

NOISE IMPACT ASSESSMENT

REPORT REFERENCE: **NCSL1452**

MR AMAR ZAIN.

213 HILL LANE, MANCHESTER, M9 6RG.

9TH FEBRUARY 2026.

Issue 1

1 INTRODUCTION	3
2 COMPETENCE	4
3 SUMMARY OF TERMS, DESCRIPTORS & QUANTITIES	5
4 APPLICABLE LITERATURE	6
4.1 National Planning Policy Framework	6
4.2 Noise Policy Statement for England (NPSE)	7
4.3 Planning Practice Guidance	7
4.4 BS 4142:2014+A1:2019 Methods for Rating & Assessing Industrial & Commercial Sound	10
4.5 BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings	11
5 SITE DETAILS	13
5.1 Site Location	13
5.2 Noise Sensitive Receptor Location	13
5.3 Measurement Locations	13
5.4 Local Area Map	14
5.5 Subjective Appraisal of the Existing Acoustic Environment	15
6 PROPOSED DEVELOPMENT & NOISE SOURCES	16
6.1 Vehicle Garage Equipment (S1)	16
7 EQUIPMENT & MEASUREMENT CONDITIONS	18
7.1 Equipment Details	18
7.2 Ground Conditions	18
7.3 Weather Conditions	18
8 ACOUSTIC MEASUREMENTS & DEFINED SOUND LEVELS	20
8.1 Background Sound Levels	20
8.2 Specific Sound Level	22

8.3 Rating Level.....	24
8.4 Defined Sound Level Summary.....	25
8.5 Undefined Noise Sources.....	25
9 NOISE IMPACT ASSESSMENT	27
9.1 Context Assessment.....	28
9.1.1 Absolute Level of Sound	28
9.1.2 Character and Level of Residual & Specific Sound.....	29
9.1.3 Sensitivity of Receptor	29
9.2 BS 4142:2014 Assessment Summary.....	30
10 CONCLUSIONS & RECOMMENDATIONS.....	31
11 UNCERTAINTY	33
APPENDIX A: ACOUSTIC SURVEY DATA	34
APPENDIX B: INTERNAL SPL PREDICTION	35
APPENDIX C: BUILDING FABRIC ATTENUATION	37
C1: Brickwork Acoustic Performance.....	37
C2: Composite Roof Acoustic Performance	38
APPENDIX D: NOISE MODEL RESULTS	39

1 INTRODUCTION

Noise Control Solutions Limited (NCSL) has been commissioned by Mr Amar Zain to undertake a noise impact assessment for the proposed vehicle repair and MOT testing garage at 213 Hill Lane, Manchester, M9 6RG. The assessment is required in order to accompany the planning application 144868/FO/2026 which is to be considered by Manchester City Council. The scope of this application is the change of use from Class E to Class B2 for vehicle repair with MOT testing.

The potential sources of noise are considered by NCSL to be;

1. Vehicle Garage Equipment (reference 'S1')

In order to assess the noise impact at the nearest noise sensitive receptors, an environmental noise impact assessment has been conducted, details of which are shown within this report.

Report prepared by  Andrew Todd BA(HONS) MSc MIOA CEng

2 COMPETENCE

This report has been prepared by Mr Andrew Todd, a corporate member of the Institute of Acoustics, a holder of a MSc in Acoustics and a Chartered Engineer registered with the United Kingdom Engineering Council. Andrew has over 18 years of experience as an acoustic consultant/engineer working in various aspects of acoustics.

3 SUMMARY OF TERMS, DESCRIPTORS & QUANTITIES

Within this report, several acoustic descriptors and quantities are referred to. Due to their specialised nature, the following summary is provided.

DECIBELS (dB): Ten times the logarithm (base 10) of the ratio between a measured quantity and a reference quantity. For sound pressure levels defined within this report, the reference quantity is 20 Micropascals (μPa).

A-WEIGHTING: The filtering of acoustic signals in order to provide a closer approximation to the human hearing response. Measurements with this weighting applied are denoted with “(A)”, for example, “dB(A)”.

NTH PERCENTILE NOISE LEVEL ($L_{AN,T}$): The A-weighted sound pressure level, in decibels, exceeded for N% of the measurement duration (T). This metric is generally used to assess background noise levels (L_{A90}) as it allows for the removal of non-constant noise sources, for example, passing vehicles. The subscript ‘T’ defines the measurement duration.

EQUIVALENT CONTINUOUS NOISE LEVEL ($L_{Aeq,T}$): The logarithmically averaged sound pressure level, in decibels, over the measurement duration (T) with A-weighting applied. The subscript ‘T’ defines the measurement duration.

FAST TIME WEIGHTING: The integration time constant of the measurement. Fast time weighting, denoted by the subscript ‘F’, integrates sound pressure levels over 0.125 seconds.

MAX LEVEL ($L_{AF\ MAX}$): The maximum reported RMS sound pressure level during a measurement period. The level is A-weighted and is calculated with a Fast time weighting.

DAY-TIME AND NIGHT-TIME PERIODS: Following guidance contained within BS 4142:2014, the day-time period is defined as 07:00 to 23:00 and the night-time period is defined as 23:00 to 07:00.

NOISE SENSITIVE RECEPTOR (NSR): A premises or area which is sensitive to noise disturbance. This is generally an existing, or future residential premises close to a proposed development.

SOUND POWER LEVEL (L_W): The sound energy radiated per unit time by a sound source, measured in Watts (W) on a decibel scale with a reference value of 10^{-12} W.

4 APPLICABLE LITERATURE

4.1 NATIONAL PLANNING POLICY FRAMEWORK

The National Planning Policy Framework (NPPF), updated in 2025, outlines the Government's planning policies for England and how they are expected to be applied. In respect of noise, the document states that:

Planning policies and decisions should also ensure that new development is appropriate for its location, taking into account the effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so, they should:

- *Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life.*
- *Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*

Additionally, the policy states that:

- *Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.*
- *Planning conditions should be kept to a minimum and only imposed where they are necessary, relevant to planning and to the development to be permitted, enforceable, precise and reasonable in all other respects. Agreeing conditions early is beneficial to all parties involved in the process and can speed up decision-making. Conditions that are required to be discharged before development commences should be avoided, unless there is a clear justification*

4.2 NOISE POLICY STATEMENT FOR ENGLAND (NPSE)

Published in March 2010 by DEFRA, this document defines the Government's policy on noise. It incorporates the long-term vision of promoting good health and quality of life through the effective management of noise in the context of Government policy on sustainable development. The long-term vision of the NPSE is supported by the following aims:

- *Avoid significant adverse impacts on health and quality of life.*
- *Mitigate and minimise adverse impacts of health and quality of life.*
- *Where possible, contribute to the improvement of health and quality of life.*

This document also defines three categories relating to noise impact:

- **NOEL – NO OBSERVED EFFECT LEVEL.** This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
- **LOAEL – LOWEST OBSERVED EFFECT LEVEL.** This is the level above which adverse effects on health and quality of life can be detected.
- **SOAEL – SIGNIFICANT OBSERVED ADVERSE EFFECT LEVEL.** This is the level above which significant adverse effects on health and quality of life occur.

4.3 PLANNING PRACTICE GUIDANCE

Further detail is provided within the Planning Practice Guidance (PPG) regarding how the effect levels, set out within NPSE, can be recognised and the associated concern arising from each.

