NOISE IMPACT ASSESSMENT

on behalf of

Applethwaite Ltd

for

Land North of Whalley Road, Read

Report Number NA103373-RPT01-V1

Date of Report 10 March 2026

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Summary

A noise assessment has been undertaken to predict the potential impact of noise on a proposed residential development at Land North Of Whalley Road, Read, Burnley. It accompanies a planning application for 77 dwellings on Land North Of Whalley Road, Read, Burnley.

An environmental sound survey has been undertaken to establish the existing sound climate at the locations of proposed noise sensitive receptors (NSRs) during periods representative of a typical 5-day period. An initial noise risk assessment of the development has been undertaken.

A baseline computer noise model of the proposed development and surrounding site has been assembled based on the proposed site layout.

The likely noise levels for dwellings shown on the indicative masterplan for the development have been predicted using CadnaA and are presented within this report. Based on the results of the computer modelling and the proposed site layout, indicative mitigation has been proposed in terms of glazing and ventilation specifications and barrier treatments for amenity areas.

The assessment concludes that, provided appropriate mitigation is undertaken as recommended, the impact of noise associated with the proposed development is likely to be low. Suggested wording for planning conditions has also been provided. There is no reason, therefore, for this development to be refused planning permission based on the likely noise impact.

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Signed:	[redacted]	**Signed:**	[redacted]
Date:	10 March 2026	**Date:**	10 March 2026

Revision Number	Date	Updated by	Checked by	Changes made
V1	10 March 2026	JL	LWT	Initial full issue

Advisory Note

The suitability of any recommended noise mitigation measures within this report should be approved by the relevant architects, structural engineers, building contractors, fire consultants and material manufacturers constituting the wider design team, prior to procurement and field application. This should ensure that when the recommended noise control measures are implemented on site, they will satisfy the requirements of all disciplines and not cause any health and safety issues.

Contents

1 Introduction

1.1 Miller Goodall Ltd has undertaken a noise assessment to accompany a planning application for a residential development of 77 units at Land North Of Whalley Road, Read, Burnley. The report assesses the potential impact of environmental noise on the proposed development and provides details of indicative mitigation measures that may be required to achieve appropriate internal and external criteria.

2 Policy, Standards and Guidance

2.1 The following planning policy and acoustics standards and guidance have been considered in this assessment:

- Noise Policy Statement for England (NPSE)
- National Planning Policy Framework (NPPF)
- ProPG: Planning & Noise, Professional Practice Guidance on Planning & Noise: New Residential Development, May 2017 (ProPG)
- BS 8233:2014 '*Guidance on sound insulation and noise reduction for buildings*' (BS 8233)

2.2 Further detail of the scope and extent of this guidance is provided in **Appendix A: Policy, Standards and Guidance**.

3 Site Description

3.1 The site location is shown in **Appendix B: Site and Monitoring Location**. It is in a semi-rural location at the western edge of the town of Read in Burnley. The site is bounded to the north and east by residential dwellings. To the south is Whalley Road A671. To the west is open farmland.

3.2 The primary noise source in the area is Whalley Road at the south of the site.

4 Proposed Development

4.1 The development comprises 77 dwellings. The proposed layout is presented in **Appendix C: Site Layout**.

5 Assessment Methodology

5.1 An assessment of the impact of environmental sound on the proposed development has been undertaken to compare the noise with recognised criteria contained within relevant guidance described in **Section 2, Policy, Standards and Guidance**.

5.2 An environmental sound survey has been undertaken to quantify the existing levels of sound at the site and to enable a model of the site to be created and calibrated. This model has been used to predict noise levels across the site and at proposed dwellings to enable potential mitigation measures to be considered to ensure noise criteria are achieved both internally and in external amenity areas.

6 Environmental Sound Survey

6.1 Measurements Procedure

6.1.1 Unattended environmental sound monitoring was undertaken at a single position at the site between approximately 10:20 on Thursday, 8 January and 11:10 on Monday, 12 January 2026. This monitoring position is considered to be representative of the existing environmental sound climate at the southern edge of the site adjacent to Whalley Road, the primary noise source in the area. It was selected to enable a noise model to be calibrated for the prediction of noise across the development site.

6.1.2 The unattended monitoring position, MP1, is indicated in the figure presented in **Appendix C: Site Layout**. The measurement position was as described in **Table 1**.

Table 1: Noise monitoring location

Monitoring Location	Location Description
MP1	The microphone was mounted on a tripod. It was positioned in the free-field approximately 1.5 m above local ground level, and 6.5 m from the edge of Whalley Road.

6.1.3 Measurements were undertaken in accordance with BS 7445-1: 2003[1]. Details of the equipment used are set out in **Table 2**.

[1] BS 7445-1: 2003 Description and measurement of environmental noise - Part 1: Guide to quantities and procedures

Table 2: Noise monitoring equipment

Equipment Description	Type Number	Manufacturer	Serial No.	Date Calibrated	Calibration Certification Number
Class 1[4],[5] Integrating Real Time 1/3 Octave Sound Analyser	XL2-TA	NTi Audio	A2A-11111-E0	29/10/2025	07414/1
Microphone	MA220	NTi Audio	6908	29/10/2025	07414/1
Pre-amplifier	MC230A	NTi Audio	A14423	29/10/2025	07414/1
Class 1 Field Calibrator	CAL 200	Larson Davies	14154	02/09/2025	07390/1
Outdoor Microphone Housing	WP30	NTi Audio	N/A	N/A	N/A

6.1.4 The calibration of the sound level meter was checked before and after the measurements, with negligible deviation (≤ 0.1 dB) recorded.

6.1.5 Each measurement period consisted of sequential 100 ms samples. The data has been extracted using NTi Data Explorer software and analysed using an in-house Excel processing sheet to analytically determine representative L_{Aeq}, L_{A90} and $L_{AF,max}$ sound levels. The 100 ms sound levels have not been presented in this report but are kept on file for future reference.

6.2 Environmental Sound Climate

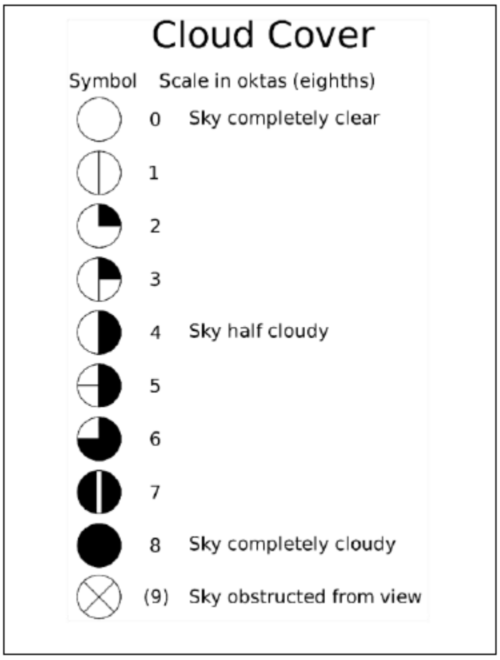
6.2.1 During the installation of the equipment at MP1, the residual sound climate was observed to consist primarily of road traffic noise on Whalley Road with some birdsong. This was also true on collection of the equipment.

6.3 Weather Conditions

6.3.1 Weather conditions were observed when the equipment was installed and collected. A summary of the conditions at the beginning and end of the surveys are provided in **Table 3**.

Table 3: Dates, times and weather conditions during noise measurements

Measurement Locations	Date, Time	Weather conditions Description	At Start of Survey	On Completion
MP1	2026/01/08, 10:20 to 2026/01/12, 11:10	Temperature:	2 °C	9 °C
		Precipitation:	None	Slight
		Cloud cover (oktas – see opposite):	8	8
		Any fog/snow/ice?	No	No
		Any damp roads/wet ground?	Yes	Yes
		Wind speed:	1.9 m/s	2.7 m/s
		Wind direction:	E	SW
		Any conditions that may cause temp. inversion (e.g. calm nights with no cloud):	No	No



6.3.2 With respect to the unattended survey, weather forecasts provided by the Met Office (Weather and climate change - Met Office) and WUnderground (Local Weather Forecast, News and Conditions | Weather Underground) were reviewed before attending the site to confirm the weather forecast was appropriate for noise monitoring (i.e. dry, windspeed ≤ 5 m/s and no extreme temperatures) over the proposed monitoring period.

6.3.3 Weather forecasts were then checked during the survey period to ensure that any changes in the forecast, in particular inclement weather, could be noted and recorded. No significant inclement weather was noted in the forecast during any part of the survey period.

6.3.4 Weather history data has been reviewed for the period over which the monitoring was unattended. In general, the recorded weather conditions were considered to be suitable for environmental sound monitoring, with wind speeds not exceeding 5 m/s throughout the survey period. There is nothing in the data to suggest a change in weather (e.g. rain or winds > 5 m/s) which could have impacted the measurement results.

6.3.5 Therefore, no data has been excluded from the monitoring data.

7 Monitoring Results

7.1 A time history graph for the full unattended monitoring period at MP1, plotted in 15-minute time intervals, is presented in **Appendix D: Environmental Sound Survey Results**. All data are presented as sound pressure levels in dB re 20 µPa.

7.2 A summary of the broadband measurement data for the unattended monitoring at MP1 is provided in **Table 4**, with 15-minute data throughout the survey also presented in **Appendix D: Environmental Sound Survey Results**.

