MEC Consulting Group

ACOUSTIC AIR

Western Avenue, Riverside Park, Andover
Acoustics Assessment
May 2025

Report Ref: 28483-ENV-0401 Rev B

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REPORT REF: 28483-ENV-0401 Rev B

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REGISTRATION OF AMENDMENTS

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APPENDICES

1.0 INTRODUCTION

1.1 MEC Consulting Group Ltd (MEC) has been commissioned by Test Valley Borough Council (hereafter referred to as 'the Client') to undertake an Acoustics Assessment for a proposed greenspace development at Western Avenue, Riverside Park, Andover (hereafter referred to as 'the Site').

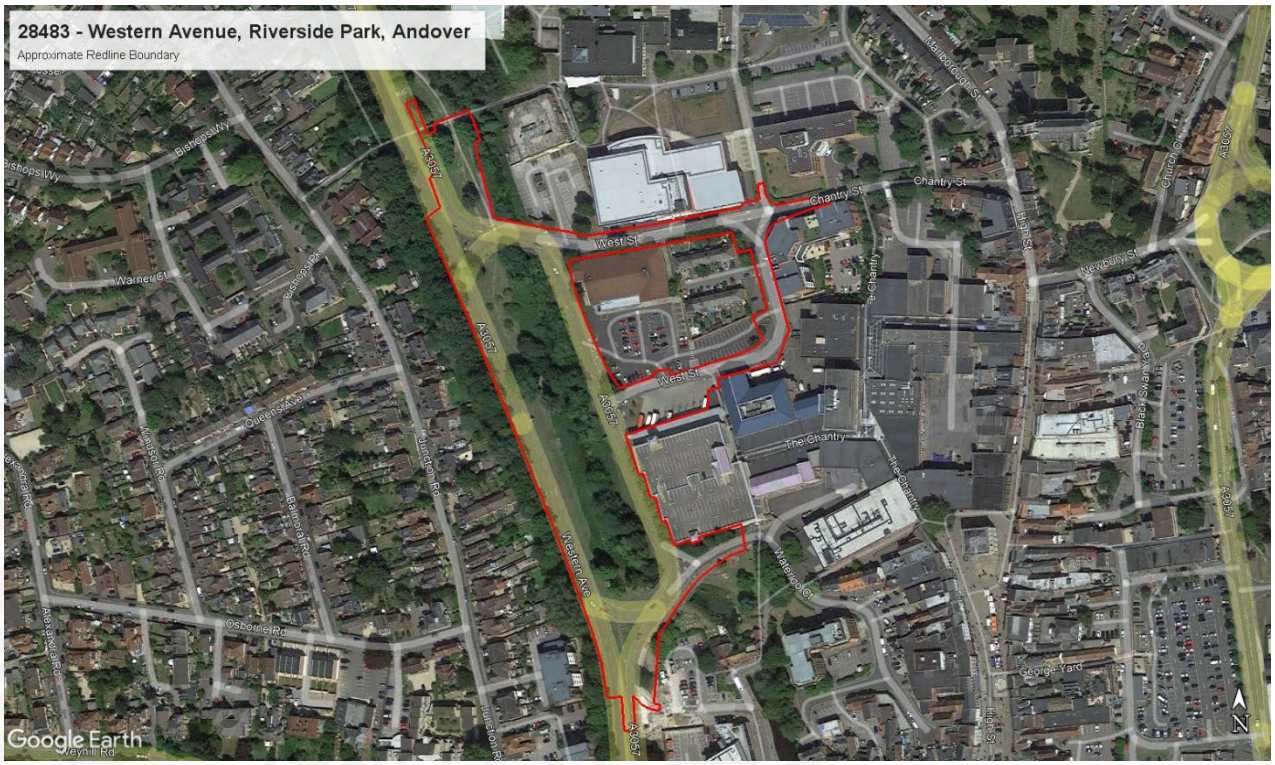
Existing Site and Development Proposals

1.2 The Site covers an approximate area of 2.69ha and comprises of open greenspace, the River Anton and two main roads; Western Avenue and West Street. The application is for the improvement of greenspaces located around the River Anton, removal of the underpass, creation of a natural river corridor, improved new cycle route and new pedestrian and cyclist infrastructure.

1.3 As part of the improvements to the greenspace, it is proposed to remove the existing one-way route that circulates the greenspace by altering Western Avenue west of the river, making it two-way. In addition, West Street would become a dead-end road with no exit onto Western Avenue and an area for vehicles to turn at the end of the road.