At the lowest extreme, when noise is not perceived to be present, there is by definition no effect. As the noise exposure increases, it will cross the 'no observed effect' level. However, the noise has no adverse effect so long as the exposure does not cause any change in behavior, attitude or other physiological responses of those affected by it. The noise may slightly affect the acoustic character of an area but not to the extent

there is a change in quality of life. If the noise exposure is at this level no specific measures are required to manage the acoustic environment.

As the exposure increases further, it crosses the 'lowest observed adverse effect' level boundary above which the noise starts to cause small changes in behavior and attitude, for example, having to turn up the volume on the television or needing to speak more loudly to be heard. The noise therefore starts to have an adverse effect and consideration needs to be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the activity causing the noise).

Increasing noise exposure will at some point cause the 'significant observed adverse effect' level boundary to be crossed. Above this level the noise causes a material change in behavior such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. If the exposure is predicted to be above this level the planning process should be used to avoid this effect occurring, for example through the choice of sites at the plan-making stage, or by use of appropriate mitigation such as by altering the design and layout. While such decisions must be made taking account of the economic and social benefit of the activity causing or affected by the noise, it is undesirable for such exposure to be caused.

At the highest extreme, noise exposure would cause extensive and sustained adverse changes in behavior and / or health without an ability to mitigate the effect of the noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be avoided.

Table 1 summarises the noise exposure hierarchy.

Response		Example of Outcomes	Increasing Effect Level	Action
No Observed Effect Level				
Not Noticeable	No Effect		No Observed Effect	No
				Specific Measures Required

Response	Example of Outcomes	Increasing Effect Level	Action
No Observed Adverse Effect Level			
Present & Not Intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life	No Observed Adverse Effect	No Specific Measures Required
Lowest Observed Adverse Effect Level			
Present & Intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate & Reduce to a Minimum
Significant Observed Adverse Effect Level			
Present & Disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Effect Level	Avoid
Present & Very Disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

TABLE 1 – NOISE EXPOSURE HIERARCHY

4.4 BS 4142:2014+A1:2019 METHODS FOR RATING & ASSESSING INDUSTRIAL & COMMERCIAL SOUND

British Standard 4142:2014+A1:2019, 'Methods for Rating and Assessing Industrial and Commercial Sound' (BS 4142:2014), sets out a methodology to determine the potential impact of proposed industrial and commercial sound sources upon nearby dwellings or premises used for residential purposes. Furthermore, BS 4142:2014 is appropriate to consider the impact of existing sources of industrial and commercial sound on proposed receptors.

The methodology prescribes the measurement of the existing acoustic environment at noise sensitive receptor locations, termed the 'background sound level'.

A measurement or calculation of the noise generated by the proposed noise source at the receptor location is also required and is termed the 'specific sound level'. This value is then adjusted to reflect any acoustic characteristics which may increase audibility or annoyance to define the 'rating level'.

Once these values have been attained, an analysis can be conducted in order to assess the estimated noise impact that will occur with the introduction of the proposed source into the existing environment.

- In instances where the rating level exceeds background noise level by +10dB, this is an indication of a significant adverse impact, depending upon the context.
- In instances where the rating level exceeds background noise level by +5dB, this is an indication of an adverse impact, depending upon the context.
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will cause an adverse noise impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

The assessment of a noise impact at a receptor should consider the context in which the sound occurs. BS 4142:2014 states that the following factors be included in the context assessment;

- The absolute level of sound.
- The character and level of residual sound.

- The sensitivity of the receptor.

It is noted that BS 4142:2014 is not applicable to certain noise sources, including;

- Recreational activities, including all forms of motorsport.
- Music and other entertainment.
- Shooting grounds.
- Construction and demolition.
- Domestic animals.
- People.
- Public address systems for speech.
- Other sources falling within the scopes of other standards or guidance.

4.5 BS 8233:2014 GUIDANCE ON SOUND INSULATION AND NOISE REDUCTION FOR BUILDINGS

BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings (BS 8233:2014) provides guidance on internal noise levels within dwellings allowing for sufficient resting and sleeping conditions, as shown in Table 2. However, it is also noted that these values may be relaxed by 5dB where a development is considered necessary or desirable with reasonable internal conditions still achieved.

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35dB $L_{Aeq,16hour}$	N/A
Dining	Dining room	40dB $L_{Aeq,16hour}$	N/A
Sleeping	Bedroom	35dB $L_{Aeq,16hour}$	30dB $L_{Aeq,8hour}$ 45dB L_{Amax}

TABLE 2 - BS 8233:2014 RECOMMENDATIONS FOR INDOOR NOISE LEVELS

BS 8233:2014 also provides guidance as to acceptable external noise levels, as shown in Table 3.

Activity	Location	Desirable Noise Level	Upper Guideline Level
Relaxation	External Amenity Space	50dB $L_{Aeq,T}$	55dB $L_{Aeq,T}$

TABLE 3 - BS 8233:2014 RECOMMENDATIONS FOR EXTERNAL NOISE LEVELS

BS 8233:2014, however, does recognise that these external guideline values are not achievable in all circumstances where development may be desirable. The standard also provides guidance on estimated noise reduction levels of commonly used building materials and constructions.

5 SITE DETAILS

5.1 SITE LOCATION

The development in question is located at 213 Hill Lane, Manchester, M9 6RG, (reference 'D1'). This is an existing commercial premises fitted with a large roller-shutter door for vehicle access. The area surrounding the site is comprised of mixed commercial and residential premises. Additionally, there is a relatively busy public highway (Hill Lane) to the east of the proposed development.

5.2 NOISE SENSITIVE RECEPTOR LOCATION

Two noise sensitive receptors have been identified in reference to this noise impact assessment, these are detailed in Table 4.

NSR Reference	NSR Address	Distance to Development
NSR1	Residential dwelling located within the first-floor area of 4 Hill Lane.	~5m
NSR2	Residential dwelling located at 206 Hill Lane.	~20m

TABLE 4 - NOISE SENSITIVE RECEPTOR DETAILS

Other receptors may be affected by noise from the proposed development. However, these other receptors would be affected equally, or less than those receptors which have been identified above.

5.3 MEASUREMENT LOCATIONS

All measurements detailed within this report were taken using an outdoor microphone positioned at one measurement location (ML). ML1 was located to the east façade of D1, at a height of 3m from the ground. ML1 was located 3.5m from the D1 façade and therefore these background sound levels are considered to be free-field equivalent. This measurement location is considered to be representative of NSRs.