Table 4: Summary of unattended environmental sound monitoring results at MP1

Date	Day	Period	Start Time hh:mm	Elapsed Time, T hh:mm	$L_{Aeq,T}$ *1. dB	Overall highest $L_{AF,max}$ *2. dB	$L_{A90,T}$ *3. dB
08/01/2026	Thursday	Daytime	10:23	12:37	73	97	43
08/01/2026 to 09/01/2026	Thursday to Friday	Night-time	23:00	08:00	67	97	29
09/01/2026	Friday	Daytime	07:00	16:00	73	95	59
09/01/2026 to 10/01/2026	Friday to Saturday	Night-time	23:00	08:00	65	86	31
10/01/2026	Saturday	Daytime	07:00	16:00	73	90	57
10/01/2026 to 11/01/2026	Saturday to Sunday	Night-time	23:00	08:00	65	86	38
11/01/2026	Sunday	Daytime	07:00	16:00	73	94	49
11/01/2026 to 12/01/2026	Sunday to Monday	Night-time	23:00	08:00	67	87	38
12/01/2026	Monday	Daytime	07:00	04:08	75	97	62
			Overall Daytime Levels		74	97	57
			Overall Night-time Levels		66	97	38

*1. The values presented for the $L_{Aeq,T}$ are the log average of the $L_{Aeq,15min}$ values recorded within the corresponding period, of length T.

*2. The values presented for the $L_{AF,max}$ are the tenth highest $L_{AFmax,1min}$ values recorded within the period.

*3. The values presented for the $L_{A90,T}$ have been calculated using the LRB Method from the Little Red Book of Acoustics[2], from the $L_{A90,15min}$ values recorded within the corresponding period, of length T. The value presented is the most commonly occurring $L_{A90, 15min}$ value during the period, for which no less than 45% of the total histogram data occurs below.

8 Noise Modelling Methodology

8.1 A baseline 3D model of noise affecting the proposed development as depicted in the Illustrative Masterplan has been assembled using CadnaA noise modelling software.

8.2 The general horizontal plan information of the area surrounding and including the proposed development site was imported from Google Earth. This was used to determine road positions, building footprint areas and relative locations and is considered accurate to within 5%.

8.3 Topography was imported from the DEFRA LIDAR dataset, and existing building height information was input based on site observations. We understand that the topography of the site will change as part of the construction of the development, but this information has not yet been finalised. Existing site topography has therefore been used for the purposes of this assessment. The following parameters were assigned to the model:

- Propagation of noise using algorithms within ISO 9613:2024 *Acoustics - Attenuation of sound during propagation outdoors*.
- Default ground absorption G = 0.8. Representing soft ground across the site.
- Existing topography from DEFRA LIDAR data.
- No adverse meteorological effects.
- Roads were modelled using the built-in CadnaA road sources, and calibrated using data measured during the survey
- $L_{AF,max}$ sources were modelled as line sources at a height of 0.5 m above ground level and calibrated using spectral data measured during the survey.
- Three orders of reflection.
- Buildings are reflecting with smooth non-structured facades.

[2] The Little Red Book of Acoustics: A Practical Guide, Fourth Edition (2024) published by Blue Tree Acoustics

8.4 Details of the proposed site layout have been obtained from drawings, CAD files and data sheets provided by the client.

8.5 Noise level receptor points were incorporated into the CadnaA model at the noise survey measurement locations to calibrate the model using the measured octave band L_{eq} and L_{Fmax} noise levels. The modelled results agreed with the measured results to within ± 1 dB L_{Aeq} and ± 1 dB $L_{AF,max}$.

8.6 Four scenarios have been modelled using the plans provided:

- daytime $L_{Aeq,16hr}$ noise levels affecting the site at 1.5 m;
- daytime $L_{Aeq,16hr}$ noise levels affecting the site at 4.0 m;
- night-time $L_{Aeq,8hr}$ noise levels at 4.0 m; and
- night-time $L_{AF,max}$ noise levels at 4.0 m.

8.7 Noise contour plots have been generated for each of the four scenarios to ensure a worst-case scenario has been assessed.

9 Noise Model Predictions

9.1 Façade Noise

9.1.1 Screenshots from the CadnaA model are provided in **Appendix E: Noise Model Outputs**. They indicate that:

- daytime $L_{Aeq,16h}$ noise levels at the façades of dwellings closest to the road sources are more than 50 dB;
- Night-time $L_{Aeq,8h}$ noise levels at the dwellings closest to the road sources are more than 45 dB;
- The typical night-time $L_{AF,max}$ noise level does exceed 60 dB. The typical night-time $L_{AF,max}$ (the 10th highest 1-minute value recorded throughout the whole survey period) was 86 dB.

9.1.2 These noise levels do not allow window openings to be used for ventilation purposes (except for purge ventilation) at some façades; external noise levels recorded at the site are above the threshold levels below which internal noise levels remain achievable with the use of open windows for ventilation. In addition, external noise levels in some amenity areas are also above the threshold level of acceptability. Therefore, mitigation measures to reduce noise impacts are required.

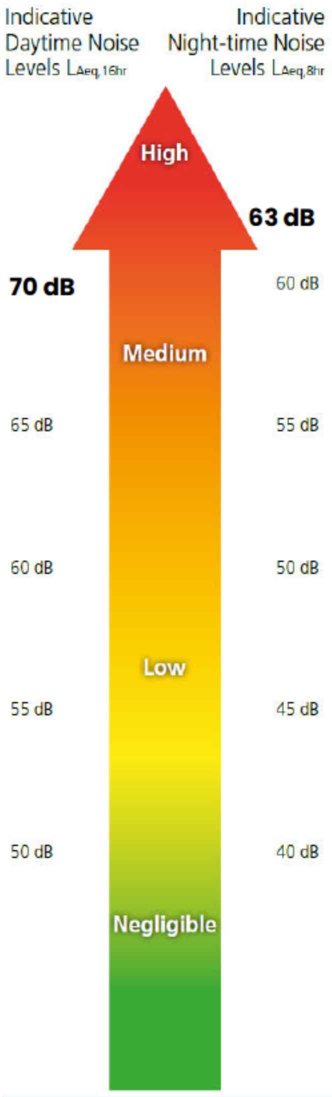
9.2 Amenity Areas

9.2.1 The CadnaA noise model predicts that daytime $L_{Aeq,16h}$ noise levels within some amenity areas of the dwellings closest to the road sources are more than 55 dB. Therefore, mitigation measures to reduce noise impacts in external amenity areas are also required.

9.3 ProPG Initial Site Noise Risk Assessment

9.3.1 Based on the results of the environmental sound monitoring presented in **Table 4**, a ProPG risk assessment has been completed for the worst affected location and is shown in **Table 5**.

Table 5: ProPG Noise Risk Level Assessment

<table>
<tr><th>Noise Risk Assessment Based on Predicted Levels</th><th>Potential Effect Without Noise Mitigation</th><th>Pre-Planning Application Advice</th></tr>
<tr><td rowspan="4">
</td><td rowspan="3">Increasing risk of adverse effect</td><td>High noise levels indicate that there is an increased risk that development may be refused on noise grounds. This risk may be reduced by following a good acoustic design process that is demonstrated in a detailed Acoustic Design Statement (ADS). Applicants are strongly advised to seek expert advice.</td></tr>
<tr><td>As noise levels increase, the site is likely to be less suitable from a noise perspective and any subsequent application may be refused unless a good acoustic design process is followed and is demonstrated in an Acoustic Design Statement (ADS). which confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrate that a significant adverse noise impact will be avoided in the finished development.</td></tr>
<tr><td>At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an Acoustic Design Statement (ADS) which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.</td></tr>
<tr><td>No Adverse effect</td><td>These noise levels indicate that the development site is likely to be acceptable from a noise perspective, and the application need not normally be delayed on noise grounds.</td></tr>
<tr><th>Predicted Typical Night-time L_{Amax} (dB)</th><th>> 60 dB?</th><th>L_{Amax} Level Comment</th></tr>
<tr><td>79</td><td>Yes</td><td>An indication that there may be more than 10 noise events at night-time with $L_{AF,max}$ > 60 dB means the site should not be regarded as negligible risk.</td></tr>
</table>

9.3.2 A risk level has been determined based on the predicted daytime and nighttime noise levels at the worst affected façade(s) of the proposed development. The development site ranges from medium risk in the daytime to high risk in the night-time period at the worst affected façade.

9.3.3 The risk assessment indicates high noise levels and therefore there is an increased risk that the development may be refused on noise grounds. If a good acoustic design process is followed and demonstrated in a detailed ADS then the risk of refusal may be reduced.

10 Noise Mitigation

10.1 General

10.1.1 Detailed calculations have not been undertaken at this stage, as detailed drawings have not been developed yet. Guidance is, however, given in general terms and based on indicative / typical dimensions for the purpose of demonstrating that acoustic criteria are achievable for a residential development at this location.

10.1.2 The indicative calculations have been undertaken based on the following assumptions about the development:

- Assessed within first floor bedrooms (where incident noise levels are predicted to be highest) with an internal volume of 30 m^3;
- 'Normal' internal surface finishes e.g. carpeted with curtains etc.;
- Glazed area of 1.8 m^2 per room;
- One passive ventilation element per room;
- Typical twin-leaf masonry façade and slate roof with plasterboard ceiling.