1.4 An approximate redline boundary is presented in Figure 1.1 and the General Arrangement Landscape Layout is presented in **Appendix A**.

Figure 1.1: Approximate Redline Boundary



Assessment Scope

Test Valley Borough Council Environmental Protection Comments

1.5 Due to the proposed alterations to the transport network, Test Valley Borough Council (hereafter referred to as the 'Local Authority') has raised concerns about the potential noise impacts to the amenity spaces of the existing residential receptors in close proximity to the proposed changes. Comments indicate that one concern in particular arises from the fact that Lidl delivery vehicles will likely have to pass by receptors on Portland Grove (the cul-de-sac located to the east of Lidl) more frequently due to them having to circulate back up West Street following the deliveries/collections.

1.6 Furthermore, comments raised concerns about the increased traffic flows in closer proximity to the dwellings located along Junction Road as a result of the two-way vehicle route.

1.7 Following the submission of the initial report as part of the pre-application submission, the Environmental Protection (EP) team raised further comments regarding updating of the traffic assessment with opening year traffic flow data and updating of the HGV re-routing assessment with background sound levels.

1.8 Given that Lidl deliveries are currently restricted by the below condition, it was agreed that the background sound levels taken from the operating period of 21:00 to 22:00 would ensure a robust assessment. As such, a subsequent survey has been undertaken and the HGV re-routing assessment has been updated.

04. No deliveries shall be taken at or dispatched from the site, outside the hours of 0700 and 2200 Monday to Saturday and 08:00 to 2000 on Sundays, Bank or Public Holidays.

Proposed Scope of Works

1.9 The purpose of this report is to determine the likely noise impacts to the existing receptors resulting from the changes to the transport network and where necessary provide potential mitigation options. This assessment therefore aims to give confidence to the Local Authority that matters relating to noise have been adequately addressed.

1.10 Therefore, the following scope of works has been undertaken:

- An environmental sound survey has been undertaken within the Lidl car park in order to determine the prevailing acoustic conditions;
- Acoustic models have been created, which include all existing residential dwellings within close proximity to the Site;
- Contours have been mapped in order to predict sound levels for the following scenarios:
  - Do-Minimum Opening Year (2028);
  - Do-Something Opening Year (2028);
  - Do-Minimum Future Year (2040); and
  - Do-Something Future Year (2040).
- The contours have been analysed to determine if any existing dwellings are identified to potentially qualify for statutory compensation in accordance with the Noise Insulation Regulations 1975 (as amended 1988) (hereafter referred to as "the Regulations");

- Consideration has been given to the effect level parameters outlined in the DMRB[1] to determine if any significant effect will be experienced at the existing dwellings;
- External amenity sound levels within the proposed greenspace have been compared between the assessment scenarios; and
- Consideration in accordance with BS 4142 has been given to the potential noise impacts on dwellings located on Portland Grove arising from the re-routing of HGVs through Lidl car park.

Disclaimer

1.11 MEC has completed this report for the benefit of the individuals referred to in Paragraph 1.1 and any relevant statutory authority which may require reference in relation to approvals for the proposed development. Other third parties should not use or rely upon the contents of this report unless explicit written approval has been gained from MEC.

1.12 MEC accepts no responsibility or liability for:

- The consequence of this documentation being used for any purpose or project other than that for which it was commissioned;
- The issue of this document to any third party with whom approval for use has not been agreed.

[1] Design Manual for Road and Bridges, LA 111, Noise and Vibration, Rev 2, May 2020.

2.0 STANDARDS AND GUIDANCE

General

2.1 An Acoustics glossary is provided in **Appendix B** to assist the reader.

Summary of Guidance and Standards

2.2 The following guidance and standards relevant to the assessment are outlined below:

- National Planning Policy Framework (NPPF) 2024;
- Calculation of Road Traffic Noise 1988;
- Design Manual for Road and Bridges, LA 111, May 2020;
- The Land Compensation Act (LCA), 1973;
- The Noise Insulation Regulations (NIR) 1975 (amended 1988);
- TRL Method for Converting the UK Road Traffic Noise Index $L_{A10,18hr}$ to the EU Noise Indices for Road Noise Mapping;
- BS 8233:2014 *'Guidance on sound insulation and noise reduction for buildings'*; and
- World Health Organisation (WHO) *"Guidelines for Community Noise"*.