Location Reference	Location Description	Measured Values
ML1	D1 East Façade	L _{Aeq} , L _{A90}

TABLE 5 - MEASUREMENT LOCATIONS

5.4 LOCAL AREA MAP

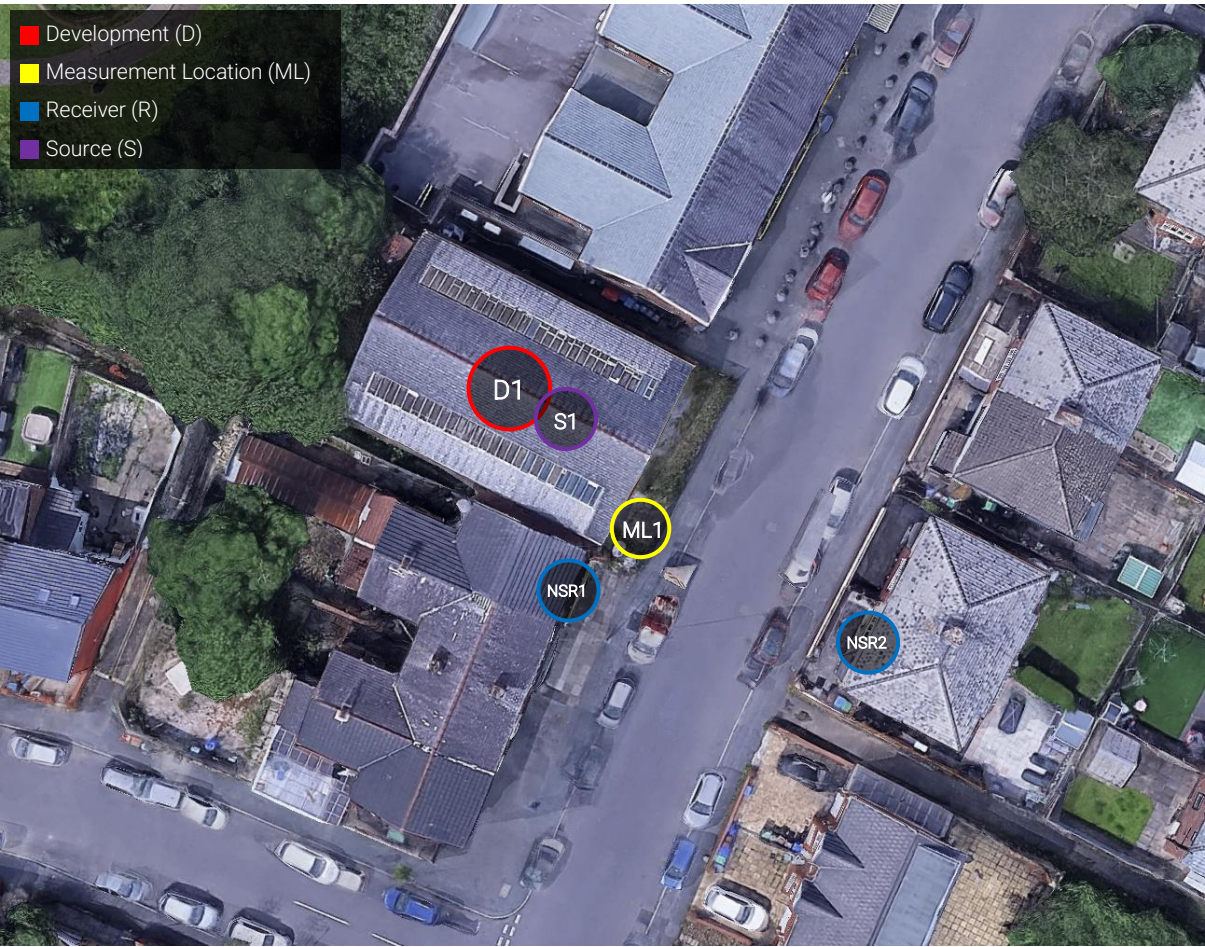


FIGURE 1 - LOCAL AREA MAP

5.5 SUBJECTIVE APPRAISAL OF THE EXISTING ACOUSTIC ENVIRONMENT

During a site visit on 26th January 2026 a subjective assessment of the existing acoustic environment, in conjunction with a review of logged audio recordings during survey measurements, was conducted by NCSL.

At the noise sensitive receptor locations, the residual sound is dominated by noise from vehicle traffic along Hill Lane.

6 PROPOSED DEVELOPMENT & NOISE SOURCES

The proposed development (reference 'D1') comprises change of use from Class E to Class B2 for Vehicle Repair with MOT Testing.

The main operational times for the vehicle repair and MOT testing garage will be Monday to Friday 0830hrs to 1730hrs, Saturday 0830hrs to 1700hrs.

It is understood that the proposed development will incorporate 3no. ramps and/or vehicle bays.

The existing building fabric of D1 is understood to consist of a twin-brickwork wall construction and a slate roof lined with internal timber boards. The roof also incorporates several skylights, which have also been considered within this assessment.

6.1 VEHICLE GARAGE EQUIPMENT (S1)

Based on our experience of similar developments, it is expected that the significant sources of noise generation will be:

- Vehicle ramps and lifts.
- Impact drivers for wheel removals.
- MOT rolling road system.

These noise sources have been grouped to form a single noise source (reference 'S1').

It is expected that outside of the noise sources listed above, the majority of work will be undertaken with hand tools, which are expected to produce significantly reduced noise levels.

In order to provide an estimate of noise levels generated by these three main sources, acoustic measurements have been conducted in similar, existing vehicle repair and MOT testing garages.

The measured noise levels from each source is shown below in Table 6. All measurements were taken 1m from the device under assessment.

Source	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	Sum dB(A)
Ramp + Air Compressor	50	59	69	73	72	71	68	78
Impact Driver Removing Wheels	37	47	60	69	77	86	87	90
MOT Rolling Road	34	40	52	51	53	53	45	58

TABLE 6 – MEASURED NOISE LEVELS OF PROPOSED SOURCES

NOTE: Data measurements undertaken at M8 Tyres & Tracking Mot Centre, Unit 1 Collingham St, Cheetham Hill, Manchester, M8 8RQ and Browns Autos, K Brown and Partner Ltd, 131A Upholland Rd, Billinge, Orrell, Wigan WN5 7EG.

These measurements were taken internally within automotive garage premises and therefore will also contain a contribution from reverberant sound within the measurement space. These values are therefore considered worst-case.

7 EQUIPMENT & MEASUREMENT CONDITIONS

7.1 EQUIPMENT DETAILS

All measurements detailed within this report relating to the assessment of noise levels to BS 4142:2014 were made using a Class 1 NTi Audio XL2 sound level meter (serial number A2A-19038-E0). Field calibration of the meter was conducted using a Class 1 Norsonic Type 1251 114dB acoustic calibrator (serial number 33421). Pre and post measurement sensitivity checks were conducted and showed no significant deviation to the nominal sound level meter sensitivity of 40.2mV/Pa or reference signal levels. Details of these tests are documented in Table 7.

Test Reference	dB Level	Sensitivity	Comments
Pre-test calibration	114.0dB	40.2 mV/Pa	NA
Post-test check	114.0dB	40.2 mV/Pa	No significant variance

TABLE 7 - FIELD CALIBRATION DETAILS (S/N A2A-19038-E0)

All equipment is calibrated in accordance with IEC 61672-3, IEC 61260 and BSEN 60942:2003 where applicable. Calibration certificates are available upon request.

7.2 GROUND CONDITIONS

Ground conditions between D1 and NSRs consist of finished concrete pedestrian footpaths and tarmac highway surfaces. The ground was dry throughout the survey period.

7.3 WEATHER CONDITIONS

Weather conditions during survey measurements were clement and dry. Further details of the environmental conditions are shown in Table 8.

Parameter	Survey Start	Survey End
Barometric Pressure	1001 mbar	996 mbar
Temperature	3° Celsius	5° Celsius
Wind Velocity	3.4 ms ⁻¹	2.1 ms ⁻¹
Cloud Cover	50%	50%

TABLE 8 - ENVIRONMENTAL CONDITIONS

8 ACOUSTIC MEASUREMENTS & DEFINED SOUND LEVELS

8.1 BACKGROUND SOUND LEVELS

The background sound level characterises the existing acoustic environment at a specific location without the influence of the noise source under assessment.

