed to occur if the total L_{Aeq} noise level, including construction, exceeds the threshold level for the Category appropriate to the ambient noise level.

NOTE 2 If the ambient noise level exceeds the threshold values given in the table (i.e. the ambient noise levels higher than the above values), then a significant effect is deemed to occur if the total L_{Aeq} noise level for the period increases by more than 3 dB due to construction activity.

NOTE 3 Applied to residential receptors only

A) *Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.*

B) *Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.*

C) *Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.*

D) *19.00–23.00 weekdays, 13.00–23.00 Saturdays and 07.00–23.00 Sundays.*

1.2.4 CRTN and DMRB for assessment of road traffic

The *'Calculation of Road Traffic Noise'* (CRTN) produced by the Department of Transport / Welsh Office provides a method for the prediction of noise from road traffic. The Highways Agency Design Manual for Roads and Bridges, Volume 11, Section 3, Part 7 Had 213/11 Noise and Vibration, provides guidance on the assessment of noise impacts from roads and contains guidance for assessing the likely impact on amenity of noise generated by road traffic in the Long Term, which is assessed within this report. The criteria from DMRB for long term effects are presented in Table 1.2.

Table 1.2 DMRB criteria for determining magnitude of impact in the Long Term

Change in noise level $L_{A10,18hr}$	Magnitude of impact
0 dB	No change
0.1 – 2.9 dB	Negligible
3 – 4.9 dB	Minor
5 – 9.9 dB	Moderate
10 dB or more	Major

The DMRB short-term criteria should be used in the assessment in order to determine the noise impact associated with construction traffic and during temporary diversions. Permanent changes should be assessed using the long-term criteria.

1.2.5 BS 4142:1997 Method for rating industrial noise affecting mixed residential and industrial areas

BS4142 provides a methodology for assessing industrial noise against ambient background noise levels. A comparison of the difference between the background and rating levels (the noise from the identified industrial source), with additional correction, as predicted at the nearest residential receptor using methodology provided within ISO 9613) indicates the likelihood of complaint; the greater the difference the greater the likelihood of complaints:

- A difference of around +10 dB or more indicates that complaints are likely
- A difference of around +5 dB is of marginal significance
- A difference of -10dB indicates that complaints are unlikely

1.2.6 Consultation

The Environmental Health team at Barnsley Council was consulted on the proposed noise survey methodology. It was agreed that day and night time attended monitoring should be undertaken at receptors around the site, to accompany a 24-hour monitoring position close to the industrial estate to the north

2 BASELINE NOISE ENVIRONMENT

2.1 Site Location and Description

The proposed North Gawber development site is on the site of a former coal mine to the north of Barnsley. The area is adjacent to the residential area of Mapplewell.

The B6248 forms the western boundary of the site, the M1 passes 2 km to the west. Traffic on these roads dominates the noise climate over the site.

To the north of the site there is an industrial estate.

Figure 2.1 – Proposed Development



2.2 Noise Survey Measurement Details

A baseline noise survey was undertaken between the 20th and 21st January 2014 in order to establish the existing baseline at locations representative of proposed sensitive receptors. An unattended monitoring position adjacent to the northern boundary of the site collected data between 11 am on the 20th and 10 am on the 21st January.

All measurements were made in free field conditions. The microphones were positioned at least 3 m away from reflecting surfaces, at 1.5 m above the local ground height for all

measurements. Monitoring locations are graphically shown with the site boundaries in Appendix A.

Sound level measurements were made using the following equipment:

- Rion NL-52 class 1 sound level meter (SLM), serial no. 01121392 with associated pre-amplifier and windshield protected microphone; and
- Rion NL-52 class 1 SLM, serial no. 01021276 with associated pre-amplifier and windshield protected microphone;
- Rion NC-74 acoustic calibrator, serial no. 35125823

The calibration of each SLM was checked before and after the measurements, using the acoustic calibrator and sensitivity of each SLM was calibrated at 94 dB at 1 kHz, no significant calibration drift was noted.