10.2 Internal Noise Levels

10.2.1 Calculations have been undertaken to assess the minimum performance required from potential glazing and ventilation elements of the proposed dwellings to meet the required internal criteria. These noise ingress calculations were undertaken based on the methodology in BS EN 12354-3[3]. An example calculation for the worst-affected plot closest to the road at the south-east of the site is shown in the following sections.

Calculation of minimum glazing and ventilation sound insulation performance

10.2.2 The façade noise levels predicted are shown in **Table 6** have been used in the calculations.

Table 6: Façade Noise Levels

Parameter	Incident Sound Pressure Level (dB) at Octave Band Centre Frequency (Hz)								External level (dB)
	63	125	250	500	1k	2k	4k	8k	
L_{Aeq} day	62	57	57	58	65	64	59	39	69
L_{Aeq} night	55	50	49	51	58	57	51	32	62
$L_{AF,max}$	72	69	68	72	73	70	66	48	77

10.2.3 The minimum sound reduction indices of non-glazed façade elements used in the calculation are provided in **Table 7**.

Table 7: Minimum sound reduction indices of non-glazed façade elements

Element	Sound Reduction Index (dB) at Octave Band Centre Frequency (Hz)								Sound Reduction Performance $R_w + C_{tr}$ (dB)
	63	125	250	500	1k	2k	4k	8k	
Wall	35	37	42	52	60	63	68	68	48
Roof/Ceiling	18	24	34	40	45	49	49	49	36

10.2.4 A summary of the outcome of the noise ingress calculations is provided in **Table 8**.

[3] BS EN 12354-3:2017 Building acoustics - Estimation of acoustic performance of buildings from the performance of elements. Part 3: Airborne sound insulation against outdoor sound

Table 8: Predicted internal noise levels

Description	External Noise Levels		BS 8233 Criteria		Predicted Internal Noise Levels		Exceedance of Criteria		Proposed Glazing and Ventilation
	dB $L_{Aeq,T}$	dB $L_{AF,max}$	dB $L_{Aeq,T}$	dB $L_{AF,max}$	dB $L_{Aeq,T}$	dB $L_{AF,max}$	dB $L_{Aeq,T}$	dB $L_{AF,max}$	
Daytime, First Floor, Bedrooms	69	N/A	35	N/A	35	N/A	0	N/A	Specification Type 1
Night-Time, First Floor, Bedrooms	62	77	30	45	28	45	- 2	0	Specification Type 1

10.2.5 Based on the indicative assumptions that have been made within this assessment, internal noise levels at the worst affected receptor are achievable with glazing and ventilation elements achieving the acoustic performances shown in **Table 9**.

Table 9: Minimum acoustic performance of glazed and ventilation elements

Element	Sound Reduction Index (dB) at Octave Band Centre Frequency (Hz)								Sound Reduction Performance $R_w + C_{tr}$ (dB) or $D_{ne,w} + C_{tr}$ (dB)
	63	125	250	500	1k	2k	4k	8k	
Glazing	22	28	23	32	38	42	44	44	31
Ventilation	32	38	38	33	36	47	49	57	37

10.2.6 These specifications are indicative only and based on assumptions regarding room dimensions, glazing areas and no. ventilation elements. The provided performances are illustrative only to demonstrate that criteria are achievable and are not final specifications. All calculations must be reviewed as the design is developed and dimensions are finalised.

10.3 External Noise Levels

10.3.1 The predicted daytime noise levels across the open site are generally above 55 dB $L_{Aeq,16hr}$ and as such, do not comply with daytime noise criteria in external amenity spaces. However, with 1.8 m typical garden fencing, only up to eight external amenity areas will see levels in excess of 55 dB $L_{Aeq,16hr}$. Additional mitigation could be considered for these locations. Garden fencing with a minimum height of 2.5 m above ground level could be installed at the worst affected areas.

10.3.2 The barriers are to be constructed from continuous, imperforate material with a minimum mass of 12 kg/m² and is to extend from the ground without gaps. Close-boarded or overlapped timber panelling with no holes would likely be suitable in this regard; hit-and-miss fencing would not. Alternatively, proprietary acoustic fencing with a minimum weighted sound reduction index of 25 dB R_w would be appropriate.

10.3.3 The locations where taller fencing is required are indicated in **Figure 1**.

Figure 1: Location of proposed barriers

10.3.4 A figure showing the output from the noise model with this mitigation in place is presented in **Appendix E: Noise Model Outputs**. The figure shows the predicted noise levels at receiver locations and corresponding noise contours for the proposed development with mitigation included. External noise levels are below 55 dB $L_{Aeq,16hr}$ in parts of all external amenity areas.

11 Proposed Planning Condition

11.1 As detailed assessment / calculations have not been undertaken at this stage, it will be necessary to ensure that suitable acoustic conditions are achieved on-site through the use of Planning Conditions. We would suggest wording similar to the following with respect to Planning Conditions, which should all be subject to detailed calculations and provided in writing to the Local Authority for their approval.

- Internal Acoustics: noise levels specified in BS 8233:2014 (or otherwise updated Standard) should be achieved in all habitable rooms at the appropriate times either with windows open and providing 13 dB sound reduction, or with windows closed and other appropriate mitigation measures provided. Internal criteria are:
  - Daytime habitable rooms – 35 dB $L_{Aeq,16hr}$
  - Night-time bedrooms – 30 dB $L_{Aeq,8hr}$ and 45 dB $L_{AF,max,1min}$ not to be exceeded more than 10 times per night
- External Acoustics: noise levels in external amenity areas not to exceed 55 dB $L_{Aeq,16hr}$ in the majority of any external amenity area. Mitigation to be provided to reduce as far as practicable if predicted levels without mitigation exceed 55 dB $L_{Aeq,16hr}$.

12 Acoustic Design Statement

12.1 A ProPG Stage 2 Acoustic Design Statement (ADS) has been completed to ensure external and internal noise levels are specified and achieved to protect the amenity of future residents. ProPG states that planning applications for new residential developments should evidence that the following aspects of acoustic design have been properly considered:

- the feasibility of relocating, or reducing noise levels from relevant sources;
- options for planning the site or building layout;
- orientation of proposed building(s);
- construction types and methods for meeting building performance requirements;
- effects of noise control measures on ventilation, fire regulation, health and safety, cost, CDM (construction, design and management) etc;
- the viability of alternative solutions;
- external amenity area noise.

12.2 The ADS for this development is provided in **Appendix F: Acoustic Design Statement**.

13 Summary and Conclusion

13.1 A noise assessment has been undertaken to predict the potential impact of environmental noise on a proposed residential development at Land North Of Whalley Road, Read, Burnley.

13.2 An environmental sound survey to establish the existing sound climate at the site has been undertaken. A computer noise model of the proposed development and surrounding site has been assembled, based on the illustrative masterplan, and calibrated using sound levels recorded.

13.3 Based on the results of the computer noise modelling, indicative noise mitigation has been devised. Noise mitigation across the site should be assessed as the layout for the site is developed and fixed building locations and boundary treatments can be modelled. This is expected to have a significant impact on noise levels further into the site. However, the assessed indicative mitigation and the overall outcome of the assessment signify that acceptable internal and external noise levels would be achievable by design.

13.4 Based on the assessments undertaken and provided, the recommended acoustic design and any associated mitigation measures are implemented, the assessment concludes that the impact of noise on the proposed development is likely to be low. As such, there is no reason to refuse planning permission on the basis of noise effects. Guidance on planning conditions has been provided to ensure that appropriate levels of amenity are achievable at the development.

APPENDICES

Appendix A: Policy, Standards and Guidance

1 Noise Policy Statement for England

1.1 The Noise Policy Statement for England (NPSE[4]) sets out the long-term vision of noise policy. The Noise Policy aims, as presented in this document, are:

> *"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*
>
> - *avoid significant adverse effects on health and quality of life;*
> - *mitigate and minimise adverse effects on health and quality of life; and*
> - *where possible, contribute to the improvement of health and quality of life."*

1.2 The NPSE makes reference to the concepts of NOEL (No Observed Effect Level) and LOAEL (Lowest Observed Adverse Effect Level) as used in toxicology but applied to noise impacts. It also introduces the concept of SOAEL (Significant Observed Adverse Effect Level) which is described as the level above which significant adverse effects on health and the quality of life occur.

1.3 The first aim of the NPSE is to avoid significant adverse effects, taking into account the guiding principles of sustainable development (as referenced in Section 1.8). The second aim seeks to provide guidance on the situation that exists when the potential noise impact falls between the LOAEL and the SOAEL, in which case:

> "…all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development".

1.4 Importantly, the NPSE goes on to state:

> "This does not mean that such adverse effects cannot occur".

[4] Noise Policy Statement for England, Defra, March 2010

1.5 The Statement does not provide a noise-based measure to define SOAEL, acknowledging that the SOAEL is likely to vary depending on the noise source, the receptor and the time in question. NPSE advises that:

> *"Not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available"*

1.6 It is therefore likely that other guidance will need to be referenced when applying objective standards for the assessment of noise, particularly in reference to the SOAEL, whilst also taking into account the specific circumstances of a proposed development.