2.3 For conciseness, the guidance and standards most appropriate to this assessment are summarised in this section.

Calculations of Road Traffic Noise

2.4 CRTN sets out standard procedures for calculating noise levels from road traffic. The calculation methods use a number of input variables, including traffic flow volume, average vehicle speed, percentage of heavy-duty vehicles (HDVs), type of road surface, site geometry and the present of noise barriers or acoustically absorptive ground.

2.5 CRTN predicts the $L_{A10,18hr}$ for any receptor point at a given distance, up to 300m from the road.

2.6 CRTN also documents procedures for the measurement of road traffic noise. Three methods of road traffic noise measurement are described, the first entitled 'The Measurement Method', for direct measurement of the $L_{A10,18hr}$ noise level, the second entitled the 'Shortened Measurement Procedure', for measurement of the $L_{A10,3hr}$ noise level from which the $L_{A10,18hr}$ level can be derived and the third entitled 'Comparative Measurements' which is a procedure to establish noise levels from a single road traffic route at various points, provided that the route remains the dominant source.

2.7 CRTN states that if the Shortened Measurement Procedure is followed, a correction of -1 dB can be applied to the determined $L_{A10,3hr}$ noise level to approximate the $L_{A10,18hr}$ noise level.

Design Manual for Roads and Bridges – LA 111

2.8 DMRB sets out procedures for undertaking the environmental assessment of new road schemes, including the assessment of noise impacts from road traffic. In undertaking a DMRB assessment, the calculation of traffic noise levels of traffic noise levels uses the methodology contained within the CRTN document.

2.9 The DMRB categorises operational road traffic noise into magnitude of change bands. The short-term and long-term classification scales are provided in Table 2.1 and Table 2.2 respectively.

Table 2.1: Short-Term Magnitude of Change

Short-Term Magnitude	Short-Term Noise Change $L_{A10,18hr}$ dB
Major	≥ 5.0
Moderate	3.0 – 4.9
Minor	1.0 – 2.9
Negligible	< 1.0

Table 2.2: Long-Term Magnitude of Change

Long-Term Magnitude	Short-Term Noise Change $L_{A10,18hr}$ dB
Major	≥ 10.0
Moderate	5.0 – 9.9
Minor	3.0 – 4.9
Negligible	< 3.0

2.10 The significance of the impact should be determined against contextual considerations and absolute predicted sound levels. DMRB provides guidance on the Effect Levels as LOAEL (Lowest Observed Adverse Effect Level) and SOAEL (Significant Observed Adverse Effect Level).

2.11 It may be that there is a moderate impact from the proposed road scheme but that the absolute level does not change Effect Level category, where this is the case, consideration should also be given to the Regulations.

2.12 The Effect Level categories are presented in Table 2.3.

Table 2.3: Operational Noise LOAELs and SOAELs for all receptor types

Time Period	LOAEL	SOAEL
Day (06:00 – 24:00)	55 dB $L_{A10,18hr}$ (façade level)	68 dB $L_{A10,18hr}$ (façade level)
Night (23:00 – 07:00)	40 dB $L_{night,outside}$ (free-field level)	55 dB $L_{night,outside}$ (free-field level)

The Land Compensation Act

2.13 The Land Compensation Act 1973 (LCA) makes provision for regulations imposing a duty on local authorities to insulate buildings against noise caused or expected to be caused by the construction or use of public works, or to make grants in respect of the cost of such insulation.

The Noise Insulation Regulations

2.14 The Noise Insulation Regulations (NIR) 1975 (amended 1988) contain procedures for the implementation of the LCA. The NIR impose a duty on the Highway Authority to carry out or make a grant in respect of the cost of carrying out noise insulation work with respect to a highway or highway to which additional carriageway is to be added.

2.15 For entitlement to noise insulation under the NIR, the following three conditions must be satisfied:

- The combined expected maximum traffic noise level, i.e. the 'relevant noise level' from the new highway together with other traffic in the vicinity must not be less than 68 dB $L_{A10,18hour}$, at one metre from the most exposed windows or doors of a building;
- The relevant noise level is at least 1 dB (A) greater than the 'prevailing noise level'. The prevailing noise level is the $L_{A10,18hour}$ level, caused by traffic using any highway immediately before the highway construction works; and
- The contribution to the increase in the relevant noise level from the new highway must be at least 1 dB(A).

2.16 The entitlement of existing residential properties within 300m of the new highway must be established. In this case, if assessment indicates a requirement for compensation at the nearest dwellings to the new roads, then the entitlement of existing properties within 300m of the altered highway will also be established.

