



NOISE IMPACT ASSESSMENT

on behalf of

Lidl Great Britain Ltd & Wilson Bowden

for development at

LIDL, Land South of Wallis Avenue,

Rochdale

Report Number NA-103464

Date of Report 14 April 2026

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Summary

A noise assessment has been undertaken to predict the potential impact of noise from the fixed plant and delivery noise associated with a Lidl retail development at LIDL, Land South of Wallis Avenue, Rochdale.

An environmental sound survey has been undertaken to establish the existing sound climate at nearby residential noise sensitive receptors (NSRs) during periods when the plant will operate and when deliveries to the store may occur.

A baseline computer noise model of the proposed development and surrounding site has been assembled based on the proposed site layout and indicative plant specifications. The likely noise levels at the nearest NSRs due to emissions from the site have been predicted and are presented within this report.

The predicted noise levels and data from the environmental sound survey have been used to assess the potential impact of plant and delivery noise at the most affected NSRs during daytime and night-time.

A BS 4142 assessment has been undertaken based on the measured background sound levels and the modelled noise levels due to emissions associated with the proposed development considering mitigation measures; a 3 m high reflective barrier has been considered together with the recommendation that that HGVs engines are turned off during the period of delivery.

Provided the recommended acoustic mitigation measures are implemented, the assessment concludes that the impact of noise emissions from the proposed development is likely to be relatively low, albeit above the existing background level. As such, the proposed development should be considered acceptable in terms of noise emissions.

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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, therefore should not cause any health and safety issues.

Contents

Summary	2
1 Introduction	4
2 Policy, Standards and Guidance	4
3 Site Description	4
3.3 Proposed Development Layout.....	5
3.4 Proposed Development Plant.....	5
4 Local Authority Guidance.....	6
5 Environmental Sound Survey	7
5.1 Measurements Procedure	7
5.2 Environmental Sound Climate.....	8
5.3 Weather Conditions	8
6 Monitoring Results	10
7 Background Sound Level	11
8 Noise Modelling Methodology	12
8.9 Embedded Mitigation.....	14
9 Results	15
10 BS 4142 Assessment	16
11 Summary and Conclusion	17
APPENDICES	19
Appendix 1: Policy, Standards and Guidance	20
Appendix 2: Site Location, Monitoring and NSR Locations	25
Appendix 3: Site Layout.....	26
Appendix 4: Time History Graph	27
Appendix 5: Noise modelling parameters.....	28
Appendix 6: Noise Model Output – With Mitigation	31

Glossary of Terms 34

1 Introduction

- 1.1 Miller Goodall Ltd has undertaken a noise impact assessment to accompany a planning application for a proposed Lidl supermarket at LIDL, Land South of Wallis Avenue, Rochdale. The scope of this report is to assess the potential impact of operational noise from the fixed plant associated with the development on nearby noise sensitive receptors (NSRs) and from deliveries to the store.

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).
 - BS 4142:2014+A1:2019 '*Methods for rating and assessing industrial and commercial sound*' (BS4142).
- 2.2 Further detail is provided in **Appendix 1: Policy, Standards and Guidance**.

3 Site Description

- 3.1 The proposed development site is located to the south of Wallis Avenue and adjacent to Sir Isaac Newton Way. The site location is indicated in the figure presented in **Appendix 2: Site Location, Monitoring and NSR Locations**.
- 3.2 The surrounding area is characterised by a mix of commercial and light industrial uses, such as the JD sports Distribution Centre to the east, with road infrastructure forming the primary boundaries to the north and east. Wallis Avenue runs along the northern boundary, while Sir Isaac Newton Way forms the southern boundary, both of which are expected to contribute to the prevailing noise climate.
- 3.2.1 The nearest noise sensitive receptors (NSRs) are located directly to the north of the site, at Wallis Ave, at approximately 25 m from the red line boundary of the proposed development site.

3.2.2 This assessment has considered the following receptors:

- **NSR 1:** the residential dwellings at 1, 3, 5 and 15 Wallis Ave, approximately 16 m from the red line boundary of the site;
- **NSR 2:** the residential dwellings at 7, 9 and 11 Wallis Ave, approximately 10 m from the red line boundary of the site, and
- **NSR 3:** the residential dwellings at 29, 31 and 33 Wallis Ave, approximately 10 m from the red line boundary of the site.

3.2.3 These NSRs are shown in the figure presented in **Appendix 2: Site Location, Monitoring and NSR Locations**.

3.3 Proposed Development Layout

3.3.1 The proposed development includes a Lidl store unit with associated car parking, access road and a delivery bay. The main building is positioned toward the western side of the site, with a large car park occupying the central and eastern areas.

3.3.2 Vehicular access is taken from Wallis Avenue, with internal circulation routes and parking provision distributed across the site.

3.3.3 The proposed layout is presented in **Appendix 3: Site Layout**.

3.4 Proposed Development Plant

3.4.1 Plant is located externally within the plant equipment compound which is located to the north-west part of the site, near the delivery bay. The plant is proposed to be surrounded by a 3 m high reflective enclosure/barrier.

3.4.2 The plant within this area services the supermarket, and it operates 24 hours a day, seven days a week at various loads depending on the needs. There is, therefore, potential for plant noise to have an impact on the NSRs. The plant will likely have the greatest impact on NSRs during night-time periods when background noise is at its lowest, and thus this assessment focuses on this time period.