Measurements have been taken in order to define the existing background sound level at the noise sensitive receptor locations (NSRs). An 8.5-hour acoustic survey was selected in order to reflect the proposed operating times of D1. The survey commenced on 0830hrs 26th January 2026 and was completed on 1700hrs 26th January 2026.

These measurements were taken at ML1.

The background sound level has been measured as a 90th percentile sound pressure level ($L_{A90,T}$) logged at 15-minute measurement intervals. Following the methodology described in BS 4142:2014, the statistical mode of the applicable period of day-time measurement values has been taken as the day-time background sound level between 0830hrs 26th January 2026 and 1700hrs 26th January 2026.

The results of this acoustic survey are shown in Figure 2 and the results are summarised in Table 9.

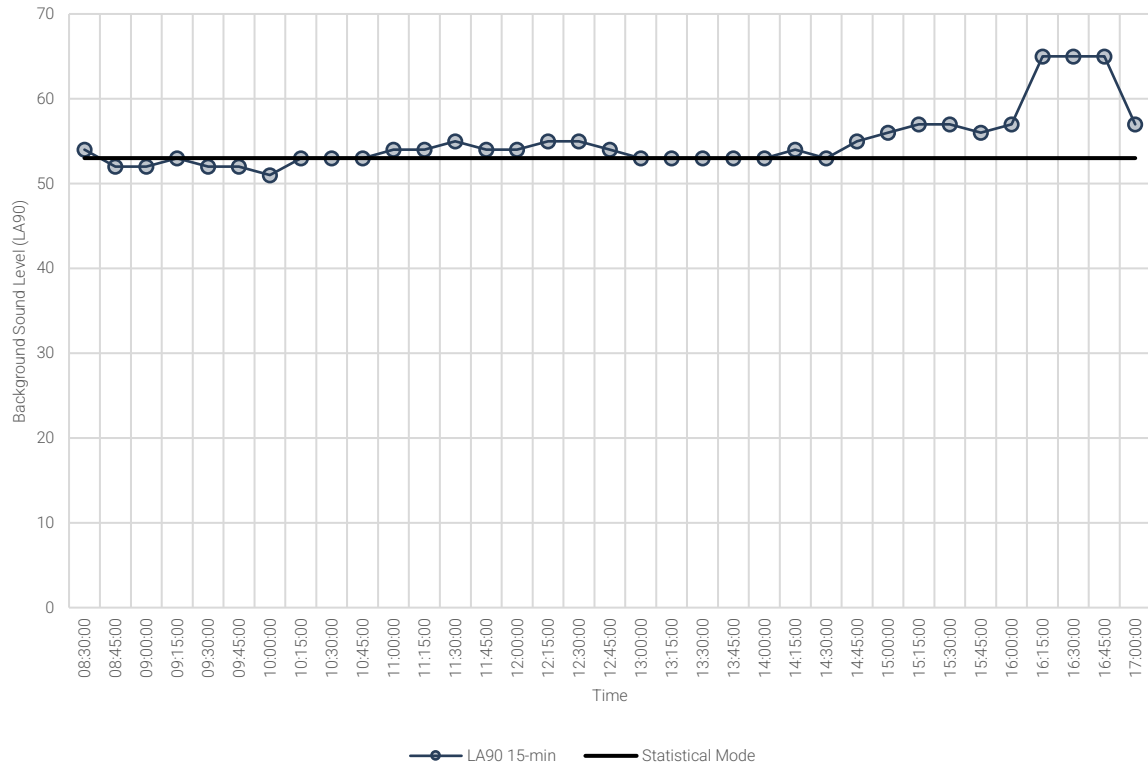


FIGURE 2 – DAY-TIME BACKGROUND SOUND LEVEL VALUES ($L_{A90,15MIN}$)

Time Period	Measurement Location	Representative Receptor	Measurement Date & Time	Background Sound Level (dB $L_{A90,T}$)
Day-Time	ML1	NSR1	0830hrs 26th January 2026	53dB(A)

TABLE 9 - BACKGROUND SOUND LEVEL

These background sound levels are considered to be representative of the background sound level at NSR1 and have been used within this report.

Further details are shown in Appendix A.

8.2 SPECIFIC SOUND LEVEL

The specific sound level is the calculated noise level generated at a NSRs due exclusively to the noise source(s) under investigation.

In this case, the specific sound level has been calculated with the use of a computer noise model which has been informed by the source measurement data presented within Section 6 of this report.

The measured source noise levels have been converted to a sound power level equivalent, as shown below in Table 10. These values are considered to be worst-case, as they contain a contribution from reverberant sound due to the indoor measurement environment.

Source	63Hz LwA dB(A)	125Hz LwA dB(A)	250Hz LwA dB(A)	500Hz LwA dB(A)	1kHz LwA dB(A)	2kHz LwA dB(A)	4kHz LwA dB(A)	Sum LwA dB(A)
Ramp + Air Compressor	58	67	77	81	80	79	76	86
Impact Driver Removing Wheels	45	55	68	77	85	94	95	98
MOT Rolling Road	42	48	60	59	61	61	53	66

TABLE 10 – DERIVED SOUND POWER LEVELS OF PROPOSED SOURCES

As it is not expected that the proposed sources will run continuously, a time-correction is applicable to these sound power levels, following the guidance provided within BS 4142:2014.

The following on-time durations per hour have been used to calculate the required corrections.

- Ramp & Air Compressor: 10-minutes per hour, per bay / ramp (30-minutes per hour total).
- Impact Driver Removing Wheels: 5-minutes per hour, per bay / ramp (15-minutes per hour total).
- MOT Rolling Road: 10-minutes per hour, per bay / ramp (30-minutes per hour total).

These time corrections have been applied to the calculated sound power level of each source, as shown in Table 11. The cumulative time-corrected sound power level is also shown.

	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	Sum
	Time	Time	Time	Time	Time	Time	Time	Time
Source	Correct.	Correct.	Correct.	Correct.	Correct.	Correct.	Correct.	Correct.
	LwA	LwA	LwA	LwA	LwA	LwA	LwA	LwA
	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Ramp + Air Compressor	55	64	74	78	77	76	73	83
Impact Driver								
Removing Wheels	39	49	62	71	79	88	89	92
MOT Rolling Road	39	45	57	55	58	58	50	63
Cumulative	55	65	74	79	81	88	89	93

TABLE 11 – TIME-CORRECTED SOUND POWER LEVEL OF PROPOSED SOURCES

These sound power level values have been used to calculate the noise levels internal to D1, considering both direct and reverberant sound levels. These calculations are shown in full in Appendix B.

These internal sound levels have subsequently been attenuated by the calculated sound insulation performance of the D1 building fabric, as shown in Appendix C, and incorporated into a computer noise model generated within SoundPLAN Essentials 5.1. This computer noise model allows for the calculation of the specific sound level at NSRs.

In order to provide a robust assessment, this computer noise model assumes that the roller-shutter entrance door to D1 is open (to a height of 2m for vehicle and personnel access). Therefore, these predicted noise levels are considered to be worst-case.

The calculated specific sound levels are shown below in Table 12, with full details of the computer noise models shown in Appendix D.

Time Period	Source	Representative Receptor	Specific Sound Level (dB L _{Aeq})
Day-Time	S1	NSR1	50dB(A)
Day-Time	S1	NSR2	49dB(A)

TABLE 12 – CALCULATED SPECIFIC SOUND LEVEL

8.3 RATING LEVEL

The rating level is calculated as the specific sound level plus any correction required for the characteristic features of the sound.