TRL Method

2.17 The 'TRL Method'[2] presents a procedure for converting $L_{A10,18hr}$ values to $L_{Aeq,\ T}$ values suitable for noise mapping and assessment of alternative acoustic standards. For the Site, the correction factors are applicable to non-motorway roads and are presented in Table 2.4.

Table 2.4: $L_{A10,18hr}$ to $L_{Aeq,\ T}$ converstions

Time period	Non-motorway conversion
07.00 – 21.00	$L_{day} = 0.95 \times L_{A10,18hr} + 1.44$
21.00 – 23.00	$L_{evening} = 0.97 \times L_{A10,18hr} - 2.87$
23.00 – 07.00	$L_{night} = 08.90 \times L_{A10,18hr} - 3.77$
07.00 – 23.00	$L_{Aeq\ 16hr} = 10_{log10}\ ((12 \times (10^{Lday/10}) + 4 \times (10^{Levening/10})/16)$

BS 8233:2014 & WHO Guidelines

2.18 BS 8233 provides recommendations for the control of noise in and around buildings. The guidance provided includes appropriate internal and external noise level criteria which are applicable to residential buildings exposed to steady external noise sources.

2.19 Whilst BS 8233 is principally intended to assist in the design of new dwellings, the guideline values can also be used to determine potential disturbance from new noise sources.

[2] TRL & Casella Stanger (2006). Method for Converting the UK Road Traffic Noise Index $L_{A10,18h}$ to the EU Noise Indices for Road Noise Mapping.

2.20 Furthermore, BS 8233 criteria is based upon the World Health Organisation (WHO) *"Guidelines for Community Noise"* document. The WHO Guidelines provides values that are deemed to be classified as "health effects" which means the levels are the lowest that would result in any potential psychological, physiological or sociological effect.

2.21 BS 8233 and WHO guidelines include guidance on private external amenity areas whereby it states that external noise levels should not exceed 55 dB $L_{Aeq, T}$ as there is potential for serious annoyance in the daytime and evening.

2.22 Furthermore, due to the nationwide difficulty in satisfying the external criteria outlined above, BS 8233 provides an over-arching consideration of how to treat external amenity areas as follows:

"... it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited."

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

2.23 BS 4142 describes methods for rating and assessing industrial and/or commercial sound and includes, but is not limited to, the assessment of:

- Sound from industrial and manufacturing processes;
- Sound from fixed installations which comprise mechanical and electrical equipment;
- Sound from the (un)loading of goods and materials at industrial/commercial premises; and
- Sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes such as that from forklift trucks on or around an industrial and/or commercial site.

2.24 The methods described in BS 4142 use outdoor sound levels to assess the likely effects of sound on people who are typically outside residential premises. Although indoor effects can be indicated where the façade composition is known. A summary of the approach set out in BS 4142 is set out below:

- Establish or predict the specific sound level of the source(s) by considering both the ambient (includes the source to be assessed) and residual (excludes the source to be assessed but includes all remaining sources) sound level;
- Measure the representative background sound levels, typically by measuring close to the receptor location;
- Rate the specific sound level to account for any distinguishing characteristics (see below);
- Estimate the impact by subtracting the background sound level from the rating level; and
- Consider the initial estimate of impact, as determined above, in the context of the noise and its environment.

2.25 The specific sound level is rated to account for distinguishing characteristics by using penalties for tonality, impulsivity, intermittency and other sound characteristics. The dominant acoustic characteristic should be applied to avoid large penalties which is in accordance with the Institute of Acoustics response to BS 4142.

2.26 The character corrections are flexible according to whether the acoustic character is just perceptible at the noise receptor, or is clearly perceptible or highly perceptible, and range from 0 to 6 dB for tonal noise, 3 to 9 dB for impulsive noise, and 3 dB for other non-tonal/impulsive acoustic characteristics.

2.27 An initial estimate of impact of the specific sound is obtained by subtracting the background sound level from the rating level. Typically, the greater the difference, the greater the magnitude of 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;
- At differences lower than +5 dB a low impact is likely, depending on the context. The lower the rating level is to the measured background sound level, the less likely it is that the specific sound source will have an impact.