3.4.3 The external plant within this enclosure comprises:

- 2No. dry coolers, each with an associated pumping station serving food refrigeration.
- 2No. VRVs serving the sales area;
- 1No. VRV serving the Warehouse; and,
- 1No. VRV serving back of house

3.4.4 At this stage of the application exact plant detail has not been provided. To compensate for this, likely plant has been assumed based on professional experience as well as prior work completed by the Miller Goodall team at similar Lidl sites.

3.4.5 Noise from deliveries to the store may also impact NSRs. Where feasible, Lidl prefer unrestricted deliveries to be permitted. On average, one HGV delivery per day will occur. The duration of a Lidl delivery is approximately 45 minutes from arrival to departure, including approximately 40 minutes of unloading activity.

4 Local Authority Guidance

4.1 The Rochdale Borough Council's 'Adopted Core Strategy' document contains planning policies to ensure that new development addresses the economic, environmental and social needs of the area.

4.2 Policies G9 – Reducing the impact of pollution, contamination and land instability, DM1 – General development requirements and DM2 – Delivering planning contributions and infrastructure are considered pertinent to this assessment, stating:

- **G9** “...

*Requiring that development does not have impacts that lead to an unacceptable increase in air, water, **noise**, light or other pollution.*

...

- **DM1** “...

*Mitigate against any impacts due to **noise**, air, dust, light and odour pollution, traffic generation or inadequate access, where such mitigation is identified as being necessary*

...

- **DM2** “...

*Mitigation or compensation against environmental impacts e.g. **noise**, air quality (particularly in Air Quality management areas)*

..."

- 4.3 No strict level requirements are referenced here so guidance provided in BS 4142 will be used to determine the outcome of the assessment.

5 Environmental Sound Survey

5.1 Measurements Procedure

- 5.1.1 Unattended environmental sound monitoring was undertaken at a position in the northern region of the site from 12:00 hrs on Friday 27 March 2026 to 11:30 hrs on Tuesday 31 March 2026. This monitoring position is considered representative of the existing environmental sound climate at the nearest NSR to the site and of the periods during which NSRs would be subject to the lowest level of noise. The unattended monitoring position, MP1, is indicated in the figure presented in **Appendix 2: Site Location, Monitoring and NSR Locations**. The microphones were mounted in a free-field position at a height of 1.5 m above local ground level.
- 5.1.2 Measurements were undertaken in accordance with BS 7445-1: 2003¹.
- 5.1.3 The calibration of the sound level meter was checked before and after the measurements, with negligible deviation (≤ 0.1 dB) recorded.

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

5.1.4 Details of the equipment used are set out in **Table 1**.

Table 1: Noise monitoring equipment

Equipment Description	Type Number	Manufacturer	Serial No.	Date Calibrated	Calibration Certification Number
Class 1 Integrating Real Time Sound Analyser	NSRT mk3	Convergence	Atn0hF2Ye V0dgDvAS6 LxND	19/06/2024	Manufacturer calibration
Class 1 Integrating Real Time 1/3 Octave Sound Analyser	SL-52	RION	01010839	21/06/2024	TCRT24/1463

5.1.5 Each measurement period consisted of sequential 125 ms samples. The data has been extracted using Instrument Manager software and analysed using an in-house excel processing sheet to analytically determine representative L_{Aeq} and L_{A90} sound levels. The 125 ms sound levels have not been presented in this report but are kept on file for future reference.

5.2 Environmental Sound Climate

5.2.1 During the installation of the monitoring equipment at MP1, the residual sound climate was observed to comprise school children playing in a nearby playground, occasional road traffic along Wallis Avenue, and an intermittent tonal noise, similar to brake squeal, originating from the JD Sports warehouse to the east.

5.2.2 During the collection of the equipment at MP1, the residual sound climate remained similar.

5.3 Weather Conditions

5.3.1 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 2**.

Table 2: Dates, times and weather conditions during noise measurements

Measurement Locations	Date/Time	Weather conditions		
		Description	At Start of Survey	On Completion
MPI	27/03/2026, 12:00 to 31/03/2026, 11:30	Temperature:	9 °C	12°C
		Precipitation:	Slight drizzle	No
		Cloud cover (oktas – see opposite):	Full Cloud Cover	Full Cloud Cover
		Any fog/snow/ice?	No	No
		Any damp roads/wet ground?	Yes	Yes
		Wind speed:	2.8 m/s	2.4 m/s
		Wind direction:	W	
		Any conditions that may cause temp. inversion (e.g. calm nights with no cloud):	No	No

Cloud Cover	
Symbol	Scale in oktas (eighths)
	0 Sky completely clear
	1
	2
	3
	4 Sky half cloudy
	5
	6
	7
	8 Sky completely cloudy
	(9) Sky obstructed from view

5.3.2 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.

5.3.3 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.

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

6 Monitoring Results

6.1 A time history graph for the full unattended monitoring period at MP1, plotted in 15-minute time intervals, is presented in **Appendix 4: Time History Graph**. All data are sound pressure levels in dB re 20 µPa.