2 National Planning Policy Framework

2.1 The National Planning Policy Framework (NPPF[5]) was updated most recently in February 2025. The NPPF advises that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives). One of these is an environmental objective which is described in par. 8 (c):

> *"to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."*

2.2 At par. 187 NPPF advises that:

> *"Planning policies and decisions should contribute to and enhance the natural and local environment by:*
>
> *e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans…"*

[5] National Planning Policy Framework, Ministry of Housing, Communities and Local Government, December 2023

2.3 Par. 198 goes on to state:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely 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:

a) 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;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; …"

2.4 Par. 200 seeks to ensure that any development does not prejudice the legally permitted operations and activities of other, existing non-residential uses, stating:

"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."

3 ProPg: Planning & Noise, Professional Practice Guidance on Planning & Noise: New Residential Development, May 2017 (ProPG)

3.1 The primary goal of ProPG is to assist the delivery of sustainable development by promoting good health and wellbeing through the effective management of noise. It seeks to do that through encouraging a good acoustic design process in and around proposed new residential development having regard to national policy on planning and noise.

3.2 It provides a recommended approach for new residential development that would be exposed predominantly to noise from existing transport sources. The recommended approach is also considered suitable where some industrial or commercial noise contributes to the acoustic environment provided that it is not dominant

3.3 ProPG promotes a 2-stage, approach. The two sequential stages of the overall approach are:

Stage 1 – an initial noise risk assessment of the proposed development site; and

Stage 2 – a systematic consideration of four key elements. The four key elements to be considered in parallel

- Element 1 – demonstrating a "Good Acoustic Design Process";
- Element 2 – observing internal "Noise Level Guidelines";
- Element 3 – undertaking an "External Amenity Area Noise Assessment"; and
- Element 4 – consideration of "Other Relevant Issues".

3.4 The approach is underpinned by the preparation and delivery of an "Acoustic Design Statement" (ADS), unless a site is assessed as negligible risk, in which case an ADS is not necessary.

4 BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings

4.1 This standard provides recommended guideline acoustic design criteria for new dwellings and is supported by guidance contained within WHO GCN[6]. The guideline noise design criteria of BS 8233 apply to external noise "*without a specific character"* (previously and sometimes termed or referred to as "*anonymous noise"*) such as that associated with road and rail traffic.

Internal Amenity

4.2 The Standard states that for external noise without a specific character, such as road traffic, it is desirable that the internal ambient noise level does not exceed the guideline values shown in **Table A4.1**.

4.3 The note to paragraph 7.7.1 states that where noise has a specific character (i.e. it contains features such as a distinguishable, discrete and continuous tone, is irregular enough to

[6] World Health Organisation Guidelines for Community Noise, 1999

attract attention, or has strong low-frequency content) *"lower noise limits might be appropriate"*.

Table A4.1: BS 8233: 2014 guideline indoor ambient noise levels for dwellings

Location	Activity	07:00 to 23:00	23:00 to 07:00
Living Room	Resting	35 dB $L_{Aeq,16hr}$	-
Dining room/area	Dining	40 dB $L_{Aeq,16hr}$	-
Bedroom	Sleeping (daytime resting)	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$

4.4 Note 7 to Table 4 of BS 8233 states:

> *"Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved."*

4.5 Guidance on reasonable acoustic design criteria for individual noise events are also provided, and the Standard advises that:

> *"regular individual noise events…can cause sleep disturbance. A guideline value may be set in terms of SEL[7] or $L_{Amax,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values".*

4.6 For Internal spaces, the Standard states that:

> *"..to avoid sleep disturbance, sound pressure levels at the outside facades of living spaces should not exceed 45 dB L_{Aeq} (taken as a façade level, and equating to a free-field external level of 42 dB L_{Aeq}) and 60 dB L_{AFmax} so that people may sleep with bedroom windows open."*

External Amenity

4.7 BS 8233:2014 adopts guideline external noise values provided in WHO for external amenity areas such as gardens, patios and private outdoor amenity spaces. BS 8233:2014 adopts

[7] Sound exposure level or L_{AE}

guideline external noise level limits provided in WHO for external amenity areas such as gardens and patios. The standard states that it is "*desirable*" that the external noise does not exceed 50 dB $L_{Aeq,16hr}$ with an upper guideline value of 55 dB $L_{Aeq,16hr}$ whilst recognising in paragraph 7.7.3.2 that development in higher noise areas, such as urban areas or those close to the transport network, may require a compromise between elevated noise levels (i.e., above 55 dB $L_{Aeq,16hr}$) and other factors that determine if development in such areas is warranted. In such circumstances, the development should be designed to achieve the lowest practicable noise levels in external amenity areas, but should not be prohibited.

4.8 The standard also states:

> *"Other locations, such as balconies, roof gardens and terraces, are also important in residential buildings where normal external amenity space might be limited or not available, i.e. in flats, apartment blocks, etc. In these locations, specification of noise limits is not necessarily appropriate. Small balconies may be included for uses such as drying washing or growing pot plants, and noise limits should not be necessary for these uses. However, the general guidance on noise in amenity space is still appropriate for larger balconies, roof gardens and terraces, which might be intended to be used for relaxation. In high-noise areas, consideration should be given to protecting these areas by screening or building design to achieve the lowest practicable levels. Achieving levels of 55 dB $L_{Aeq,T}$ or less might not be possible at the outer edge of these areas, but should be achievable in some areas of the space."*

Appendix B: Site and Monitoring Location


N
MP1
0
250
500 m
Base Map: OS Map
1:4,000
Legend
Draft - Red Line Boundary
Measurement Positions
Project: Land North of Whalley Road
Report Number: NA103373
Drawn by: JL
Disclaimer: the scale is for indicative purposes only as the map may be skewed once it is an image, for instance during printing.
MILLER GOODALL
ACOUSTICS - AIR QUALITY - LIGHTING
Date: 17/02/2026

Appendix C: Site Layout

Land North of Whalley Road, Read
ACCOMODATION SCHEDULE
N
Key
Red edge boundary
A Road
Local Road
Existing Water Course/drainage ditch
Existing pond
Existing drainage channel
Proposed/primary vehicular access point
Proposed pedestrian/cycle link
Public Seating Area
Existing development
Planning
Sketch Layout
URBAN DESIGN GROUP
Applethwaite
Woodcroft design

Appendix D: Environmental Sound Survey Results

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
08/01/2026 10:15	00:15	74	90	63
08/01/2026 10:30	00:15	73	84	61
08/01/2026 10:45	00:15	74	89	60
08/01/2026 11:00	00:15	73	84	58
08/01/2026 11:15	00:15	73	83	60
08/01/2026 11:30	00:15	74	87	59
08/01/2026 11:45	00:15	73	84	60
08/01/2026 12:00	00:15	74	94	59
08/01/2026 12:15	00:15	74	91	63
08/01/2026 12:30	00:15	73	85	62
08/01/2026 12:45	00:15	73	83	56
08/01/2026 13:00	00:15	73	85	59
08/01/2026 13:15	00:15	73	83	59
08/01/2026 13:30	00:15	73	82	60
08/01/2026 13:45	00:15	74	88	60
08/01/2026 14:00	00:15	74	87	57
08/01/2026 14:15	00:15	74	95	62

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
08/01/2026 14:30	00:15	74	84	61
08/01/2026 14:45	00:15	74	82	60
08/01/2026 15:00	00:15	74	84	62
08/01/2026 15:15	00:15	75	84	62
08/01/2026 15:30	00:15	73	85	62
08/01/2026 15:45	00:15	74	82	64
08/01/2026 16:00	00:15	76	97	67
08/01/2026 16:15	00:15	75	82	67
08/01/2026 16:30	00:15	74	85	63
08/01/2026 16:45	00:15	75	83	67
08/01/2026 17:00	00:15	75	89	66
08/01/2026 17:15	00:15	75	83	67
08/01/2026 17:30	00:15	74	87	60
08/01/2026 17:45	00:15	74	86	57
08/01/2026 18:00	00:15	74	82	60
08/01/2026 18:15	00:15	73	83	57
08/01/2026 18:30	00:15	72	83	53
08/01/2026 18:45	00:15	72	82	53
08/01/2026 19:00	00:15	72	87	55

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
08/01/2026 19:15	00:15	71	82	51
08/01/2026 19:30	00:15	71	81	54
08/01/2026 19:45	00:15	71	82	48
08/01/2026 20:00	00:15	70	82	49
08/01/2026 20:15	00:15	70	83	45
08/01/2026 20:30	00:15	70	82	45
08/01/2026 20:45	00:15	69	84	43
08/01/2026 21:00	00:15	70	83	47
08/01/2026 21:15	00:15	69	83	40
08/01/2026 21:30	00:15	69	86	41
08/01/2026 21:45	00:15	69	82	43
08/01/2026 22:00	00:15	69	85	43
08/01/2026 22:15	00:15	69	82	44
08/01/2026 22:30	00:15	65	87	36
08/01/2026 22:45	00:15	65	85	37
08/01/2026 23:00	00:15	67	89	35
08/01/2026 23:15	00:15	65	84	35
08/01/2026 23:30	00:15	64	82	35
08/01/2026 23:45	00:15	63	81	34