2.28 The results of the initial assessment should then be considered in light of all pertinent contextual factors.

3.0 ENVIRONMENTAL SOUND SURVEY

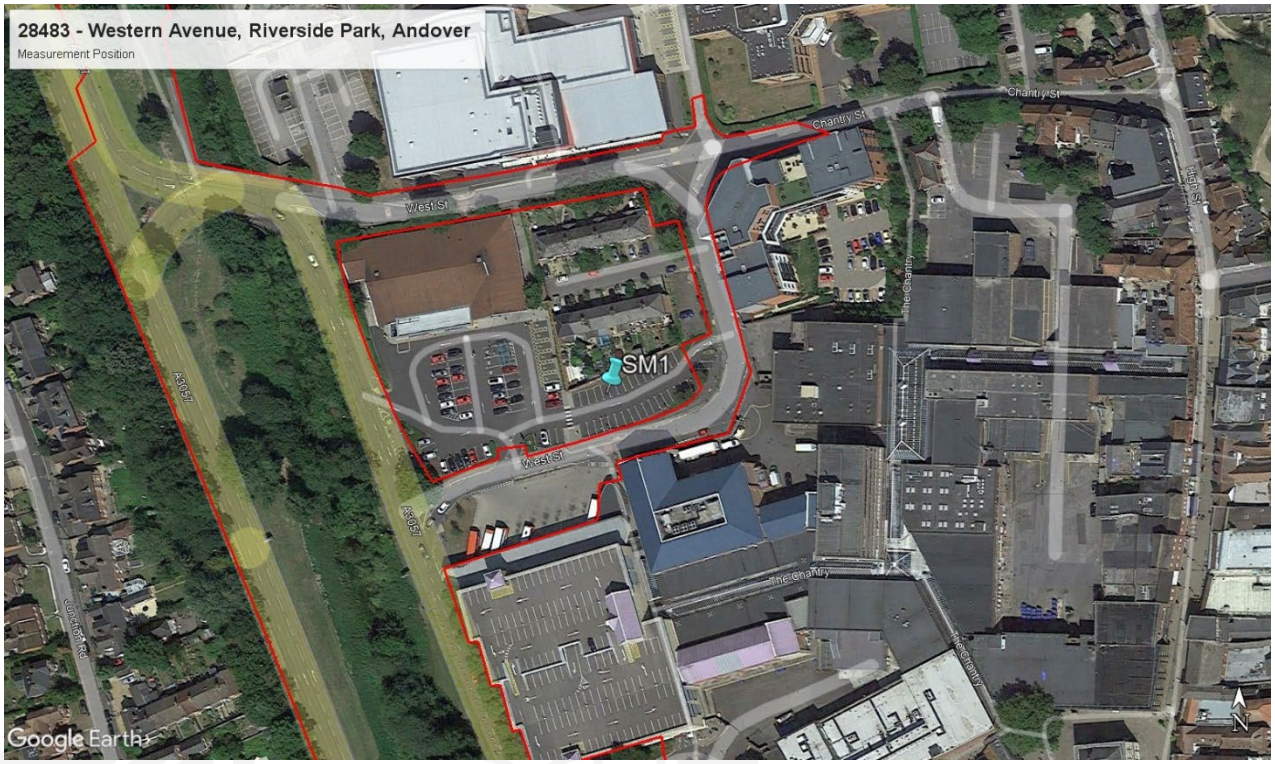
3.1 Following the EP comments, an environmental sound survey was undertaken on Monday 28th April 2025. The survey was undertaken in full accordance with the guidance set out in BS 7445[3].

3.2 A Sound Level Meter (SLM) was installed at one location, as follows:

- Sample Measurement 1 (SM1): 1-hour sample (between 21:00 and 22:00) within the Lidl car park, to give a representation of sound levels within the gardens of the residential receptors along Portland Grove.

3.3 A monitoring location plan is provided in Figure 3.1.

Figure 3.1: Measurement Positions



Equipment

3.4 Measurements were taken using a Class 1 integrating/averaging SLM housed in environmental protection apparatus. The SLM was installed in a free field position at a height of 1.5m above local ground level, and field calibrated before and after the survey using a Class 1 calibrator, with no significant drift in calibration noted.

3.5 The SLM was set up to capture the following parameters at a minimum: L_{Aeq}, L_{AFmax} and L_{A90} values, and full details of the equipment used to undertake the survey are presented in Table 3.1.

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

Table 3.1: Equipment and Calibration Details

Measurement Position	Description	Manufacturer & Type No.	Serial No.	Calibration Due Date
SM1	Sound Level Meter	Type NOR140	1407773	23/03/2027
	Pre-Amplifier	Type 1209	23168	
	Microphone	Type 1225	413180	
	Calibrator	Norsonic 1255	125525772	18/11/2025

Meteorological Conditions

3.6 Whilst on Site, weather conditions were noted to be warm and dry, with a gentle south easterly wind of approximately 1 m/s.