The sound level meters used conform to the requirements of *BS EN 61672-1: 2003 Electroacoustics. Sound level meter, Specifications*. The calibrator used conforms to the requirements of *BS EN 60942: 2003 Electroacoustics, Sound calibrators*. The equipment used has a calibration history that is traceable to a certified calibration institution.

Weather conditions during the attended monitoring were warm and dry with a light breeze. The conditions during the daytime were considered suitable for noise monitoring. However, at night, there may have been a temperature inversion which potentially increased the noise from traffic on the M1.

2.3 Monitoring Locations

The noise survey consisted of eight short term monitoring locations around the site, four of which were visited during the night. A single monitoring location was utilised for the duration of the survey at the northern boundary of the site. The locations are shown in Appendix A

2.3.1 Location A – Northern Boundary (24-Hour Measurement)

At boundary fence on embankment at perimeter of car yard and Mapplewell Drive

2.3.2 Location 1 – Western Boundary (Day and Night)

On the west side of the proposed development adjacent to footpath access to site near the drainage ditch running through the site. The ambient noise level at this location is dominated by road traffic from the B6248 and the M1.

At night, the noise level was dominated by road traffic on the M1

2.3.3 Location 2 – North Western Boundary (Day and Night)

Adjacent to the football pitch and industrial unit at north-western corner of site. The smoking area for the industrial unit was situated close by

2.3.4 Location 3 – Northern Boundary (Day and Night)

At base of embankment by extract stacks at adjacent industrial unit (approximately 15 m horizontally from unit)

2.3.5 Location 4 – Northern Boundary (Day)

At top of embankment by adjacent industrial unit extract stacks when operational (approximately 5 m horizontally from unit)

2.3.6 Location 5 – North Eastern Boundary (Day)

Adjacent to car yard and 10m from Carr Green Lane

2.3.7 Location 6 – Eastern Boundary (Day)

On eastern boundary 10 from Carr Green Lane. Vehicle pass-bys were audible but not visible as road lower than site topography

2.3.8 Location 7 – South Eastern Boundary (Day)

At south eastern corner of site. Vehicles from Carr Green Lane and distant road traffic on M1 dominated.

2.3.9 Location 8 – Site Centre (Day and Night)

In centre of the site. No single noise source was dominant

2.4 Noise Measurement Results

The baseline noise monitoring results are summarised in Table 2.1 and 2.2 below.

Table 2.1: Attended measurements

	Date	Time	Duration	$L_{Aeq, T}$ dB	$L_{AFmax, T}$ dB	L_{A10}, dB	L_{A90}, dB
Day							
L1	20/01/14	10:59	60 min	46	65	46	44
L2	20/01/14	12:07	60 min	48	69	47	46
L3	20/01/14	12:38	30 min	46	56	47	44
L4	20/01/14	13:15	5 min	50	59	51	49
L5	20/01/14	13:27	30 min	41	64	43	41
L6	20/01/14	13:29	30 min	45	66	46	36
L7	20/01/14	12:01	30 min	46	63	47	43
L8	20/01/14	11:26	30 min	42	59	43	39
Night							
L1	21/01/14	02:09	15 min	43	62	45	40
L2	21/01/14	01:35	15 min	40	51	42	37
L3	21/01/14	01:34	15 min	40	64	42	37
L8	21/01/14	02:33	15 min	42	56	43	40

Table 2.2: 24-Hour Measurement

Date	Time	Duration (hh:mm)	$L_{Aeq, T}$ dB	$L_{AFmax, T}$ dB	L_{A10}, dB	L_{A90}, dB
Day						
20/01/14	10:35 – 23:00	12:25	50	82	48	41
Night						
20/01/14	23:00 – 07:00*	08:00	44	64	44	39
*01:45-01:55 removed due to guard dogs at the scrap yard barking at surveyors						
Day						
21/01/14	07:00 – 09:53	02:55	52	73	53	49
Average Day			50			

3 NOISE ASSESSMENT

3.1 DMRB Traffic Noise Assessment

Traffic flows for the DMRB noise assessment for the development site were provided by Development Planning Limited. The traffic flows for the roads, around the site, used in the traffic noise assessment are tabulated in Figure 3.1.