The standard states that: “for sound ranging from not tonal to prominently tonal the Joint Nordic Method gives a correction of between 0dB and +6dB for tonality. Subjectively, this can be converted to a penalty of 2dB for a tone which is just perceptible at the noise receptor, 4dB where it is clearly perceptible, and 6dB where it is highly perceptible.

A correction of up to +9dB can be applied for sound that is highly impulsive, considering both the rapidity of the change in sound level and the overall change in sound level. Subjectively, this can be converted to a penalty of 3dB for impulsivity which is just perceptible at the noise receptor, 6dB where it is clearly perceptible, and 9dB where it is highly perceptible.”

As the specific sound level is not expected to exceed the background or residual sound level at NSRs, it is not expected that any acoustic features will be prominent, and therefore no penalties are believed to be applicable. However, in order to produce a robust assessment, as it is acknowledged that there may be potential for minor impulsive acoustic characteristics from the development, a +3dB penalty has been applied for impulsiveness. This is considered precautionary.

The calculated rating level is shown in Table 13.

NSR	Specific Sound Level (dB(A))	Tonal Penalty (dB)	Impulse Penalty (dB)	Rating Level (dB)
NSR1	50dB(A)	0dB	+3dB	53dB(A)
NSR2	49dB(A)	0dB	+3dB	52dB(A)

TABLE 13 - RATING LEVEL SUMMARY

8.4 DEFINED SOUND LEVEL SUMMARY

The defined sound levels are summarised in Table 14.

Time Period	Source Reference	NSR	Specific Sound Level (dB, L _{Aeq})	Rating Level (dB)	Background Sound Level (dB, L _{A90})	Difference (Background vs Rating Level)
Day-Time	S1	NSR1	50dB(A)	53dB(A)	53dB(A)	0dB
Day-Time	S1	NSR2	49dB(A)	52dB(A)	53dB(A)	-1dB

TABLE 14 - DEFINED SOUND LEVEL SUMMARY

8.5 UNDEFINED NOISE SOURCES

In some instances, it is not possible to define all noise sources related to a development at the planning stage of a project. To ensure this development does not present a detrimental noise impact at NSRs due to the future introduction of currently undefined noise sources, it should be ensured that the cumulative rating level from the total development does not exceed 53dB(A).

This should consider all guidance contained within BS 4142:2014 and any other relevant guidance at the time of the source introduction. In particular, consideration should be given to the number of sources,

on-time of the sources, the inherent and installed directivity of sources and any acoustic characteristics which may result in penalties when following the guidance of BS 4142:2014.

It may be necessary to seek further specialist guidance from NCSL.

9 NOISE IMPACT ASSESSMENT

BS 4142:2014 provides the following guidance on the expected impact to the local environment based upon rating levels:

- In instances where the rating level exceeds background noise level by +10dB, this is an indication of a significant adverse impact, depending upon the context.
- In instances where the rating level exceeds background noise level by +5dB, this is an indication of an adverse impact, depending upon the context.
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will cause an adverse noise impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

The assessment of a noise impact at a receptor should consider the context in which the sound occurs. BS 4142:2014 states that the following factors be included in the context assessment.

- The absolute level of sound.
- The character and level of residual sound.
- The sensitivity of the receptor.

In this case, the delta between rating level and background sound level is calculated at 0dB (worst-case, NSR1) during the applicable day-time period.

Based upon the guidance from BS 4142:2014, noise from the vehicle repair and MOT testing garage is expected to produce a low noise impact at NSRs. This is the lowest impact rating as per the guidance provided within BS 4142:2014.

9.1 CONTEXT ASSESSMENT

BS 4142:2014 states:

"The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound sources exceeds the background sound level and the context in which the sound occurs".

The first requirement of this statement has been determined within the noise impact assessment section above. To determine the context in which the industrial sound will reside, three factors must be considered, these are.

- The absolute level of sound.
- The character and level of the residual sound compared to the character and level of the specific sound; and,
- The sensitivity of the receptor.

9.1.1 ABSOLUTE LEVEL OF SOUND

To determine the first context test in BS 4142:2014 it is necessary to determine whether the residual and background sound levels are high or low. Section 11 of BS 4142:2014 states:

"Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.

Where residual sound levels are very high, the residual sound might itself result in adverse impacts or significant adverse impacts, and the margin by which the rating level exceeds the background might simply be an indication of the extent to which the specific sound source is likely to make those impacts worse."

The worst-case rating level is calculated at 53dB(A), and the background sound level is measured at 53dB(A) L_{A90} . These noise levels are all moderate. Therefore, this context test is not expected to alter the findings of the objective assessment.

9.1.2 CHARACTER AND LEVEL OF RESIDUAL & SPECIFIC SOUND

The vehicle repair and MOT testing garage is expected to include noise from vehicles, in particular, idling, and door / bonnet opening and closing events.

This acoustic character is expected to be similar to the existing residual soundscape due to the volume of vehicles using Hill Lane.

The proposed development is not expected to introduce any audible acoustic characteristics to the existing soundscape. This is a positive indication that the noise impact from D1 will be low.

9.1.3 SENSITIVITY OF RECEPTOR

With regard to pertinent factors to be taken into consideration in the context assessment, Section 11 of BS 4142:2014 states:

"The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions, such as:

- i) facade insulation treatment.*
- ii) ventilation and/or cooling that will reduce the need to have windows open so as to provide rapid or purge ventilation; and*
- iii) acoustic screening."*

NSRs considered within this assessment are believed to be old housing stock and, from observations taken during site visits, do not appear to have any acoustically attenuated ventilation installed. Therefore, the dwellings will likely rely on open windows for ventilation. This could potentially increase the impact of noise from D1 at NSR1.

However, considering the moderate level of the existing residual sound level at NSRs, it is not expected that these dwellings are particularly noise sensitive.

In addition, noise from D1 will only occur during the day-time period. Therefore, during the most sensitive time-periods (early morning, evening and the night-time) there will be no noise emission from D1.

This is a positive indication that the noise impact from D1 will be low.

9.2 BS 4142:2014 ASSESSMENT SUMMARY

A BS 4142:2014 assessment has been undertaken to assess the potential noise impact from the proposed development at receptors.

The assessment indicates that the noise associated with the vehicle repair and MOT testing garage will have a **low impact** at noise sensitive receptors.

10 CONCLUSIONS & RECOMMENDATIONS

Noise Control Solutions Limited (NCSL) has been commissioned by Mr Amar Zain to undertake a noise impact assessment for the proposed vehicle repair and MOT testing garage at 213 Hill Lane, Manchester, M9 6RG (reference 'D1'). The assessment is required in order to accompany the planning application 144868/FO/2026 which is to be considered by Manchester City Council. The scope of this application is the change of use from Class E to Class B2 for vehicle repair with MOT testing.

The potential sources of noise are considered by NCSL to be;

1. Vehicle Garage Equipment (reference 'S1')

In order to assess the noise impact at the nearest noise sensitive receptors, an environmental noise impact assessment has been conducted, details of which are shown within this report.

The noise impact assessment includes data from a background sound level survey which was conducted between 0830hrs 26th January 2026 and 1700hrs 26th January 2026. The results of this background sound level survey result in a statistical modal value of 53dB L_{A90} .