6.2 A summary of the broadband measurement data for the unattended monitoring at MP1 is provided in **Table 3**.

Table 3: 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	$L_{A90,T}^{*3}$ dB
27/03/2026	Friday	Daytime	12:00	05:00	58	53
27/03/2026 to 28/03/2026	Friday to Saturday	Night-time	23:00	08:00	53	44
28/03/2026	Saturday	Daytime	07:00	16:00	59	52
28/03/2026 to 29/03/2026	Saturday to Sunday	Night-time	23:00	08:00	54	47
29/03/2026	Sunday	Daytime	07:00	16:00	61	54
29/03/2026 to 30/03/2026	Sunday to Monday	Night-time	23:00	08:00	54	47
30/03/26	Monday	Daytime	07:00	16:00	59	54
30/03/26 to 31/03/26	Monday to Tuesday	Night-time	23:00	08:00	52	42
31/03/26	Tuesday	Daytime	07:00	16:00	58	55

*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.

*³. The values presented for the $L_{A90,T}$ are based off of the 25th percentile level, and is as reasoned below.

7 Background Sound Level

- 7.1 BS 4142 requires that the background sound levels adopted for the assessment are representative of the period/s being assessed. The Standard recommends that the background sound level should be derived from continuous measurements of normally not less than 15-minute intervals, which can be contiguous or disaggregated (paragraph 8.13 of BS 4142).
- 7.2 However, the standard states that there is no 'single' background sound level that can be derived from such measurements. It is particularly difficult to determine what is 'representative' of the nighttime period because it can be subject to a wide variation in background sound levels between the beginning and end of the night period, and the quieter middle part of the night period. The accompanying note states that *"a representative level should account for the range of background sound levels and should not automatically be assumed to be either the minimum or model value"*.
- 7.3 In this case then, the 25th percentile levels of the survey data have been used to characterise the baseline sound environment at the NSRs.
- 7.4 This is not the lowest sound level encountered but it is lower than that obtained using the average. It therefore represents somewhere in the range of lower sound levels that are likely to be encountered and provides a precautionary assessment. For 75% of the time, baseline sound levels will be higher than the 25th percentile. Use of the 25th percentile ensures that any periods when higher wind speeds (or other extraneous noise) could have affected the measured baseline sound levels do not unduly affect the analysis.
- 7.5 With reference to the above then **Table 5** below provides a summary of the representative sound levels at all NSRs used in the subsequent assessment.

Table 5: Representative sound levels

Period	Background sound Level $L_{A90,T}$ (dB)	Residual Sound Level $L_{Aeq,T}$ (dB)
Daytime (07:00 to 23:00)	53	59
Night-time (23:00 to 07:00)	44	52

8 Noise Modelling Methodology

- 8.1 A baseline noise model of noise from the proposed development has been assembled using CadnaA noise modelling software (Version 2026).
- 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.
- 8.4 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 $G = 0.0$. Representing a hard ground surrounding the site.
 - No adverse meteorological effects.
 - Three orders of reflection.
 - Buildings are reflecting with smooth, non-structured facades.
 - Receiver heights of 4.5 m for first-floor receivers.
 - Grid height for noise contour plots of 4.5 m, to be representative of the worst-case night-time scenario at the NSRs.

- 8.5 Details of the proposed site layout and associated plant have been obtained from drawings, CAD files and data sheets provided by the client. **Table 4** summarises the documents provided and the information obtained.

Document Title	Document Author	Information obtained
2544 F416B Proposed Site Plan – March 2026	HTC Architects	Proposed site layout and Plant Compound Location

- 8.6 Additional data used in the assessment has been taken from Miller Goodall's sound library. This includes noise data for HGV movements, HGV refrigeration plant and HGV delivery activities measured at operational Lidl stores.
- 8.7 Sound power levels, noise source types, on-times and height above local ground associated with the fixed plant, HGV movements and delivery activity sources used within the model are provided in [Error! Reference source not found.](#)
- 8.8 **Table 4** summarises the modelling methodology for the plant associated with the proposed development.

Table 4: Summary of baseline CadnaA modelling methodology for proposed plant

Proposed Plant	Methodology
2 No. Food Refrigeration Dry Coolers Bastec, 374800 BSE 100kW	Modelled as 2 No. respective point sources, each at a height of 1.5 m, at a location within the plant area based on indicative External Plant Layout drawing. Broadband sound pressure at 1.0 m into spherical radiation taken from prior experience of a similar Lidl site Indicative spectrum shape taken from manufacturer's data sheet for similar pump.
2 No. Food Refrigeration Pumping Stations Bastec, 374800 BSE 100kW	Modelled as respective point sources, each at a height of 1.5 m at a location within the plant area based on indicative External Plant Layout drawing. Broadband sound pressure at 1.0 m into spherical radiation taken from prior experience of a similar Lidl site

Proposed Plant	Methodology
	Indicative spectrum shape taken from manufacturer's data sheet for similar pump.
1 No. VRV serving Warehouse Daikin, RXYSQ12TY1	Modelled as a point source at a height of 1.6 m at a location within the plant area based on indicative External Plant Layout drawing. Broadband sound pressure at 1.0 m into spherical radiation taken from prior experience of a similar Lidl site
1 No. VRV serving Back of House Daikin RXYSQ4TV9	Modelled as a point source at a height of 1.3 m at a location within the plant area based on indicative External Plant Layout drawing. Octave band sound power levels for modelling of daytime operation taken directly from manufacturer's data sheet, assuming maximum duty operation as worst case.
2 No. VRVs serving Sales Area Daikin RXYLQ12T	Modelled as a point source at a height of 1.7 m at a location within the plant area based on indicative External Plant Layout drawing. Broadband sound pressure at 1.0 m into spherical radiation taken from prior experience of a similar Lidl site
2 No. HGV sources, one for Engine noise, one for Chiller Based on MG measurements	Modelled as a moving point source at a height of 1.5 m and 2.0 m respectively located along the access road and entering into the access yard. Broadband sound pressure at 1.0 m into spherical radiation taken from prior experience of a similar Lidl site.
1 No. HGV Chiller source Based on MG measurements	Modelled as a point source at a height of 2.0 m at the delivery bay, as it is considered necessary that the chiller is operational even during delivery. Broadband sound pressure at 1.0 m into spherical radiation taken from prior experience of a similar Lidl site.