3.7 As such, it is considered that there were no adverse meteorological conditions that could influence the measured sound levels.

Observations

3.8 Site notes indicate that at the time of the survey, sound levels at the Portland Grove receptors are generally dominated by road traffic using the gyratory, with occasional vehicles (including buses) passing on West Street. In absence of road traffic, the sound levels were relatively low, with birdsong being the predominant source of noise.

3.9 On the garden boundaries of the receptors overlooking the Lidl car park, a 2.5m high brick wall was observed which is topped with a 0.5m high close boarded timber fence. This extends the full length of the car park and will subsequently be included within the acoustic model.

Sound Survey Results

3.10 The attended survey data is tabulated in **Appendix C.**

Background Sound Levels

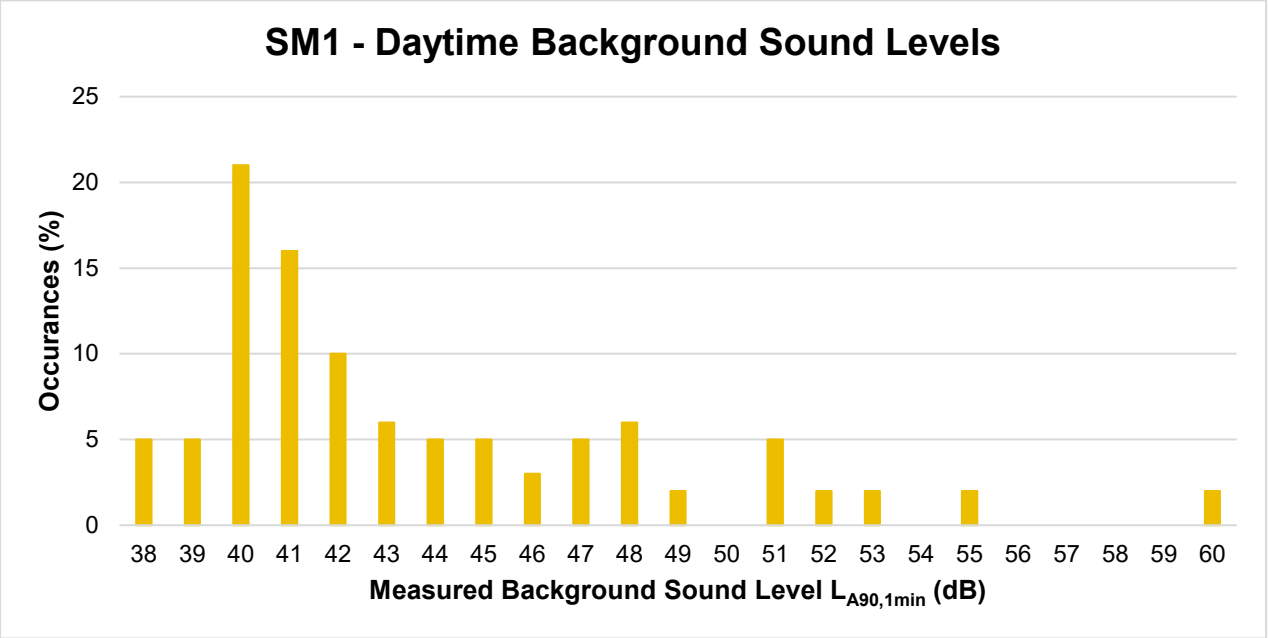
3.11 Section 8 of BS 4142 makes it clear that the objective of the assessment *"is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods."*

3.12 Paragraph 8.14 of BS 4142 similarly remarks that *"The monitoring duration should reflect the range of background sound levels for the period being assessed. In practice, there is no 'single' background sound level as this is a fluctuating parameter. However, the background sound level used for the assessment should be representative of the period being assessed."*.

3.13 The subsequent Note 1 states that *"A representative level ought to account for the range of background sound levels and ought not automatically to be assumed to be either the minimum or modal value"*.

3.14 A statistical analysis of the daytime $L_{A90,1min}$ sound levels, consistent with the BS 4142 advice, is shown in Figure 3.2.

Figure 3.2: Statistical Analysis of Measured Daytime Background Sound Levels at SM1



3.15 The $L_{A90,1min}$ sound levels at SM1 ranged from 38 dB to 60 dB, with a distribution pattern centred around 40 dB.

3.16 40 dB occurred for 21% of the time, which was followed by 42 dB, which occurred 16%.