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
09/01/2026 00:00	00:15	61	81	35
09/01/2026 00:15	00:15	62	83	33
09/01/2026 00:30	00:15	63	84	32
09/01/2026 00:45	00:15	66	97	31
09/01/2026 01:00	00:15	61	82	30
09/01/2026 01:15	00:15	58	82	30
09/01/2026 01:30	00:15	54	78	29
09/01/2026 01:45	00:15	58	77	29
09/01/2026 02:00	00:15	62	83	29
09/01/2026 02:15	00:15	56	79	29
09/01/2026 02:30	00:15	60	81	29
09/01/2026 02:45	00:15	51	79	28
09/01/2026 03:00	00:15	60	82	27
09/01/2026 03:15	00:15	60	83	29
09/01/2026 03:30	00:15	60	81	29
09/01/2026 03:45	00:15	61	82	29
09/01/2026 04:00	00:15	62	82	29
09/01/2026 04:15	00:15	63	81	29
09/01/2026 04:30	00:15	66	85	31

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
09/01/2026 04:45	00:15	64	85	32
09/01/2026 05:00	00:15	68	86	35
09/01/2026 05:15	00:15	68	85	36
09/01/2026 05:30	00:15	71	82	46
09/01/2026 05:45	00:15	69	85	39
09/01/2026 06:00	00:15	71	84	48
09/01/2026 06:15	00:15	72	83	49
09/01/2026 06:30	00:15	73	85	55
09/01/2026 06:45	00:15	74	86	56
09/01/2026 07:00	00:15	74	84	62
09/01/2026 07:15	00:15	75	84	62
09/01/2026 07:30	00:15	76	91	67
09/01/2026 07:45	00:15	74	84	63
09/01/2026 08:00	00:15	75	87	68
09/01/2026 08:15	00:15	75	83	60
09/01/2026 08:30	00:15	75	85	65
09/01/2026 08:45	00:15	75	85	64
09/01/2026 09:00	00:15	75	85	65
09/01/2026 09:15	00:15	74	82	61

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
09/01/2026 09:30	00:15	73	83	58
09/01/2026 09:45	00:15	74	84	59
09/01/2026 10:00	00:15	74	84	61
09/01/2026 10:15	00:15	73	84	58
09/01/2026 10:30	00:15	74	84	60
09/01/2026 10:45	00:15	73	83	60
09/01/2026 11:00	00:15	74	83	60
09/01/2026 11:15	00:15	73	85	58
09/01/2026 11:30	00:15	73	83	57
09/01/2026 11:45	00:15	74	82	59
09/01/2026 12:00	00:15	74	82	59
09/01/2026 12:15	00:15	74	83	60
09/01/2026 12:30	00:15	74	85	62
09/01/2026 12:45	00:15	74	85	59
09/01/2026 13:00	00:15	74	82	62
09/01/2026 13:15	00:15	74	83	61
09/01/2026 13:30	00:15	74	89	61
09/01/2026 13:45	00:15	74	84	59
09/01/2026 14:00	00:15	74	83	62

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
09/01/2026 14:15	00:15	74	84	59
09/01/2026 14:30	00:15	75	85	64
09/01/2026 14:45	00:15	75	85	64
09/01/2026 15:00	00:15	75	83	65
09/01/2026 15:15	00:15	75	83	64
09/01/2026 15:30	00:15	75	83	65
09/01/2026 15:45	00:15	74	81	61
09/01/2026 16:00	00:15	75	83	67
09/01/2026 16:15	00:15	75	87	66
09/01/2026 16:30	00:15	75	87	66
09/01/2026 16:45	00:15	74	82	63
09/01/2026 17:00	00:15	74	83	62
09/01/2026 17:15	00:15	74	85	66
09/01/2026 17:30	00:15	74	84	59
09/01/2026 17:45	00:15	74	82	60
09/01/2026 18:00	00:15	74	84	62
09/01/2026 18:15	00:15	73	84	59
09/01/2026 18:30	00:15	73	84	57
09/01/2026 18:45	00:15	71	81	55

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
09/01/2026 19:00	00:15	72	82	56
09/01/2026 19:15	00:15	72	82	50
09/01/2026 19:30	00:15	71	81	52
09/01/2026 19:45	00:15	70	87	43
09/01/2026 20:00	00:15	71	82	49
09/01/2026 20:15	00:15	71	83	49
09/01/2026 20:30	00:15	70	81	47
09/01/2026 20:45	00:15	70	83	47
09/01/2026 21:00	00:15	69	82	46
09/01/2026 21:15	00:15	70	83	43
09/01/2026 21:30	00:15	70	84	47
09/01/2026 21:45	00:15	70	83	45
09/01/2026 22:00	00:15	70	83	46
09/01/2026 22:15	00:15	70	82	47
09/01/2026 22:30	00:15	71	95	41
09/01/2026 22:45	00:15	68	83	37
09/01/2026 23:00	00:15	68	83	38
09/01/2026 23:15	00:15	68	82	41
09/01/2026 23:30	00:15	67	83	36

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
09/01/2026 23:45	00:15	66	82	36
10/01/2026 00:00	00:15	66	81	35
10/01/2026 00:15	00:15	62	79	33
10/01/2026 00:30	00:15	64	84	33
10/01/2026 00:45	00:15	61	83	33
10/01/2026 01:00	00:15	64	85	30
10/01/2026 01:15	00:15	61	80	32
10/01/2026 01:30	00:15	61	82	36
10/01/2026 01:45	00:15	62	80	31
10/01/2026 02:00	00:15	64	83	31
10/01/2026 02:15	00:15	62	82	31
10/01/2026 02:30	00:15	59	82	31
10/01/2026 02:45	00:15	60	81	28
10/01/2026 03:00	00:15	58	79	29
10/01/2026 03:15	00:15	60	85	29
10/01/2026 03:30	00:15	56	79	30
10/01/2026 03:45	00:15	62	81	30
10/01/2026 04:00	00:15	64	83	31
10/01/2026 04:15	00:15	62	82	29

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
10/01/2026 04:30	00:15	63	83	30
10/01/2026 04:45	00:15	63	82	29
10/01/2026 05:00	00:15	62	81	31
10/01/2026 05:15	00:15	64	83	33
10/01/2026 05:30	00:15	68	86	39
10/01/2026 05:45	00:15	65	84	35
10/01/2026 06:00	00:15	66	80	35
10/01/2026 06:15	00:15	69	84	39
10/01/2026 06:30	00:15	68	85	38
10/01/2026 06:45	00:15	70	84	43
10/01/2026 07:00	00:15	69	82	35
10/01/2026 07:15	00:15	70	84	41
10/01/2026 07:30	00:15	71	84	49
10/01/2026 07:45	00:15	71	83	53
10/01/2026 08:00	00:15	72	86	54
10/01/2026 08:15	00:15	74	87	56
10/01/2026 08:30	00:15	74	83	57
10/01/2026 08:45	00:15	73	84	56
10/01/2026 09:00	00:15	74	84	54

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
10/01/2026 09:15	00:15	74	85	59
10/01/2026 09:30	00:15	74	85	58
10/01/2026 09:45	00:15	74	84	63
10/01/2026 10:00	00:15	74	84	57
10/01/2026 10:15	00:15	74	84	60
10/01/2026 10:30	00:15	74	84	61
10/01/2026 10:45	00:15	75	83	65
10/01/2026 11:00	00:15	75	84	63
10/01/2026 11:15	00:15	74	85	60
10/01/2026 11:30	00:15	75	84	64
10/01/2026 11:45	00:15	75	83	65
10/01/2026 12:00	00:15	75	83	62
10/01/2026 12:15	00:15	74	90	59
10/01/2026 12:30	00:15	74	82	63
10/01/2026 12:45	00:15	75	83	65
10/01/2026 13:00	00:15	74	85	63
10/01/2026 13:15	00:15	74	84	63
10/01/2026 13:30	00:15	74	84	59
10/01/2026 13:45	00:15	74	82	63

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
10/01/2026 14:00	00:15	74	81	60
10/01/2026 14:15	00:15	74	84	60
10/01/2026 14:30	00:15	74	81	62
10/01/2026 14:45	00:15	74	86	59
10/01/2026 15:00	00:15	74	84	61
10/01/2026 15:15	00:15	74	82	63
10/01/2026 15:30	00:15	73	84	58
10/01/2026 15:45	00:15	74	89	63
10/01/2026 16:00	00:15	74	83	60
10/01/2026 16:15	00:15	74	89	60
10/01/2026 16:30	00:15	74	83	61
10/01/2026 16:45	00:15	73	82	57
10/01/2026 17:00	00:15	73	84	57
10/01/2026 17:15	00:15	73	84	59
10/01/2026 17:30	00:15	74	84	59
10/01/2026 17:45	00:15	73	83	56
10/01/2026 18:00	00:15	74	85	62
10/01/2026 18:15	00:15	72	84	57
10/01/2026 18:30	00:15	71	84	51

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
10/01/2026 18:45	00:15	72	82	55
10/01/2026 19:00	00:15	71	83	50
10/01/2026 19:15	00:15	71	81	49
10/01/2026 19:30	00:15	71	83	49
10/01/2026 19:45	00:15	71	81	51
10/01/2026 20:00	00:15	71	82	45
10/01/2026 20:15	00:15	71	82	45
10/01/2026 20:30	00:15	70	82	46
10/01/2026 20:45	00:15	70	84	45
10/01/2026 21:00	00:15	69	81	46
10/01/2026 21:15	00:15	70	82	45
10/01/2026 21:30	00:15	70	82	46
10/01/2026 21:45	00:15	68	83	41
10/01/2026 22:00	00:15	68	82	41
10/01/2026 22:15	00:15	70	83	47
10/01/2026 22:30	00:15	69	83	44
10/01/2026 22:45	00:15	68	80	43
10/01/2026 23:00	00:15	67	85	39
10/01/2026 23:15	00:15	68	83	42