Figure 3.1 – 18-hr Annual Average Weekday Traffic Flows around North Gawber Development Site

					2014 Growth	1%	2023 Growth	14%	2014		2023	
Link	Speed	2012 Base	HGV %	Dev Day	2014 Base	HGV %	2023 Base	HGV %	With Dev	HGV %	With Dev	HGV %
Mapplewell Drive N	30mph	2424	3%	186	2448	3%	2763	3%	2634	3%	2949	3%
Carr Green Lane	30mph	1270	1%	186	1283	1%	1448	1%	1469	1%	1634	1%
Mapplewell Drive S	30mph	381	21%	0	385	21%	434	21%	385	21%	434	21%
Co-Op	10mph	1104	1%	0	1115	1%	1259	1%	1115	1%	1259	1%
B6131 Blacker Road (East)	20mph	6802	4%	85	6870	4%	7755	4%	6955	4%	7840	4%
Mapplewell Drive	30mph	2444	3%	186	2468	3%	2786	3%	2654	3%	2972	3%
B6131 Blacker Road (West)	20mph	7604	4%	100	7680	4%	8668	4%	7780	4%	8768	4%
A61 Barnsley	30mph	16753	7%	56	16920	7%	19098	7%	16976	7%	19154	7%
B6131 Bar Lane	30mph	6529	6%	85	6594	6%	7443	6%	6679	6%	7528	6%
A61 Wakefild Road	30mph	10732	7%	30	10840	7%	12235	7%	10869	7%	12265	7%
A637 Barnsley Road	40mph	12022	4%	4	12142	4%	13705	4%	12146	4%	13709	4%
B6328 Dearne Hall Road	30mph	6890	5%	35	6959	5%	7855	5%	6994	5%	7890	5%
A637 Claycliffe Road	40mph	18286	4%	32	18469	4%	20846	4%	18501	4%	20878	4%
B6428 Greenside	20mph	4990	3%	0	5040	3%	5688	3%	5040	3%	5688	3%
B6131 Blacker Lane	20mph	7110	5%	100	7181	5%	8105	5%	7281	5%	8205	5%
B6428 Spark Lane	20mph	5059	5%	35	5109	5%	5767	5%	5144	5%	5802	5%
B6131 Towngate	20mph	6374	4%	64	6437	4%	7266	4%	6502	4%	7330	4%
Claycliffe Road A637	40mph	14098	4%	4	14239	4%	16071	4%	14242	4%	16075	4%
Barugh Lane	30mph	5258	4%	28	5311	4%	5994	4%	5339	4%	6022	4%
A637 (N)	40mph	14497	4%	32	14642	4%	16526	4%	14674	4%	16558	4%

A topographical noise model was created using Soundplan software. Traffic data was input into the model in accordance with CRTN guidance.

The M1 AAWT data for J37-J38 was not available in AAWT format, so the flows have been calculated using an algorithm within the Soundplan package from the 2012 24 hour counts provided by http://www.dft.gov.uk/traffic-counts/cp.php?la=Barnsley#56006

The model was validated by inputting the 2014 without development flows (these had been calculated using a growth factor of 1% from the 2012 counts), as supplied by Development Planning Limited. In the model, receiver points were located at a sample of the survey locations and a comparison between modelled and measured levels was carried out. This is demonstrated in Table 3.1.