8.9 Embedded Mitigation

- 8.10 It should be noted that this assessment has assumed that HGVs shut down their engines when arriving at the delivery bay, as well as a configurable reverse alarm which can be switched off.
- 8.11 Two reflective noise barriers have been included into the model as shown in **Appendix 3: Site Layout**. These barriers are located around the plant area in and adjacent to delivery area in order to provide screening to the NSRs.

- 8.12 The barrier should be constructed from continuous, imperforate material with a minimum mass of 12 kg/m² and extend from the ground to a minimum height of 3.0 m above the finalised site level. Close-boarded or overlapped timber panelling with no holes would likely be suitable in this regard, hit-and-miss fencing would not. Alternatively, a proprietary acoustic fence with a minimum weighted sound reduction index of 25 dB R_w would be appropriate.

9 Results

- 9.1 **Table 5** shows the predicted specific sound levels at the NSRs considered within the assessment and included within the noise model.

Table 5: Modelled noise levels and noise sensitive receptors – Baseline

Noise Sensitive Receptor (NSR)		Modelled Height, m	Predicted Specific Noise Level dB L_s
Reference	Description		
NSR1	2 Wallis Ave	4.5	44
NSR2	3 Wallis Ave	4.5	45
NSR3	31 Wallis Ave	4.5	42

- 9.2 The output from the baseline noise model at a height of 4.5 m is presented in **Appendix 6: Noise Model Output – With Mitigation**. The figure shows the predicted noise levels at receiver locations and corresponding noise contours.
- 9.3 The predicted partial levels at the most affected NSR, namely NSR2, show that the specific sound levels at this location are dominated by noise relevant to the delivery activities at the delivery bay (43 dB L_s).

10 BS 4142 Assessment

- 10.1.1 A BS 4142 noise impact assessment has been undertaken to assess the potential noise impact from the proposed development. The assessment has been undertaken for the night-time period when the background sound level is lower to present a worst-case assessment. The first floor has been selected for the assessment as this floor is more likely to be inhabited at night-time.
- 10.1.2 The noise sources considering in this assessment do not present tonal or impulsive characteristics. A correction for intermittency was considered but was chosen to be omitted as the plant within the equipment compound generally needs to run permanently. An acoustic feature correction of + 3 dB has been applied for other characteristics of sound relevant to the HGV deliveries, which may be perceptible during night-time periods.
- 10.1.3 The BS 4142 assessment of noise impact during the night-time period is presented in **Table 6**.

Table 6: BS 4142 Assessment of night-time plant noise

Assessment Period	Receptor	Background Sound Level, dB $L_{A90,1\text{hour}}$	Specific Noise Level dB $L_{Aeq,Tr}$	Acoustic Feature Correction dB	Rating Level dB $L_{Ar,Tr}$	Excess of Rating level over Background Sound level dB	Initial Estimate of Impact, Depending on The Context
Night-time	NSR1	44	44	+3	47	+3	Low risk
Night-time	NSR2	44	45	+3	48	+4	Low risk
Night-time	NSR3	44	42	+3	45	+1	Low risk

- 10.1.4 It can be seen from **Table 6** that during night-time, the rating level is predicted to be between 1 and 4 dB above the background sound level at all NSRs, which is 1 to 4 dB below the threshold at which an adverse impact is likely to occur.

- 10.1.5 Therefore, the outcome of the initial numerical BS 4142 assessment indicates a low risk for adverse impact at all NSRs during night-time period, depending on the context.
- 10.1.6 It should be noted that this assessment has been based on worst-case assumptions regarding the plant operation. The model assumes constant plant operation throughout the day and the night, however this is not expected to be the case as plant related to the air conditioning of the store is not expected to operate during night-time, when the store is closed. Mitigation has been already considered within the design and noise model via the 3-meter-high barrier which is installed around the plant enclosure and along the delivery bay to ensure that plant noise levels are mitigated as far as possible at the nearest NSRs.
- 10.1.7 The residual sound level at the site was measured as 52 dB $L_{Aeq, 8 \text{ hours}}$. The specific noise level is predicted to be between 42 and 45 dB, which is between 8 and 10 dB below the residual levels. Therefore, it is unlikely that the specific noise levels will be noticeable or adversely affect residential amenity in accordance with BS 4142. As a precaution, though, the 3 dB acoustic feature correction for other characteristics of sound has been applied to the assessment.
- 10.1.8 This store is within a predominantly residential/industrial area where existing noise sources are limited to road traffic and plant noise from nearby industrial facilities. The latter has been confirmed upon deployment and collection of the survey; plant noise from the nearby JD sports warehouse was audible then, indicating nearby NSRs are not unfamiliar to plant noise affecting the acoustic environment.
- 10.1.9 Based on the numerical BS 4142 assessment presented in **Table 6** and the context of the development, it is considered that the impact of noise emissions from plant noise is unlikely to be significant in terms of the likely noise emissions.