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
10/01/2026 23:30	00:15	67	83	41
10/01/2026 23:45	00:15	66	84	39
11/01/2026 00:00	00:15	65	84	39
11/01/2026 00:15	00:15	66	84	39
11/01/2026 00:30	00:15	65	80	39
11/01/2026 00:45	00:15	66	82	41
11/01/2026 01:00	00:15	65	81	42
11/01/2026 01:15	00:15	64	81	43
11/01/2026 01:30	00:15	63	84	41
11/01/2026 01:45	00:15	64	82	41
11/01/2026 02:00	00:15	62	80	38
11/01/2026 02:15	00:15	63	83	38
11/01/2026 02:30	00:15	62	82	36
11/01/2026 02:45	00:15	55	79	37
11/01/2026 03:00	00:15	61	82	38
11/01/2026 03:15	00:15	63	82	40
11/01/2026 03:30	00:15	61	81	38
11/01/2026 03:45	00:15	62	81	38
11/01/2026 04:00	00:15	61	83	37

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
11/01/2026 04:15	00:15	55	78	38
11/01/2026 04:30	00:15	61	84	39
11/01/2026 04:45	00:15	63	82	41
11/01/2026 05:00	00:15	64	86	40
11/01/2026 05:15	00:15	64	83	40
11/01/2026 05:30	00:15	64	83	43
11/01/2026 05:45	00:15	67	86	43
11/01/2026 06:00	00:15	66	83	45
11/01/2026 06:15	00:15	66	84	43
11/01/2026 06:30	00:15	67	85	44
11/01/2026 06:45	00:15	67	84	45
11/01/2026 07:00	00:15	71	86	49
11/01/2026 07:15	00:15	71	85	49
11/01/2026 07:30	00:15	71	88	48
11/01/2026 07:45	00:15	72	85	51
11/01/2026 08:00	00:15	72	89	53
11/01/2026 08:15	00:15	72	84	54
11/01/2026 08:30	00:15	70	83	54
11/01/2026 08:45	00:15	72	86	53

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
11/01/2026 09:00	00:15	72	85	54
11/01/2026 09:15	00:15	73	94	56
11/01/2026 09:30	00:15	74	86	59
11/01/2026 09:45	00:15	74	87	58
11/01/2026 10:00	00:15	74	85	58
11/01/2026 10:15	00:15	75	84	62
11/01/2026 10:30	00:15	75	85	60
11/01/2026 10:45	00:15	75	85	60
11/01/2026 11:00	00:15	75	93	62
11/01/2026 11:15	00:15	75	86	63
11/01/2026 11:30	00:15	75	83	62
11/01/2026 11:45	00:15	75	84	62
11/01/2026 12:00	00:15	77	85	63
11/01/2026 12:15	00:15	76	85	64
11/01/2026 12:30	00:15	76	88	64
11/01/2026 12:45	00:15	75	86	61
11/01/2026 13:00	00:15	75	87	61
11/01/2026 13:15	00:15	75	85	61
11/01/2026 13:30	00:15	75	90	63

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
11/01/2026 13:45	00:15	75	86	63
11/01/2026 14:00	00:15	75	87	61
11/01/2026 14:15	00:15	75	83	61
11/01/2026 14:30	00:15	75	83	61
11/01/2026 14:45	00:15	75	84	58
11/01/2026 15:00	00:15	75	86	60
11/01/2026 15:15	00:15	76	84	61
11/01/2026 15:30	00:15	75	84	60
11/01/2026 15:45	00:15	74	86	59
11/01/2026 16:00	00:15	75	88	60
11/01/2026 16:15	00:15	74	83	57
11/01/2026 16:30	00:15	74	85	60
11/01/2026 16:45	00:15	74	82	59
11/01/2026 17:00	00:15	74	83	59
11/01/2026 17:15	00:15	73	85	52
11/01/2026 17:30	00:15	72	83	55
11/01/2026 17:45	00:15	73	83	58
11/01/2026 18:00	00:15	73	85	55
11/01/2026 18:15	00:15	72	82	53

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
11/01/2026 18:30	00:15	72	85	56
11/01/2026 18:45	00:15	72	85	57
11/01/2026 19:00	00:15	72	83	55
11/01/2026 19:15	00:15	73	83	56
11/01/2026 19:30	00:15	71	83	55
11/01/2026 19:45	00:15	72	82	54
11/01/2026 20:00	00:15	71	84	57
11/01/2026 20:15	00:15	71	83	56
11/01/2026 20:30	00:15	70	84	53
11/01/2026 20:45	00:15	71	86	52
11/01/2026 21:00	00:15	70	90	49
11/01/2026 21:15	00:15	68	82	49
11/01/2026 21:30	00:15	68	85	45
11/01/2026 21:45	00:15	68	84	44
11/01/2026 22:00	00:15	66	80	44
11/01/2026 22:15	00:15	64	80	42
11/01/2026 22:30	00:15	66	87	45
11/01/2026 22:45	00:15	66	82	45
11/01/2026 23:00	00:15	66	84	42

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
11/01/2026 23:15	00:15	64	81	40
11/01/2026 23:30	00:15	64	83	40
11/01/2026 23:45	00:15	64	83	39
12/01/2026 00:00	00:15	63	82	40
12/01/2026 00:15	00:15	64	82	40
12/01/2026 00:30	00:15	62	84	38
12/01/2026 00:45	00:15	58	80	38
12/01/2026 01:00	00:15	60	86	38
12/01/2026 01:15	00:15	58	80	40
12/01/2026 01:30	00:15	59	80	40
12/01/2026 01:45	00:15	56	77	40
12/01/2026 02:00	00:15	62	82	39
12/01/2026 02:15	00:15	59	80	38
12/01/2026 02:30	00:15	55	78	39
12/01/2026 02:45	00:15	59	83	38
12/01/2026 03:00	00:15	62	86	39
12/01/2026 03:15	00:15	53	81	38
12/01/2026 03:30	00:15	58	79	38
12/01/2026 03:45	00:15	61	81	37

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
12/01/2026 04:00	00:15	63	83	37
12/01/2026 04:15	00:15	64	86	38
12/01/2026 04:30	00:15	65	82	40
12/01/2026 04:45	00:15	64	85	39
12/01/2026 05:00	00:15	68	83	40
12/01/2026 05:15	00:15	68	84	41
12/01/2026 05:30	00:15	71	87	45
12/01/2026 05:45	00:15	71	85	45
12/01/2026 06:00	00:15	72	84	48
12/01/2026 06:15	00:15	73	83	53
12/01/2026 06:30	00:15	73	83	52
12/01/2026 06:45	00:15	74	84	59
12/01/2026 07:00	00:15	75	84	62
12/01/2026 07:15	00:15	75	84	65
12/01/2026 07:30	00:15	75	85	67
12/01/2026 07:45	00:15	75	84	65
12/01/2026 08:00	00:15	75	83	67
12/01/2026 08:15	00:15	75	82	64
12/01/2026 08:30	00:15	75	82	65

Start Date and Time dd/mm/yyyy hh:mm	Elapsed Time, T (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{AF,max}$ (dB)	$L_{A90,T}$ (dB)
12/01/2026 08:45	00:15	75	83	64
12/01/2026 09:00	00:15	75	97	62
12/01/2026 09:15	00:15	74	85	62
12/01/2026 09:30	00:15	74	84	62
12/01/2026 09:45	00:15	73	83	57
12/01/2026 10:00	00:15	73	86	60
12/01/2026 10:15	00:15	73	93	58
12/01/2026 10:30	00:15	75	87	59
12/01/2026 10:45	00:15	75	87	58