Table 3.1 Correlation of the Model Results to Measured Levels

Receiver	Modelled Levels		Measured Levels		Correlation	
	L_{Aeq} Day dB(A)	L_{Aeq} Night dB(A)	L_{Aeq} Day dB(A)	L_{Aeq} Night dB(A)	L_{Aeq} Day dB(A)	L_{Aeq} Night dB(A)
Location 1	47	41	46	40	1	1
Location 2	47	41	48	37	-1	4
Location 6	47	41	45	-	2	-
Location 7	44	39	46	-	-2	-
Location 8	44	39	42	40	2	-2
Location A	46	40	50	39	-4	1

The model correlates very well except at Location A during the day and Location 2 at night

As the model does not include noise from the industrial estate, this would account for this discrepancy during the daytime noise has being modelled.

The discrepancy at Location 2 appears to be overestimation of night-time traffic on Spark Lane, which was quiet during the survey. The increased calculated noise level from this road is not expected to affect the assessment of the impact of traffic from the development and will provide a conservative assessment for night-time noise for houses within the development that are close to Spark Lane.

The agreement between the modelled and measured levels is taken to mean that the 2014 Baseline traffic flows are representative.

The model was rerun Situations were modelled for baseline year, 2014 with and without development and 2023 with and without development

The noise levels at identified receptors for 2023 with development and 2023 without development are included in Table 3.2 below. The noise maps resulting from the model are included as Appendix B