3.17 In order to provide a robust assessment, the lower most prevalent background sound level of 40 dB will be used for the purpose of the Lidl HGV re-routing assessment.

4.0 ASSESSMENT METHODOLOGY

Traffic Assessment

Traffic Data

4.1 Annual Average Weekday Traffic (AAWT) flows, %HGV and average speeds have been prepared by the scheme's Transport Consultant; Stantec for the following scenarios, as agreed with the EHO in April 2025:

- Do-Minimum Opening Year (DMOY) 2028;
- Do-Something Opening Year (DSOY) 2028;
- Do-Minimum Future Year (DMFY) 2040; and
- Do-Something Future Year (DSFY) 2040.

4.2 The available traffic flow data is provided in **Appendix D**.

Acoustic Modelling

4.3 Using the available flows, an acoustic model of the Site and environs has been generated in Datakustik CadnaA® modelling software.

4.4 CadnaA® considers various inputs, including topography, buildings and noise sources, and calculates sound levels in accordance with national and international standards; in this case, the relevant UK standards are the procedures set out within ISO 9613-2[4].

4.5 The modelling assumptions and input information for the acoustic model are as follows:

- Digital Terrain Model – Lidar 1m (Environment Agency, downloaded on 8th November 2024);
- Open Street Map data (publicly available);
- Ground absorption for the Site = 0.5 (mixed ground);
- Building heights estimated following satellite imagery observations;
- Buildings set to be reflective only with no absorption coefficient;
- First order reflections included in the modelling;
- Temperature set to 10°C; and
- Relative humidity set to 70%.

4.6 The acoustic model has been used to predict sound levels in and around the Site in the DMOY, DSOY and DSFY scenarios with the following drawing outputs for each scenario:

- Daytime $L_{A10,18hr}$ external sound levels at ground floor (1.5m) height;
- Daytime $L_{Aeq,16hr}$ external sound levels at ground floor (1.5m) height; and
- Night-time $L_{Aeq,8hr}$ external sound levels at first floor (4m) height.

4.7 Full sound level contour maps of the assessed road links are presented in **Appendix E** for all scenarios.

[4] ISO 9613-2 *'Acoustics – Attenuation of sound during propagation outdoors, Part 2: General method of calculation.*

4.8 Using the available data, assessments have been made for the short-term and long-term impacts on the Nearest Sensitive Receptors (NSRs) along the nearby road network based upon the following:

- Short-Term Impact = DSOY – DMOY; and
- Long-Term Impact = DSFY – DMOY.

4.9 The results of the traffic change assessment are then presented in context with the Effect Levels outlined in DMRB and consideration against the Regulations is provided.

4.10 Should any residential premises qualify under the Regulations, the affected façade is indicated within this report so that the Client and Local Authority are informed and can have relevant discussions surrounding the responsibilities of such measures.