Appendix E: Noise Model Outputs

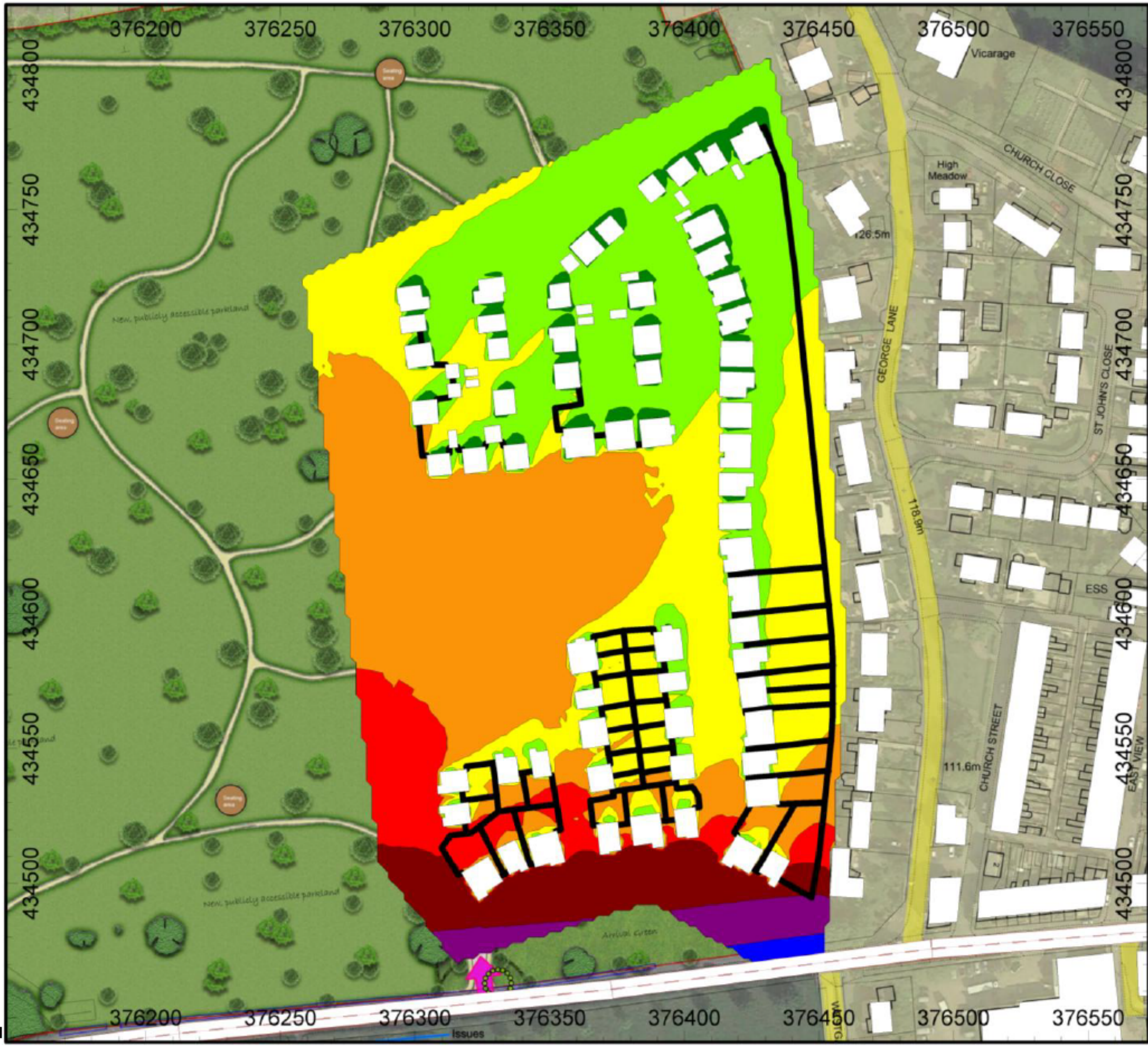


Fig E1: Predicted LAeq,T Cumulative Daytime @ 4 m

Miller Goodall Ltd
Ashworth House
Deakins Business Park
Egerton
Bolton
BL7 9RP
Tel: 01204 596166
E-mail: info@millergoodall.co.uk
www.millergoodall.co.uk

Object & Grid Legend

... <= 35 dB LAeq,T
35 < ... <= 40 dB LAeq,T
40 < ... <= 45 dB LAeq,T
45 < ... <= 50 dB LAeq,T
50 < ... <= 55 dB LAeq,T
55 < ... <= 60 dB LAeq,T
60 < ... <= 65 dB LAeq,T
65 < ... <= 70 dB LAeq,T
70 < ... <= 75 dB LAeq,T
75 < ... <= 80 dB LAeq,T
80 < ... <= 85 dB LAeq,T
85 < ... dB LAeq,T

Line Source
Road
Building
Barrier

Rev.	Date	Purpose	Drawn By	Approved By
1	17/02/2026	Initial Issue	JL	LWT

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Project: Land North of Whalley Road

Client: Applethwaite Ltd

Not To Scale | Report Number: NA103373

Fig E2: Predicted LAeq,T Cumulative Night-time @ 4 m

Miller Goodall Ltd
Ashworth House
Deakins Business Park
Egerton
Bolton
BL7 9RP
Tel: 01204 596166
E-mail: info@millergoodall.co.uk
www.millergoodall.co.uk

Object & Grid Legend

... <= 35 dB LAeq,T
35 < ... <= 40 dB LAeq,T
40 < ... <= 45 dB LAeq,T
45 < ... <= 50 dB LAeq,T
50 < ... <= 55 dB LAeq,T
55 < ... <= 60 dB LAeq,T
60 < ... <= 65 dB LAeq,T
65 < ... <= 70 dB LAeq,T
70 < ... <= 75 dB LAeq,T
75 < ... <= 80 dB LAeq,T
80 < ... <= 85 dB LAeq,T
85 < ... dB LAeq,T

Line Source
Road
Building
Barrier

Rev.	Date	Purpose	Drawn By	Approved By
1	17/02/2026	Initial Issue	JL	LWT

Project: Land North of Whalley Road

Client: Applethwaite Ltd

Not To Scale	Report Number: NA103373

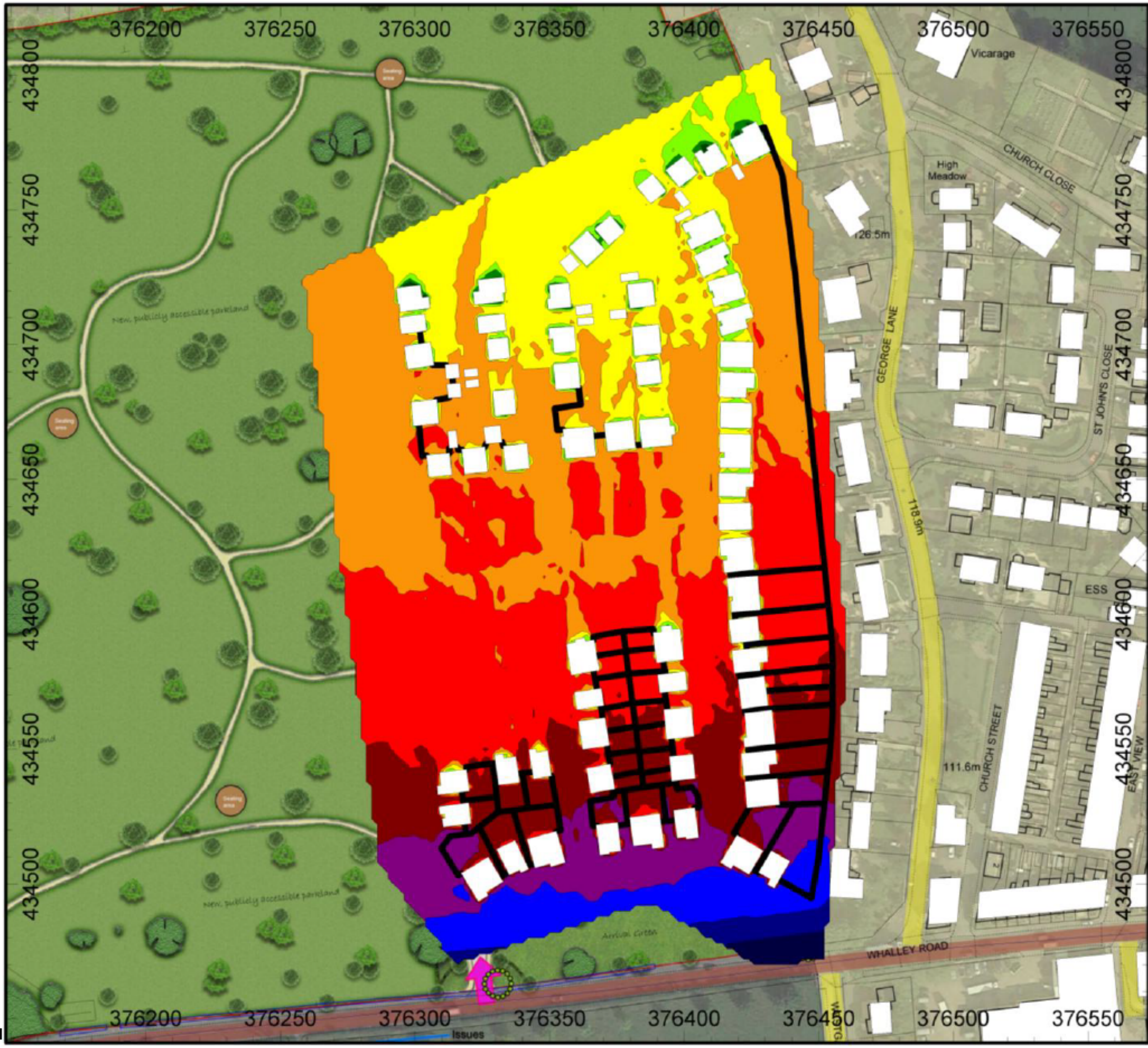

Fig E3: Predicted LAF,Max Night-time @ 4 m

Miller Goodall Ltd
Ashworth House
Deakins Business Park
Egerton
Bolton
BL7 9RP
Tel: 01204 596166
E-mail: info@millergoodall.co.uk
www.millergoodall.co.uk

Object & Grid Legend

... <= 35 dB LAF,max
35 < ... <= 40 dB LAF,max
40 < ... <= 45 dB LAF,max
45 < ... <= 50 dB LAF,max
50 < ... <= 55 dB LAF,max
55 < ... <= 60 dB LAF,max
60 < ... <= 65 dB LAF,max
65 < ... <= 70 dB LAF,max
70 < ... <= 75 dB LAF,max
75 < ... <= 80 dB LAF,max
80 < ... <= 85 dB LAF,max
85 < ... dB LAF,max