Figure 3.2 Model Receiver Points

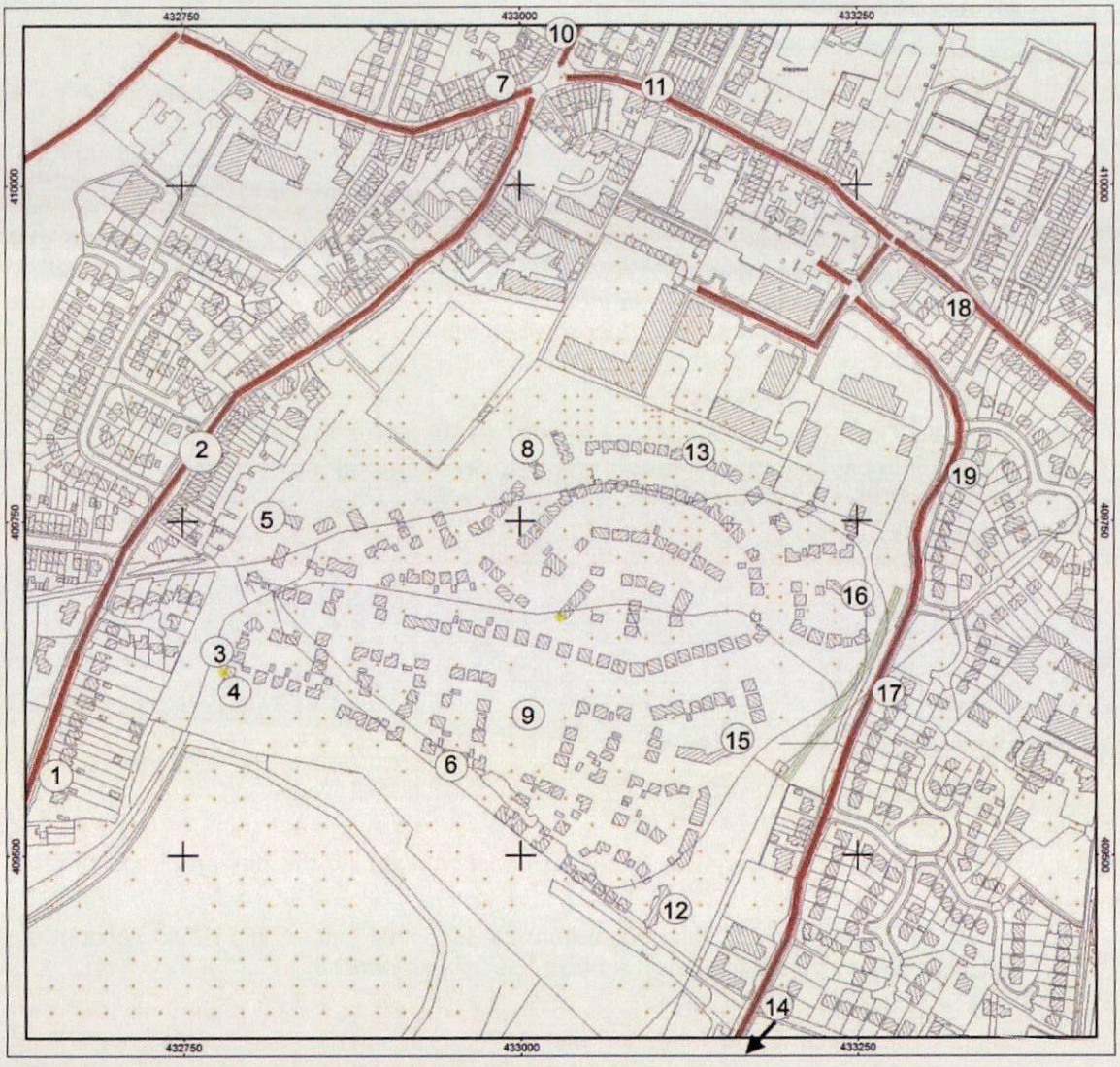


Table 3.2 – Receiver Points from SoundPlan model

Receiver	Name	Do Minimum 2014 $L_{Aeq\ 16hr}$, dB	Do Something 2014 $L_{Aeq\ 16hr}$, dB	Do Minimum 2023 $L_{Aeq\ 16hr}$, dB	Do Something 2023 $L_{Aeq\ 16hr}$, dB
1	Spark Lane (S)	65.8	65.8	65.8	65.8
2	Spark Lane (N)	71.8	71.8	71.8	71.8
3	Site WSW	-	45.4	-	45.8
4	Site SSW	-	44.8	-	45.2
5	Site W	-	47.1	-	47.6
6	Site S	-	42.5	-	42.7

Receiver	Name	Do Minimum 2014 $L_{Aeq\ 16hr}$, dB	Do Something 2014 $L_{Aeq\ 16hr}$, dB	Do Minimum 2023 $L_{Aeq\ 16hr}$, dB	Do Something 2023 $L_{Aeq\ 16hr}$, dB
7	Towngate	72.7	72.7	72.7	73.2
8	Site NW	-	46.4	-	46.8
9	site central	-	43.4	-	43.7
10	Greensides	74.6	74.6	74.6	75.2
11	Blacker Lane (W)	72.8	72.9	73.4	73.4
12	Site SE	-	45.3	-	45.6
13	north of site	-	45.4	-	45.9
14	Carr Green Lane (S)	60.5	61.1	61.1	61.6
15	Site mid east	-	41.7	-	42.2
16	Site NE	-	50.8	-	51.2
17	Carr Green Lane (Central)	59.2	59.8	59.8	60.2
18	Blacker Lane (E)	70.1	70.1	70.6	70.7
19	Carr Green Lane (N)	61.1	61.7	61.6	62.1

Table 3.3 Difference in predicted noise levels between "Do Minimum" 2014 and "Do Minimum" 2023 versus "Do Something" 2023

Receiver	Name	Do Something 2023 - Do Minimum 2023, dB	Do Something 2023– Do Minimum 2014, dB
1	Spark Lane (S)	0	0
2	Spark Lane (N)	0	0
7	Towngate	0.5	0.5
10	Greensides	0.6	0.6
11	Blacker Lane (W)	0	0.6
14	Carr Green Lane (S)	0.5	1.1
17	Carr Green Lane (Central)	0.4	1
18	Blacker Lane (E)	0.1	0.6
19	Carr Green Lane (N)	0.5	1

.