The specific sound level has been determined with the use of a computer noise model, informed by measurements of typical vehicle MOT garage equipment (MOT rolling road, vehicle lifts and impact drivers). This measurement data has been used to calculate the internal noise level within D1 considering the direct and reverberant acoustic components, and on-time corrections as per the guidance provided within BS 4142:2014. The internal noise levels have subsequently been attenuated by the predicted sound insulation performance of each façade, including an open-roller door to produce a robust assessment.

The resulting external noise levels have been integrated within a noise model, generated within SoundPLAN Essentials 5.1 to calculate the specific sound level at NSRs. This results in a worst-case specific sound level of 50dB(A) at NSR1.

In order to provide a robust calculation of the rating level, a penalty of +3dB has been applied for impulsive characteristics. This results in a rating level at NSR1 (worst-case) of 53dB(A). This is considered precautionary

The findings of this assessment demonstrate that the difference between rating level and existing background sound level is 0dB, which would be expected to result in a low noise impact at receptors, when assessed in accordance with BS 4142:2014.

Based upon the findings of this assessment, it is the recommendation of NCSL that the planning application reference 144868/FO/2026 is approved regarding noise impact.

Any recommendations contained within this report should be approved by the relevant authority before any work commences.

11 UNCERTAINTY

All measurements within this report have been taken under repeatable conditions and therefore any uncertainty in the result will be low.

To reduce measurement uncertainty, the following steps have been taken.

- The background noise measurements were undertaken during dry weather and with wind speeds of less than 5m/s.
- The results of each measurement period were reported to the nearest 0.1dB.
- Noise measurements were made using one Class 1, integrating sound level meter.

All noise impact assessments and similar acoustic assessments inherently rely upon estimations and assumptions. This report should therefore be considered within this context.

APPENDIX A: ACOUSTIC SURVEY DATA

Date	Time	LAeq	LAF90.0%	LAF10.0%	LAFmax	LAFmin	LZeq	LCeq
26/01/2026	08:45:00	67.5	54.1	67.2	91.8	50.8	75.8	72.1
26/01/2026	09:00:00	63.7	52.3	65.9	91.3	49.3	71.5	68.2
26/01/2026	09:15:00	65.1	52.4	66	91.3	49.7	73.4	69.4
26/01/2026	09:30:00	69.6	52.6	65.5	94.9	49.4	76.3	73.3
26/01/2026	09:45:00	59.7	52	62.9	79.6	48.7	74.4	66.5
26/01/2026	10:00:00	68.7	51.6	64.6	93.7	49.5	76	73.3
26/01/2026	10:15:00	60.2	51.3	63.3	82	48.7	75.3	68.3
26/01/2026	10:30:00	68	52.8	65.4	94.2	51.1	77.9	72.6
26/01/2026	10:45:00	65	53.2	63.5	90.4	51.6	79.6	72.6
26/01/2026	11:00:00	66.9	52.9	64.3	91	50.9	81.5	72.1
26/01/2026	11:15:00	65.9	53.6	64.2	89.6	51	81.3	72.5
26/01/2026	11:30:00	64.7	53.5	62.4	91.3	50.9	78.4	70.5
26/01/2026	11:45:00	61	54.6	64.6	76.7	52.3	78.8	68.9
26/01/2026	12:00:00	59.8	53.5	64	76.3	51.5	77.1	68.1
26/01/2026	12:15:00	61.7	54.3	63.5	82.2	52.1	76.9	69.2
26/01/2026	12:30:00	64.9	54.5	63.7	93.9	51.4	78.4	70.5
26/01/2026	12:45:00	70.2	54.8	64.4	94.2	53	79	74.8
26/01/2026	13:00:00	62.5	53.6	63.3	86.7	51.4	77.5	69.4
26/01/2026	13:15:00	59.8	53.2	62.7	75.1	50.9	76.3	67.4
26/01/2026	13:30:00	62.2	52.6	63.5	88	50.4	75.8	69
26/01/2026	13:45:00	61.2	53.2	64	85	50.5	78.8	69.5
26/01/2026	14:00:00	60.1	52.7	63.4	83.2	49.9	77.8	67.9
26/01/2026	14:15:00	65.3	53	64.2	92.3	51	78.5	70.7
26/01/2026	14:30:00	63.1	53.5	64.8	84.3	51.5	77.2	69.6
26/01/2026	14:45:00	62.7	53.3	65.3	84.5	51.3	79.3	69.2
26/01/2026	15:00:00	65	55.3	67	87.4	53	79	71.2
26/01/2026	15:15:00	69.1	55.9	67.6	91	53.4	80.8	74.1
26/01/2026	15:30:00	63.8	56.7	67.1	82.9	53.5	79	70.1
26/01/2026	15:45:00	67.7	57.1	67.7	89.5	54.1	79.5	74.2
26/01/2026	16:00:00	64.6	56	66.7	86.9	54.1	77.8	71
26/01/2026	16:15:00	64.8	57.2	67.5	74.9	53.9	78.1	71.4
26/01/2026	16:30:00	67.3	65.3	68.9	81.4	62.7	78.2	73.2
26/01/2026	16:45:00	67.2	65.4	68.3	82.6	64.1	77.4	72.9
26/01/2026	17:00:00	69.4	65.3	68.4	89.1	61.3	77.3	73.8
26/01/2026	17:01:30	70.7	56.7	68.5	90.9	53.1	76.4	74.2

APPENDIX B: INTERNAL SPL PREDICTION

Project Reference	NCSL1452								
Device Reference:	S1								
Façade Reference:	Open Roller Door								
Calculated / Measured LwA	63	125	250	500	1k	2k	4k	8k	Sum
LwA (Character & Time Corrected)	55.0	64.5	74.2	78.6	81.4	88.1	89.4	81.3	92.8
Internal Façade SPL	63	125	250	500	1k	2k	4k	8k	Sum
Distance to façade (m)	10	10	10	10	10	10	10	10	
Directivity Factor (Q)	2	2	2	2	2	2	2	2	
Q correction (dB)	3	3	3	3	3	3	3	3	
Room Constant (RC)	44.5	44.5	65.8	80.3	96.5	131.4	154.0	154.0	
Octave Band SPL at internal façade	44.6	54.2	62.2	65.8	67.7	73.2	73.8	65.7	77.8
Overall SPL at internal façade	77.8	dB(A)							
External SPL & Façade LwA	63	125	250	500	1k	2k	4k	8k	Sum
Interior façade SPL	44.6	54.2	62.2	65.8	67.7	73.2	73.8	65.7	77.8
R value of façade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Diffuse to free-field correction	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Octave Band SPL at external façade (1m)	38.6	48.2	56.2	59.8	61.7	67.2	67.8	59.7	71.8
Overall SPL at external façade (1m)	71.8	dB(A)							