Line Source
Road
Building
Barrier

Rev.	Date	Purpose	Drawn By	Approved By
1	17/02/2026	Initial Issue	JL	LWT

Project: Land North of Whalley Road

Client: Applethwaite Ltd

Not To Scale | Report Number: NA103373

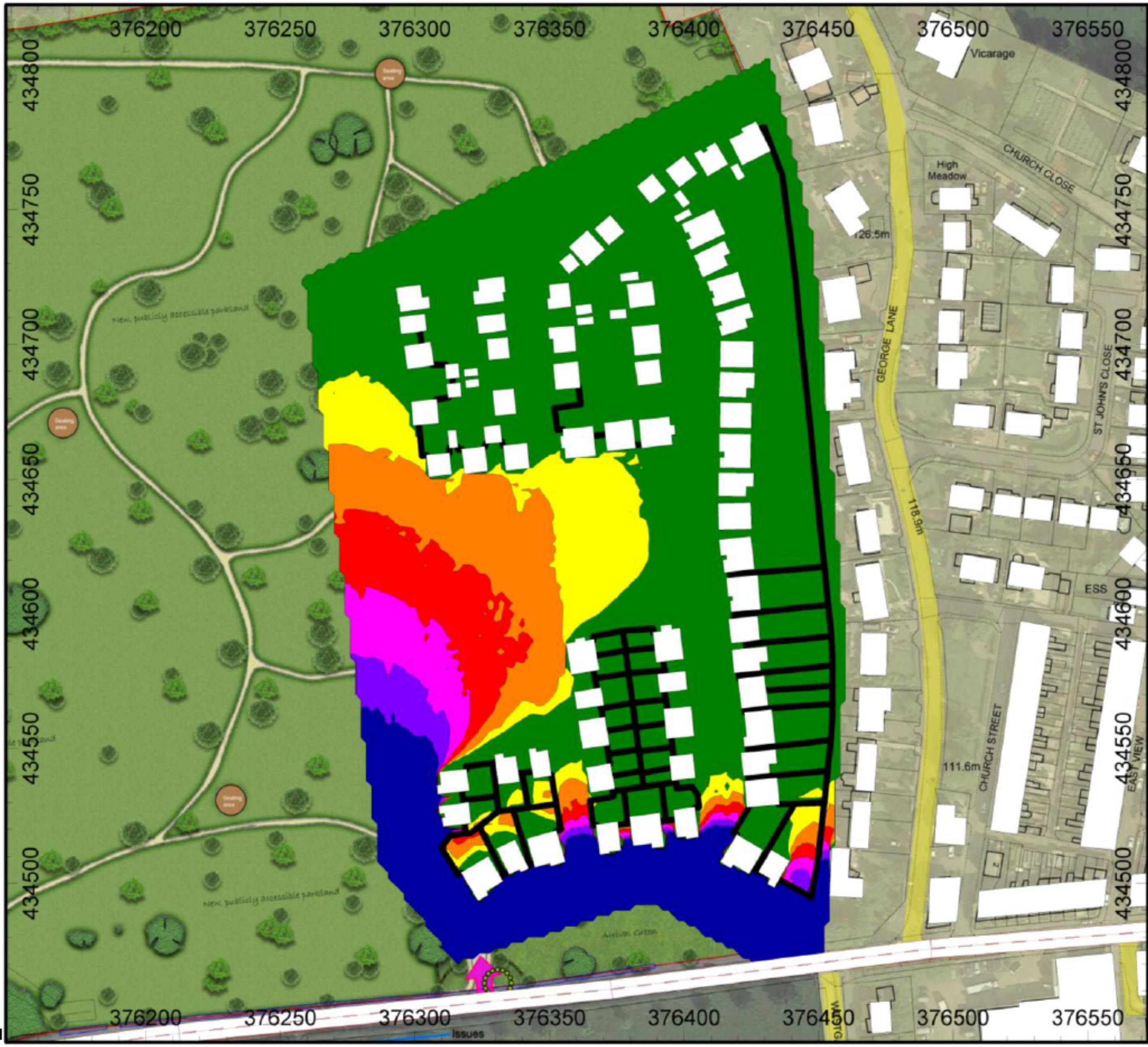

Fig E4: Predicted LAeq,T Cumulative Daytime @ 1.5 m - Gardens

Miller Goodall Ltd
Ashworth House
Deakins Business Park
Egerton
Bolton
BL7 9RP
Tel: 01204 596166
E-mail: info@millergoodall.co.uk
www.millergoodall.co.uk

Object & Grid Legend

- ... <= 55 dB LAeq,T
- 55 < ... <= 56 dB LAeq,T
- 56 < ... <= 57 dB LAeq,T
- 57 < ... <= 58 dB LAeq,T
- 58 < ... <= 59 dB LAeq,T
- 59 < ... <= 60 dB LAeq,T
- 60 < ... dB LAeq,T
- Line Source
- Road
- Building
- Barrier

Rev.	Date	Purpose	Drawn By	Approved By
1	17/02/2026	Initial Issue	JL	LWT

Project: Land North of Whalley Road

Client: Applethwaite Ltd

Not To Scale	Report Number: NA103373

Appendix F: Acoustic Design Statement

Issue	Statement
Relevant noise sources identified	This assessment has considered noise from road traffic on Whalley Road.
Assess extent of noise risk for unmitigated site (current and foreseeable future, 15 years ahead)	Unmitigated site will see risk of excessive noise levels, principally from high levels of road traffic noise from Wigan Road.
Greater coverage across the site (all buildings, all relevant heights)	Noise grids have been predicted to cover the entirety of the site.
Alternative site layouts considered	The proposed site layout is outline only at this stage.
Opportunities to mitigate the noise source within the site	Unable to mitigate traffic noise at source. Proposals utilise fences and screening.
Maximise separation	Achieved by setting back houses to rear of site.
Existing topographical advantages; Change site level	Not applicable, effectively a flat site between source and receptor.
Noise barriers – screening opportunities	Achieved - Proposals utilise fences and screening.
Site layout – protecting residential units	Achieved utilising set back and screening where possible – this is still an outline application with layout subject to change.
Design external amenity spaces (e.g. balconies) to reduce noise entering sensitive rooms	Not possible, no balconies proposed
Site layout – protecting external amenity space	Achieved utilising self-screening by new houses. All gardens located on the quieter rear elevation.
Access to quiet open space on or off-site	Achieved by provision of shielded rear gardens.
Orientation of noise sensitive rooms away from the source of noise exposure i.e. quiet facades	Not applicable at this stage
Consideration of alternative acoustic options	Not applicable at this stage
Window location & size on affected facades	Internal noise criteria achieved by utilising acoustic glazing rather than reducing glazing size
Façade insulation design	Standard brick/block façade construction, is not the weak point of the façade.
Ventilation – natural, from quiet facade	Not applicable at this stage
Acoustic performance of ventilation; Thermal comfort	Not applicable at this stage
Complete Acoustic Design Process throughout	Yes

Glossary of Terms

Decibel (dB) The unit used to quantify sound pressure levels; it is derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 μPa, the threshold of normal hearing is in the region of 0 dB, and 140 dB is the threshold of pain. A change of 1 dB is usually only perceptible under laboratory conditions.

dB L_A Decibels measured on a sound level meter incorporating a frequency weighting (A-weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB L_A broadly agree with an individual's assessment of loudness. A change of 3 dB L_A is the minimum perceptible under normal conditions, and a change of 10 dB L_A corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB L_A; normal conversation about 60 dB L_A at 1 meter; heavy road traffic about 80 dB L_A at 10 meters; the level near a pneumatic drill about 100 dB L_A.

$L_{A90,T}$ The A-weighted noise level exceeded for 90% of the specified measurement period (T). In BS 4142:2014+A1:2019 it is used to define background noise level.

$L_{Aeq,T}$ The equivalent continuous sound level. The sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{Aeq,,T}$ is used to describe many types of noise and can be measured directly with an integrating sound level meter.

$L_{AF,max}$ The highest A-weighted noise level recorded during the time-period using a Fast time-weighting. It is usually used to describe the highest noise level that occurred during the event.

R_w Single number rating used to describe the sound insulation of building elements and is defined in BS EN ISO 10140-2:2010 (formerly BS EN ISO 140-3:1995). It is derived by measurement under laboratory conditions and does not take into account the effects of flanking transmissions.

$D_{nT,w}$ The weighted standardized level difference is a single figure rating used to describe the sound insulation of a construction separating two rooms, for example a wall or floor, and is defined in BS EN ISO 16283-1:2014 (formerly BS EN ISO 140-4:1998). It is derived by measurement of an in-situ construction and therefore takes into account the effects of flanking transmissions, workmanship etc.

$D_{ne,w}$ The weighted element-normalized level difference is a single figure rating used to describe the sound insulation of small elements within a larger construction and is defined in BS EN ISO 10140-2:2010 (BS EN ISO 140-10:1991). It is most often used to rate the sound insulation performance of ventilator units e.g. trickle vents.

C_{tr} A single-number spectrum adaptation term used to characterise the sound insulation rating with respect to urban traffic. It is defined in ISO 717-1:2013.

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