11 Summary and Conclusion

- 11.1 A noise assessment has been undertaken, on behalf of Lidl Great Britain Ltd & Wilson Bowden, to predict the potential impact of noise from a retail unit at LIDL, Land South of Wallis Avenue, Rochdale on nearby noise sensitive receptors.

- 11.2 An environmental sound survey has been undertaken at the site, to establish the existing sound climate at the nearby residential (NSRs).
- 11.3 A 3D computer noise model of the proposed development and surrounding site has been produced, based on the proposed site layout and candidate plant specifications.
- 11.4 A BS 4142 assessment has been undertaken based on the measured background sound levels and the modelled noise levels due to emissions associated with the proposed development considering mitigation measures; a 3 m high reflective barrier has been considered together with the recommendation that that HGVs engines are turned off during the period of delivery.
- 11.5 Provided the recommended acoustic mitigation measures are implemented, the assessment concludes that the impact of noise emissions from the proposed development is likely to be relatively low, albeit above the existing background level. As such, the proposed development should be considered acceptable t in terms of noise emissions.

APPENDICES

Appendix 1: Policy, Standards and Guidance

1 Noise Policy Statement for England

- 1.1 The Noise Policy Statement for England (NPSE²) 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”.

² 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 (NPPF³) 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

³ National Planning Policy Framework, Ministry of Housing, Communities and Local Government, December 2023

environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans..."

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 BS 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound'

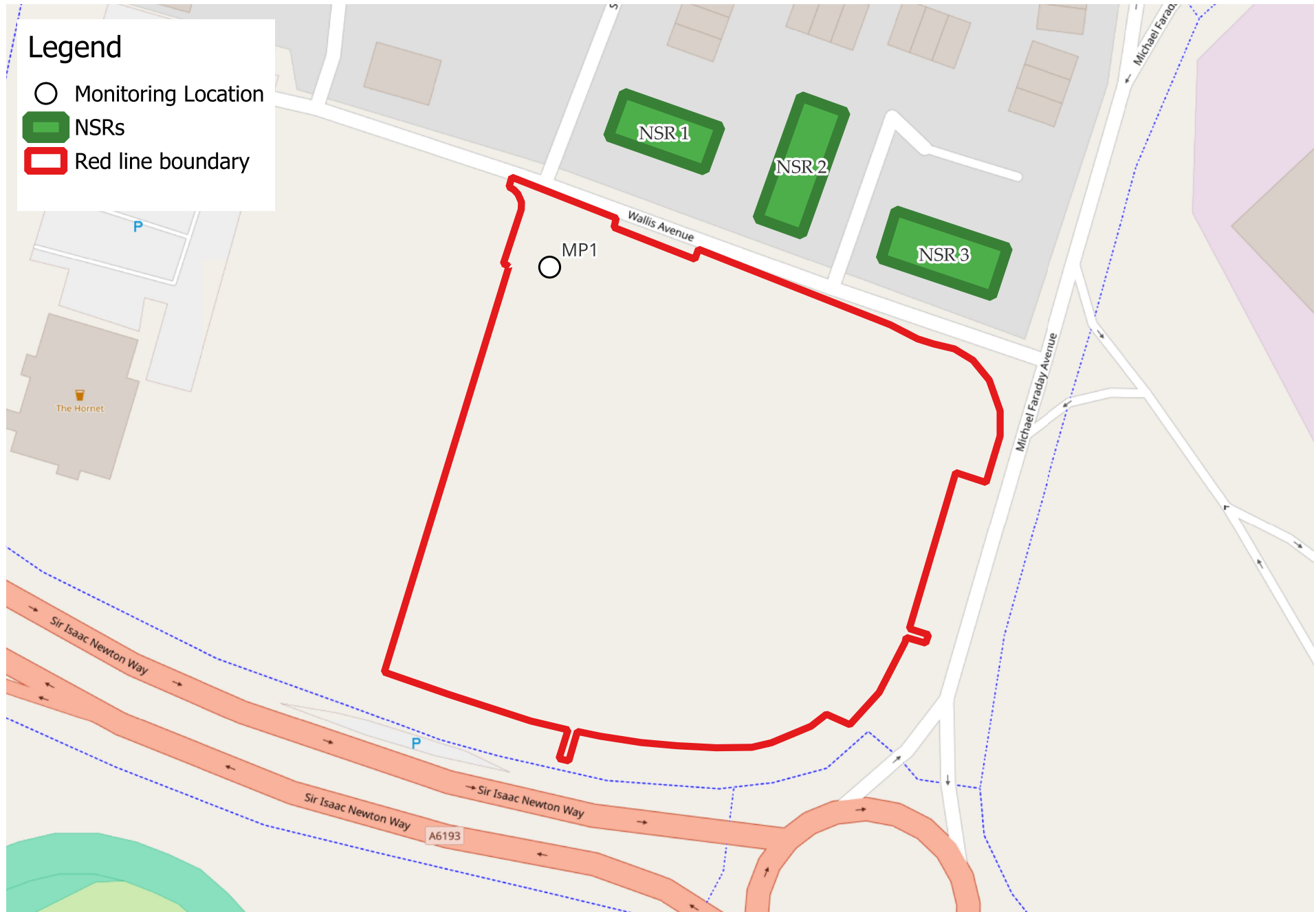
- 3.1 BS 4142:2014+A1:2019⁴ provides guidance on the assessment of the likelihood of complaints relating to noise from industrial sources. The standard presents a method of assessing potential noise impact by comparing the noise level due to industrial sources (the Rating Level) with that of the existing background noise level at the nearest noise sensitive receiver in the absence of the source (the Background Sound Level).
- 3.2 The Specific Noise Level – the noise level produced by the source in question at the assessment location – is determined and a correction applied for certain undesirable acoustic features such as tonality, impulsivity or intermittency. The corrected Specific Noise Level is referred to as the Rating Level.
- 3.3 In order to assess the noise impact, the Background Sound Level is arithmetically subtracted from the Rating Level. The standard states the following:
- *Typically, the greater this difference, the greater the magnitude of the impact,*
 - *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context,*
 - *A difference of around +5 dB is likely to be an indication of an adverse impact, depending on 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 have an adverse impact or a significant adverse 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.*
- 3.4 In addition to the margin by which the Rating Level of the specific sound source exceeds the Background Sound Level, the 2014+A1:2019 edition places emphasis upon an appreciation of the context, as follows:

⁴ BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound

An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.

Appendix 2: Site Location, Monitoring and NSR Locations

Site Location, Monitoring and NSR Locations



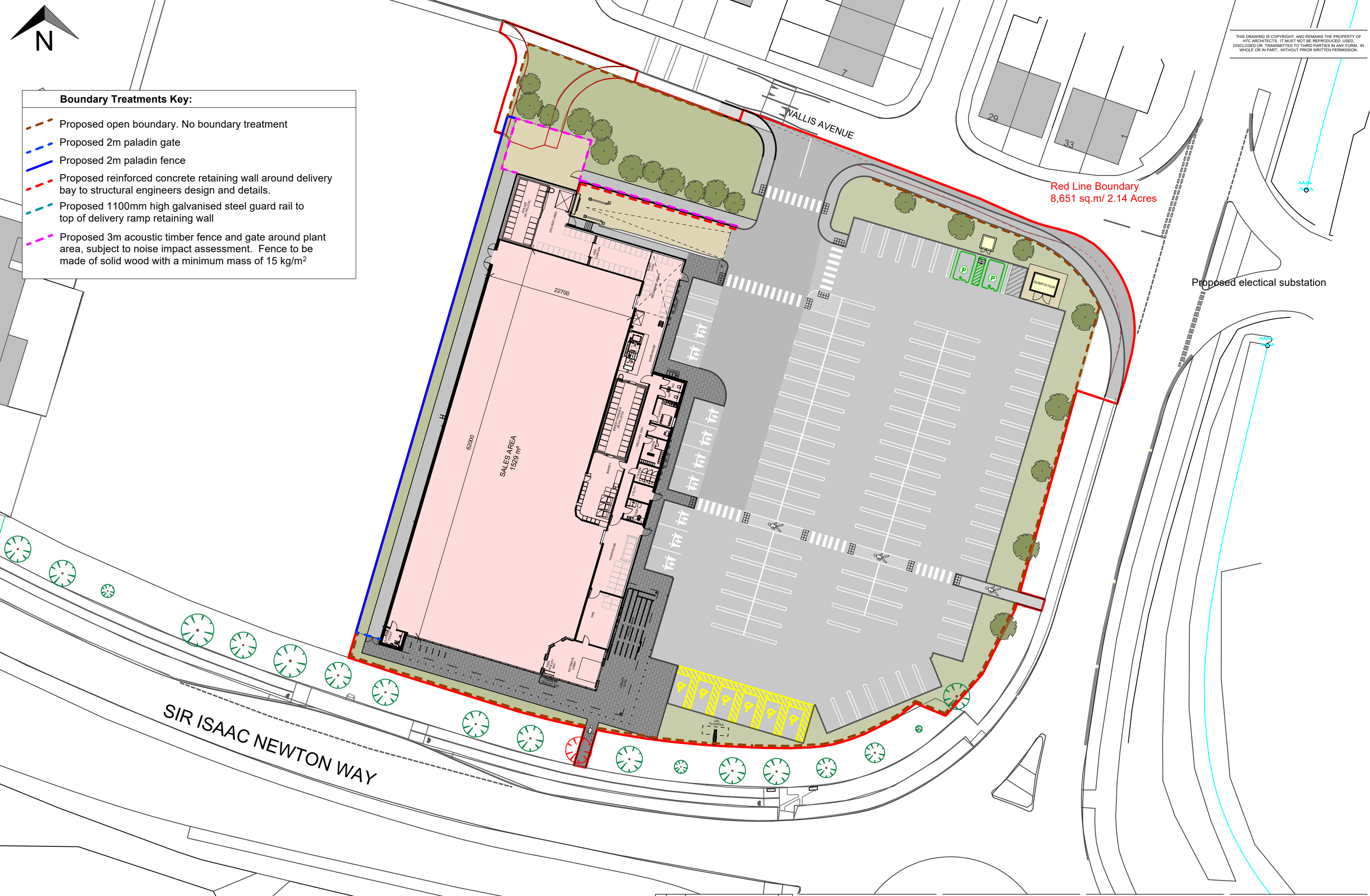
Appendix 3: Site Layout



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Boundary Treatments Key:

- Proposed open boundary. No boundary treatment
- Proposed 2m paladin gate
- Proposed 2m paladin fence
- Proposed reinforced concrete retaining wall around delivery bay to structural engineers design and details.
- Proposed 1100mm high galvanised steel guard rail to top of delivery ramp retaining wall
- Proposed 3m acoustic timber fence and gate around plant area, subject to noise impact assessment. Fence to be made of solid wood with a minimum mass of 15 kg/m²



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client
Lidl GB Ltd.

project
Kingsway, Rochdale

drawing title
Proposed Boundary
Treatments



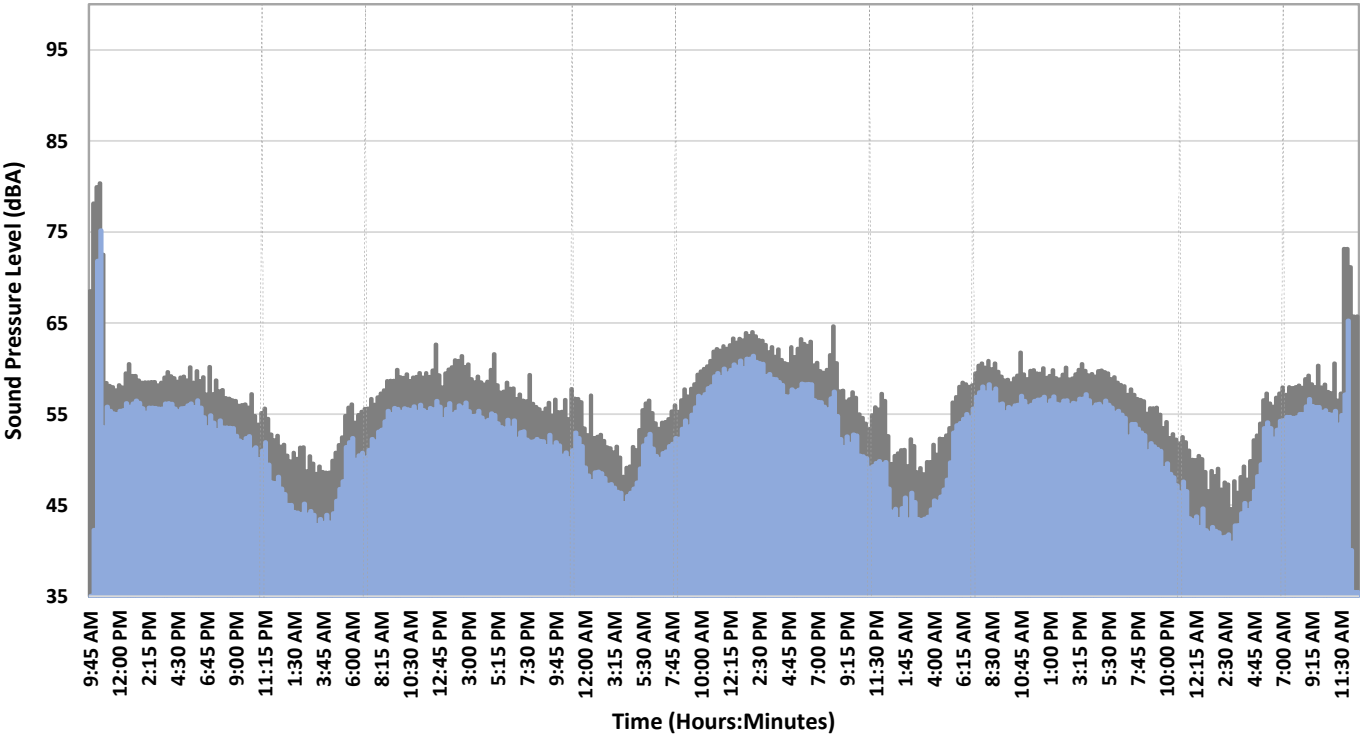
date March 2026
status Planning
scale 1:500
drawn SPN checked
job no. 2544 dwg no. P416 rev. B

B	10/04/2026	Planning red line indicated	SPN
A	31/03/2026	Car park white lining updated as per Lidl request.	SPN
Rev	Date	Description	Drawn

Appendix 4: Time History Graph

Time History Graph MP1

Project:	Lidl, Rochdale
Measurement Location:	MP1
Survey Period:	27/03/2026 - 31/03/2026



KEY:

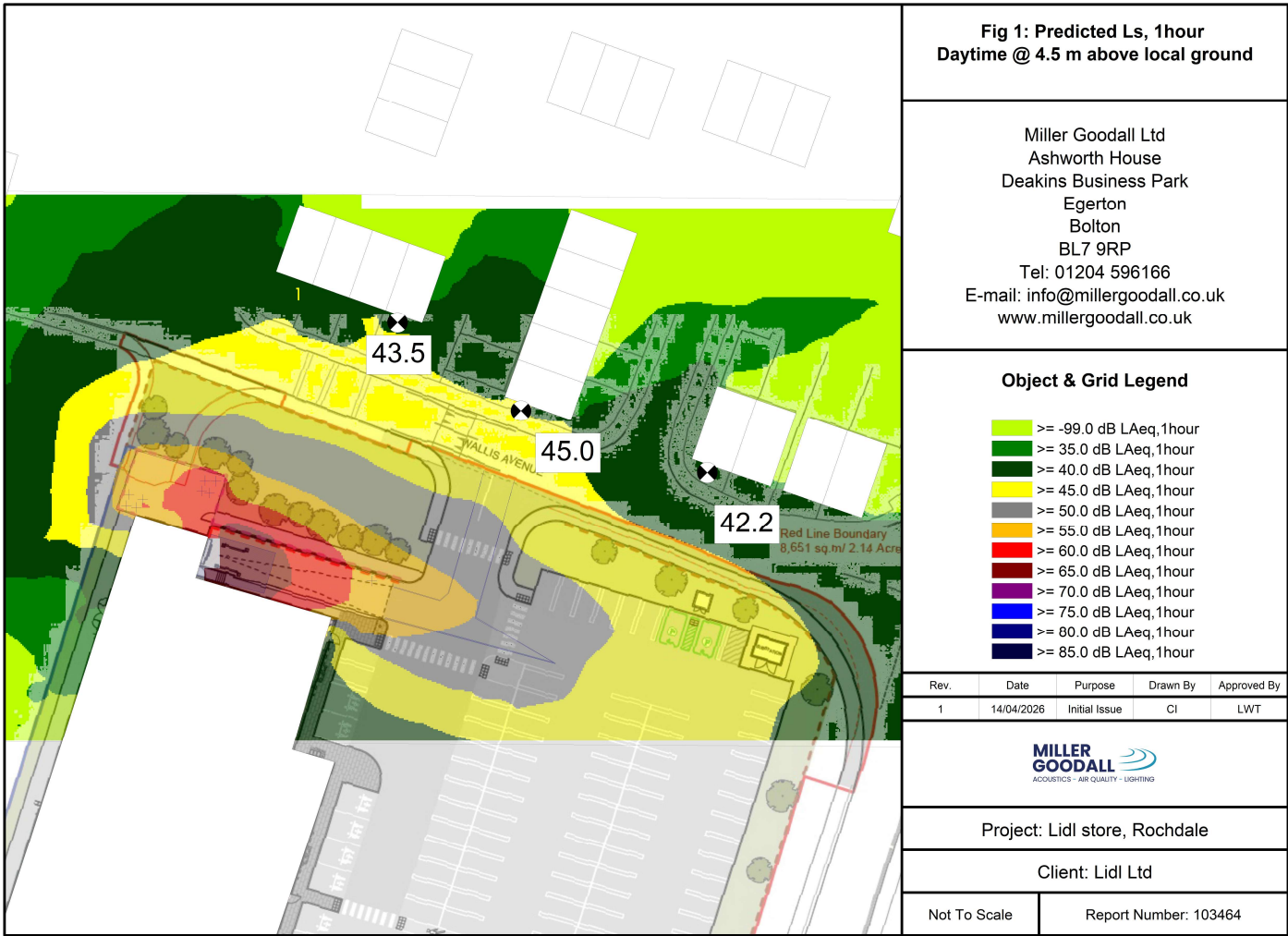


Appendix 5: Noise modelling parameters

Plant unit	z	Noise source type	Broadband Sound Power Level (dBA)	Height above local ground (ALG) (m)	On time (% or minutes)	63	125	250	500	1000	2000	4000	8000
Dry Cooler 01, Dry Cooler 02	2	point source	71	1.5	100%	75.3	79.3	74.3	69.2	63.2	56.8	50.1	40.6
Pump 01, Pump 02	2	point source	68	1.5	100%	n/a	65.2	62.7	64.2	63	60.8	56	52.1
Warehouse VRV	1	point source	74	1.5	100%	79.8	77.8	70.8	69.8	69.8	65.8	61.8	54.8
Sales VRV 01, Sales VRV 02	2	point source	74	1.5	100%	79.8	77.8	70.8	69.8	69.8	65.8	61.8	54.8
Back of house VRV	1	point source	74	1.5	100%	79.8	77.8	70.8	69.8	69.8	65.8	61.8	54.8
HGV Movement (in)	1	moving point source	79	1.5	10 mins	95.8	93.4	91.6	95.7	97.5	95.2	90.9	90.2
HGV Movement (out)	1	moving point source	75	1.5	10 mins	95.8	93.4	91.6	95.7	97.5	95.2	90.9	90.2
HGV Chiller (in)	1	moving point source	71	2	10 mins	82.0	69.0	63.0	62.2	59.9	53.2	47.1	39.8
HGV Chiller (out)	1	moving point source	68	2	10 mins	82.0	69.0	63.0	62.2	59.9	53.2	47.1	39.8
HGV chiller idling at delivery bay	1	point source	78	2	50%	82.0	69.0	63.0	62.2	59.9	53.2	47.1	39.8
Noise related to delivery activities	1	Area source	91	1.2	50%	97	90.5	85.1	83.9	87	85.4	80.5	74.3

Plant unit	Noise source type	Broadband Sound	Height ALG (m)	On time (% or minutes)	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000
Reverse Alarm	moving point source	84	2	3 mins	38	57	58	77	77	91	98	84	95	103	93	92	94	101	101	100	101	101	100	101	100	96	95	97	93	91	87

Appendix 6: Noise Model Output – With Mitigation



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 $20 \mu\text{Pa}$, 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.

NOAEL, b, SOAEL