All the predicted sound level increases from 2014 Do Minimum to 2023 Do something are negligible impacts with respect to the DMRB Long Term Change criteria

The on-site predicted noise levels are dominated by the M1. This reflects observations made around the site during the survey.

3.2 Industrial Noise

Noise from the industrial estate was measured at Location 4 (industrial fans) and Location 5 (car breaker yard).

The noise has been modelled at the nearest proposed residences and a BS4142 assessment has been undertaken

Table 3.4 BS4142 Industrial Noise Assessment

Location	Time Period	Measured Background Level, L_{A90} dB	Predicted Specific Noise Level at Nearest Proposed Noise Sensitive Receptor $L_{Aeq,}$ dB(A)	Rating Level dB	BS4142 Assessment Level
North of site Ground Floor	Day	41	45	50	+9
North of site First Floor	Day	41	46	51	+10
Northeast of site Ground Floor	Day	41	44	49	+8
Northeast of site First Floor	Day	41	46	51	+10

3.3 Mitigation

The industrial noise is predicted to give rise to complaints of noise at the nearest proposed noise sensitive receptors. It is proposed that a combination of mitigation measures including acoustic barrier and building design will be required on the northern perimeter of the site.

The mitigation required to bring the Assessment Level to +5dB (BS4142 marginal significance) is summarised in Table 3.5

Table 3.5 – Mitigation required

Location	Time Period	Measured Background Level, L_{A90} dB	Required Rating Level	Predicted Rating Noise Level at Nearest Proposed Noise Sensitive Receptor $L_{Aeq,}$ dB(A)	Required Insertion Loss of Mitigation dB
North of site Ground Floor	Day	41	46	+9	-4
North of site First Floor				+10	-5
Northeast of site Ground Floor				+8	-3
Northeast of site First Floor				+10	-5

The required reduction could be achieved through the use of barriers and mitigation within the new buildings

3.4 Construction Noise Assessment

The exact methods that will be used for demolition and construction will not be defined until the contractors for each individual site within the proposed development site have been appointed. As an alternative, previous experience of similar projects has been used to determine the likely methodologies and plant that will be used for the proposed development. The indicative fleet of site preparation and construction equipment is presented in Table 3.6. The presented noise levels have been taken from BS 5228-1.

The site is within Category A of Table 1.1 (ambient noise level of 65dB $L_{Aeq,10hr}$)

Table 3.6 Construction Plant Assumed in Assessment

Phase	Plant	Reference, BS 5228	Number of plant	A-weighted level at 10 m	% on time
Pre construction plant					
Earth work and vegetation clearance	Tracked excavator	C.2.3	5	78	80
	Dozer	C.2.10	2	80	80
	Wheeled backhoe loader	C.1.8	3	74	70
	Articulated dump truck	C.4.1	5	81	80
Excavation to locate mine shafts	Tracked excavator	C.2.3	3	78	80
	Cable Percussive Drill	C.2.43	2	74	50
Drilling and grouting of shallow mineworkings	Tracked excavator	C.2.3	3	78	50
	Cable Percussive Drill	C.2.43	2	74	70
	Concrete Pump	C3.26	2	75	50
Breaking and crushing of concrete foundations	Tracked excavator	C.2.3	3	78	90
	Breaker mounted on wheeled backhoe	C.1.1	2	92	70
	Pulverizer mounted on excavator	C.1.5	1	83	50
	Tracked crusher	C.1.14	1	82	80
	Articulated dump truck	C.4.1	5	81	80
Placing cover layer in gardens	Tracked excavator	C.2.3	2	78	80
	Wheeled backhoe loader	C.1.8	2	74	70
	Vibratory roller	C.2.39	2	74	50