Project Reference	NCSL1452								
Device Reference:	S1								
Façade Reference:	Brick Façade								
Calculated / Measured LwA	63	125	250	500	1k	2k	4k	8k	Sum
LwA (Character & Time Corrected)	55.0	64.5	74.2	78.6	81.4	88.1	89.4	81.3	92.8
Internal Façade SPL	63	125	250	500	1k	2k	4k	8k	Sum
Distance to façade (m)	10	10	10	10	10	10	10	10	
Directivity Factor (Q)	2	2	2	2	2	2	2	2	
Q correction (dB)	3	3	3	3	3	3	3	3	
Room Constant (RC)	44.5	44.5	65.8	80.3	96.5	131.4	154.0	154.0	
Octave Band SPL at internal façade	44.6	54.2	62.2	65.8	67.7	73.2	73.8	65.7	77.8
Overall SPL at internal façade	77.8	dB(A)							
External SPL & Façade LwA	63	125	250	500	1k	2k	4k	8k	Sum
Interior façade SPL	44.6	54.2	62.2	65.8	67.7	73.2	73.8	65.7	77.8
R value of façade	41.0	39.0	42.0	50.0	57.0	62.0	67.0	67.0	
Diffuse to free-field correction	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Octave Band SPL at external façade (1m)	-2.4	9.2	14.2	9.8	4.7	5.2	0.8	-7.3	17.2
Overall SPL at external façade (1m)	17.2	dB(A)							

Project Reference:	NCSL1452
Device Reference:	S1
Façade Reference:	Roof

Calculated / Measured LwA	63	125	250	500	1k	2k	4k	8k	Sum
LwA (Character & Time Corrected)	55.0	64.5	74.2	78.6	81.4	88.1	89.4	81.3	92.8

Internal Façade SPL	63	125	250	500	1k	2k	4k	8k	Sum
Distance to façade (m)	10	10	10	10	10	10	10	10	
Directivity Factor (Q)	2	2	2	2	2	2	2	2	
Q correction (dB)	3	3	3	3	3	3	3	3	
Room Constant (RC)	44.5	44.5	65.8	80.3	96.5	131.4	154.0	154.0	
Octave Band SPL at internal façade	44.6	54.2	62.2	65.8	67.7	73.2	73.8	65.7	77.8
Overall SPL at internal façade	77.8	dB(A)							

External SPL & Façade LwA	63	125	250	500	1k	2k	4k	8k	Sum
Interior façade SPL	44.6	54.2	62.2	65.8	67.7	73.2	73.8	65.7	77.8
R value of façade	17.0	20.0	25.0	28.0	30.0	35.0	40.0	40.0	
Diffuse to free-field correction	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Octave Band SPL at external façade (1m)	21.6	28.2	31.2	31.8	31.7	32.2	27.8	19.7	38.7
Overall SPL at external façade (1m)	38.7	dB(A)							

APPENDIX C: BUILDING FABRIC ATTENUATION

C1: BRICKWORK ACOUSTIC PERFORMANCE

Sound Insulation Prediction (v9.0.23)

Program copyright Marshall Day Acoustics 2017

Margin of error is generally within $R_w \pm 3$ dB

Noise Control Solutions Limited - Key No. 5597

Job Name:

Job No.:

Date: 05/02/2026

File Name:

Initials: conta

Notes:



R_w 54 dB
C -1 dB
Ctr -5 dB

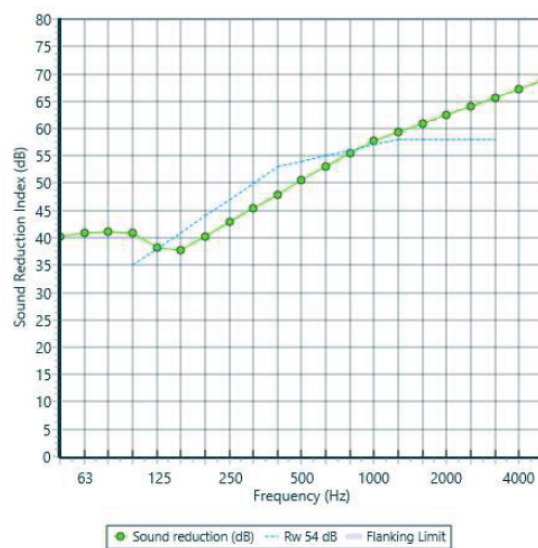
Panel Size = 2.7 m x 4.0 m

Partition surface mass = 328 kg/m²

System description

Panel 1 : 1 x 205 mm Brick

freq.(Hz)	R(dB)	R(dB)
50	40	
63	41	41
80	41	
100	41	
125	38	39
160	38	
200	40	
250	43	42
315	45	
400	48	
500	50	50
630	53	
800	56	
1000	58	57
1250	59	
1600	61	
2000	62	62
2500	64	
3150	66	
4000	67	67
5000	69	



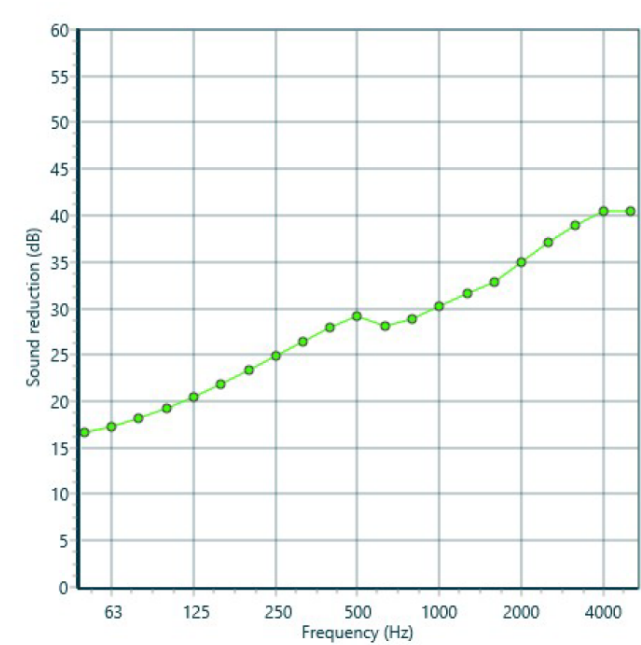
C2: COMPOSITE ROOF ACOUSTIC PERFORMANCE

Composite TL calculator (v9.0.23)

Program copyright Marshall Day Acoustics 2017
Margin of error is generally within $R_w \pm 3$ dB
Noise Control Solutions Limited - Key No. 5597
Job Name:
Job No.: Initials:conta
Date:03/02/2026
File Name:



Notes:

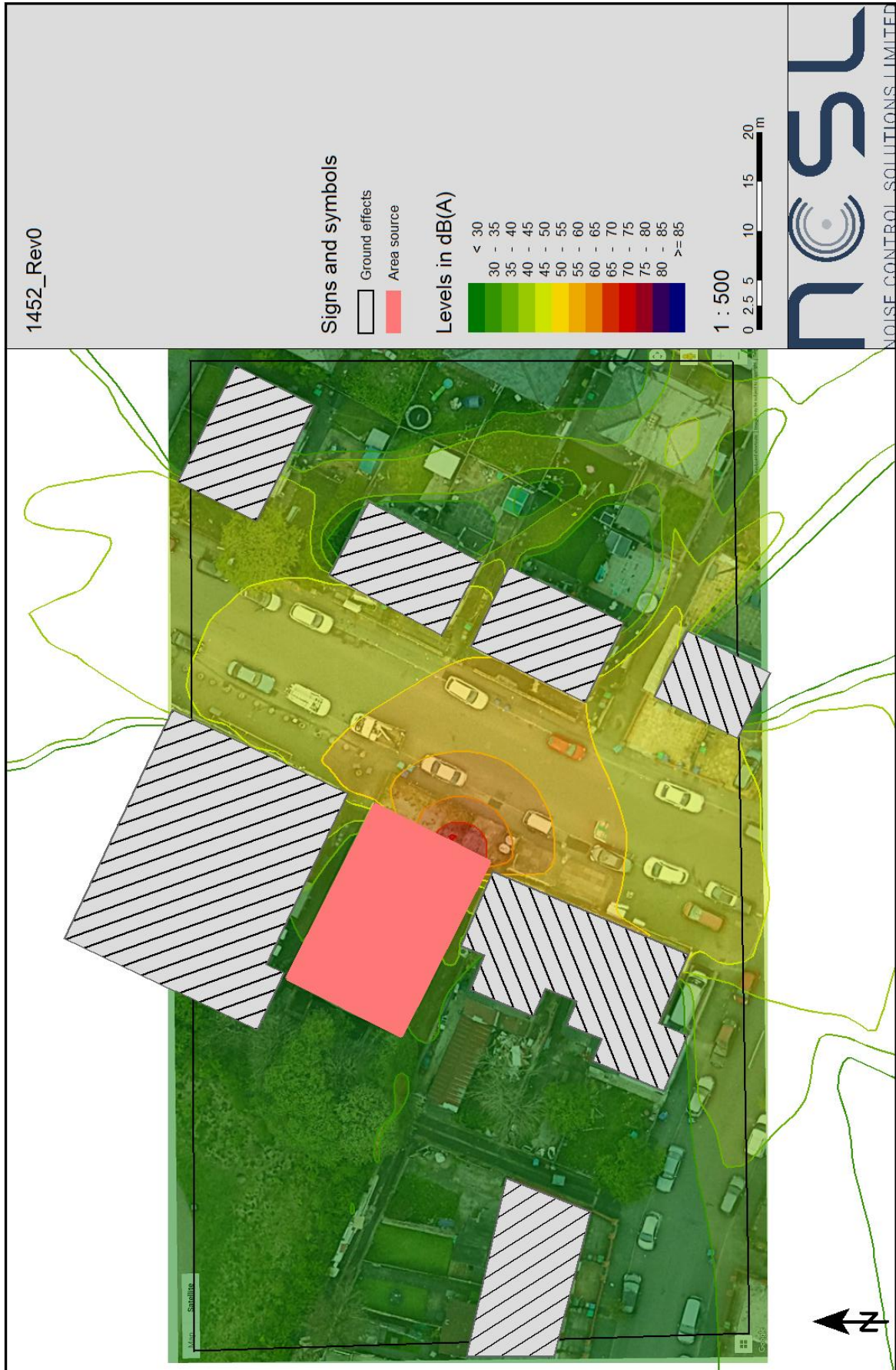


Rw 32 dB
C -1 dB
Ctr -3 dB

Element	Area	Octave band centre frequency (Hz)																				Rw	C:Ctr	
		63		125		250		500		1k		2k		4k										
Timber + Slate	250	24	25	27	28	29	31	32	34	35	36	35	30	30	31	32	33	36	38	41	43	45	34	-1;-2
Perspex	50	9	10	11	12	13	15	16	18	19	21	23	24	26	28	29	31	32	34	35	35	34	27	-1;-4
Total	300	17	17	18	19	20	22	23	25	26	28	29	28	29	30	32	33	35	37	39	40	40	32	-1;-3

APPENDIX D: NOISE MODEL RESULTS





TERMS AND CONDITIONS OF BUSINESS

1. GENERAL

Work done or services undertaken are subject to the terms and conditions detailed below and all other conditions, warranties and representations, expressed or implied are hereby excluded.

2. PRICES

Prices are based on current costs, exchange rates, duty and freight and are subject to change without notice. The quoted price does not cover the cost of attending meetings, telephone calls or email exchanges. This is charged separately at a pro rata hourly rate of £75 per hour.

3. TIMING ESTIMATES

Timing estimates are made in good faith and date from receipt of a written order and full information to enable us to proceed. While NCSL makes every effort to fulfil them, such estimates are subject to unforeseen events and if not maintained, cannot give rise to any claim.

4. CANCELLATION AND RETURNS

Cancellation of orders for services, training or consultancy is only acceptable by prior agreement of NCSL and a charge will normally be made. NCSL reserve the right to cancel any work at any time.

5. CLAIMS

Claims for errors etc should be notified within 10 days of date of receipt.

6. PAYMENT TERMS

Full payment is required before any work is undertaken by NCSL. Failure to comply with the terms of payment may result in delayed delivery of services and a review of the Customer's credit account (if applicable). Should the customer become subject to an administration order, or becomes bankrupt or goes into liquidation, NCSL has a right to cancel any contract and discontinue any work.

7. RETENTION OF TITLE

All reports & data remain the property of NCSL. Under no circumstances will a customer's purchase order override our Retention of Title clause. In the case of software and data, the ownership remains with NCSL. Payment of invoices in full will entitle the customer to use reports or other services under licence until (a) a set expiry date is passed (b) they cease trading. In both instances, the licence shall then revert to NCSL. All measurement data and reports are the sole property of NCSL and shall not be reproduced or distributed without written consent from NCSL.

8. TEST REPORTS

NCSL shall not be liable for any subsequent loss or damage incurred by the client as a result of information supplied in a test report. Any specifications or targets supplied by NCSL are to be considered as guidance only. No guarantee is offered by NCSL that the meeting of any supplied targets or specifications will solve the relevant issue or prevent future issues.

9. RESPONSIBILITY

Every effort is made to ensure accuracy in description, drawings and other information in correspondence etc but no warranty is given in this respect and NCSL shall not be liable for any error therein. NCSL carries out all tests and/or advises only on the basis that the same are carried out, made or given without any responsibility whether for negligence or otherwise. NCSL and its servants or agents will not be liable for any damage or loss direct or indirect of whatsoever kind, whether or not the same results directly or indirectly from negligence on the part of NCSL or its servants or agents.

10. CONFIDENTIALITY

Unless specifically excluded in the terms of an individual contract between NCSL and its Customer, the following shall apply to all reports, advice, drawings, photographs, specifications or data:

- i. The above shall not be disclosed to third parties or used in litigation without the consent of NCSL.
- ii. Where NCSL has given consent to disclosure, the Customer shall draw the attention of the third party to these terms of business and the basis on which NCSL undertakes test, reporting and advising. The Customer shall indemnify NCSL for any failure to do so.
- iii. The above items are submitted to the Customer as confidential documents. Confidentiality shall continue to apply after completion of the business but shall cease to apply to information or knowledge which may come into the public domain.

11. CONSTRUCTION AND ARBITRATION

The laws of England shall govern all contracts and the parties submit to exclusive jurisdiction of the courts of England, unless otherwise agreed.

12. JOB SPECIFIC TERMS

NCSL will not be held responsible for any adverse impact arising from the introduction of proposed palliative measures. Furthermore, no guarantee is given regarding the effectiveness of any proposed palliative and/or mitigation measures. The client is responsible for any palliative measures, including, but not limited to, the sourcing of suppliers, the quality of installation, the cost of all materials / installation, maintenance and safety. All advice given should be taken as guidance only. It is the responsibility of the client to ensure the safe operation of any mitigation measures, including but not limited to, adequate fire safety and ventilation requirements. NCSL provide no guarantee that adherence to provided specifications will result in no further noise and/or vibration complaints and/or the elimination of noise and/or vibration issues. NCSL do not supply, procure, install or maintain any materials. We reserve the right to publicise the work conducted by NCSL, including, where appropriate, client logos etc. On occasion, work may be conducted by sub-contract partners.