Construction					
Foundations	Pump (water)	C.4.88	2	68	100
	Cement mixer truck(discharging)	C.4.28	3	75	60
	Cement mixer truck(idling)	C.4.26	3	75	40
	Mobile telescopic crane	C.4.39	2	77	80
	Hydraulic hammer rig	C.3.2	2	89	90
	Generator	C.4.78	2	66	100
General construction	Generator (welding)	C.4.85	3	66	100
	Hand-held Welding	C.3.31	3	73	80
	Vibratory roller	C.2.39	1	74	50
	Asphalt paver	C.5.31	1	77	80
	Mobile Plant				
	Dozer	C.2.10	5	80	90
	Articulated dump truck	C.4.1	3	81	90
	Lorries	C.6.21	5	80	90

A worst case assessment of piling has been considered assuming a crane-mounted percussive piling rig

Noise levels predictions have been undertaken by using the calculation methodology set out within BS 5228-1. The following assumptions have been made:

- Hard ground conditions;
- Plant complement assumed to be operating on the closest boundary of the construction site to each receptor;
- Shortest distance from façade of noise sensitive receptor to site assumed
- Flat ground assumed between the receptors and the construction plant; and
- No obstacles between sources and receivers.
- It has been assumed that demolition and construction work only occur during the daytime period (between 07:00 and 19:00).

The predicted façade noise levels and assessments are tabulated in Table 3.7

Table 3.7 Predicted façade levels of construction works at nearest sensitive receptors.

Location	Phase	Measured ambient noise level, dB(A)	Predicted noise level, dB(A)	Threshold level, dB(A)	Comparison with threshold
Spark Lane (55m to nearest works)	Preconstruction				
	Earthworks and vegetation clearance	46	47	65	-18
	Excavation to locate mine shafts		40		-25
	Drilling and grouting of shallow mineworkings		39		-26
	Breaking and crushing of concrete foundations		52		-13
	Placing cover layer in gardens		39		-26
	Construction				
	Foundation	46	49	65	-16
	General works		49		-16
Blacker Lane (150m to nearest works)	Preconstruction				
	Earthworks and vegetation clearance	46	38	65	-27
	Excavation to locate mine shafts		31		-34
	Drilling and grouting of shallow mineworkings		31		-34
	Breaking and crushing of concrete foundations		43		-22
	Placing cover layer in gardens		31		-34
	Construction				
	Foundation	46	41	65	-24
	General works		40		-25

Carr Green Lane (45m to nearest works)	Preconstruction				
	Earthworks and vegetation clearance	46	49	65	-16
	Excavation to locate mine shafts		51		-14
	Drilling and grouting of shallow mineworkings		50		-15
	Breaking and crushing of concrete foundations		49		-16
	Placing cover layer in gardens		41		-24
	Construction				
	Foundation	46	51	65	-14
	General works		50		-15

The results of the worst case assessment indicate that predicted construction noise levels do not exceed the BS 5228 threshold of significance level of 65 dB(A) during the day time at any of the nearest receptors. Therefore, it is considered that the impact from construction noise will be negligible

This assumes worst case noise levels from percussive piling, and actual noise levels may be considerably lower, particularly if CFA piling is used rather than percussive piling.

This assessment should be reviewed once construction methods, plant and phasing details are known

4 CONCLUSIONS

Noise from the proposed residential development within the North Gawber site, Mapplewell, Barnsley has been assessed.

Noise impact from traffic, adjacent industrial estate and construction has been considered.

Industrial noise from factories and a car breakers yard adjacent to the site will need to be addressed by the inclusion of an acoustic barrier on the northern boundary of the development site, or through glazing and ventilation design, or a combination of the two measures.

Impact upon nearby existing receptors from construction and traffic noise is considered to be negligible

The site is therefore suitable for the proposed development.

APPENDIX A

Noise Monitoring Locations

Figure A.1: Noise Monitoring Locations



APPENDIX B

Noise Maps

2014 Daytime Grid With Development at 1.5m High (Not to Scale)



2014 Night Time Grid With Development at 4.5m High (Not to Scale)