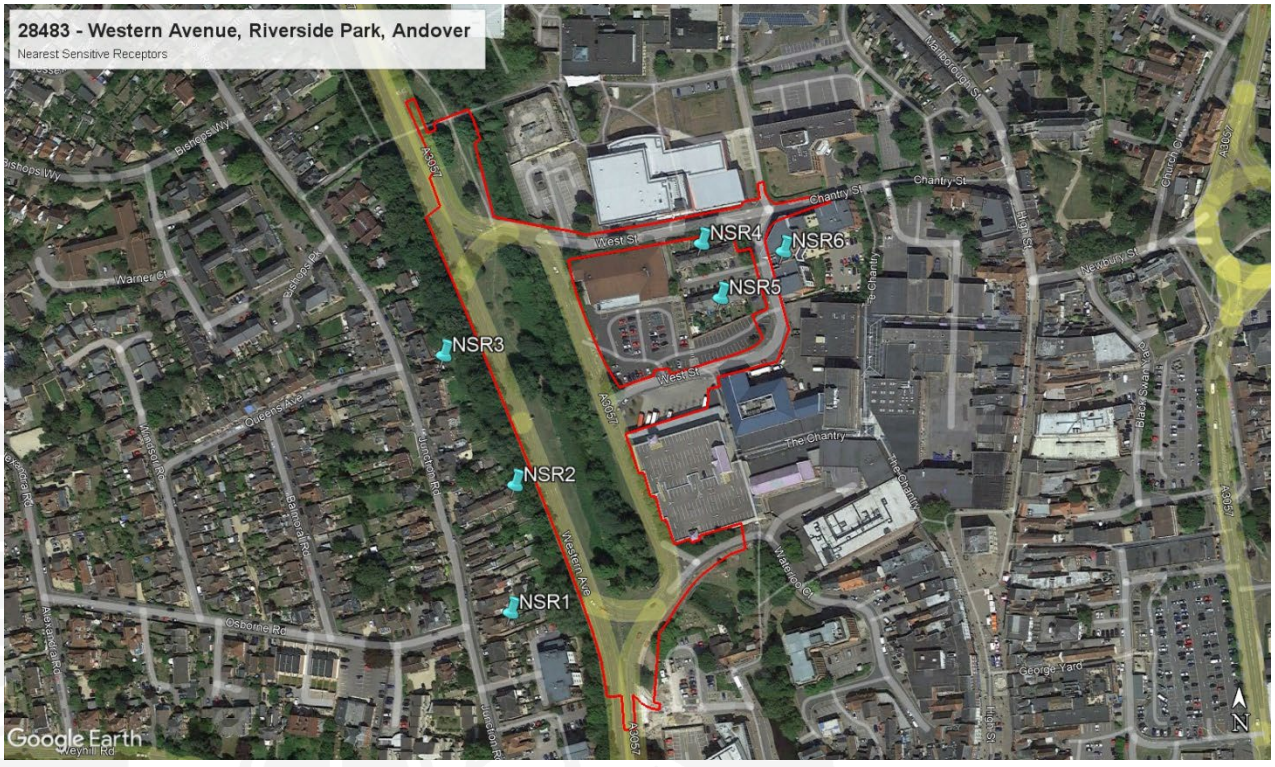
Noise Sensitive Receptors

4.11 For the purpose of the assessment, six NSRs in the vicinity of the Site have been included, as follows;

- NSR1, NSR2 and NSR3 – Dwellings located on Junction Road, located to the west of the Site;
- NSR4 and NSR5 – Dwellings on Portland Grove, located to the east of the Site; and
- NSR6 – Churchill Living, located on Chantry Street to the east of the Site.

4.12 The NSRs have been identified in Figure 4.1.

Figure 4.1: Nearest Sensitive Receptors



HGV Re-routing Assessment

4.13 With the closing of the eastern arm of Western Avenue gyratory as part of the proposed Site, it is therefore important to consider the knock-on effect arising from the re-routing of HGV deliveries to Lidl on the NSRs.

4.14 Based on the 40 dB daytime background sound level outlined in Section 3.0, the likely predicted impact will be determined in accordance with the guidance outlined in BS 4124.

4.15 No night-time deliveries have been assumed as a result of Condition 4 (outlined in Paragraph 1.8) and as such, a night-time assessment has not been undertaken.

HGV Sound Levels

4.16 For the purpose of this assessment sound level data for an HGV pass by event has been taken from MEC's in house library data. This is summarised in Table 4.1.

Table 4.1: HGV Sound Level Data, dB

Activity	SWL in Octave Band Centre Frequency (Hz)								SWL
	63	125	250	500	1k	2k	4k	8k	
HGV Arriving and Manoeuvring	99	94	93	94	97	93	86	78	100

4.17 To account for the HGV movements within a 1-hour assessment period, a moving point source has been included within the model based on the sound levels in Table 4.1. The moving point source assumes the HGV to pull into the car park and continue to move through the car park until it reaches the loading bay located on the western façade of the Lidl building.

NSRs

4.18 The most exposed NSRs to the re-routing of the HGVs through the car park are those located to the south of Portland Grove. These are highlighted as NSR5 in Figure 4.1.

Model Outputs

4.19 The acoustic model has been used to predict sound levels at NSR5 in the following BS 4142 assessment scenario:

- Daytime $L_{Aeq,1hr}$ external sound levels at ground floor (1.5m) height.

4.20 The sound level contour map for the above scenario is presented in **Appendix F**.

5.0 ACOUSTICS ASSESSMENT

Traffic Assessment

Short Term Impact

5.1 The predicted change in $L_{A10,18hr}$ sound levels and the resulting short term impact of the traffic flow changes in accordance with DMRB is summarised in Table 5.1.

Table 5.1: Short Term Impact Assessment

NSR	Sound Level $L_{A10,18hr}$ dB		Sound Level Change dB [B – A]	Impact
	DMOY [A]	DSOY [B]		Short Term
1	58.0	58.0	0	Negligible
2	58.4	58.6	+0.2	Negligible
3	57.9	58.2	+0.3	Negligible
4	53.4	55.0	+1.6	Minor
5	53.4	53.4	0	Negligible
6	60.8	60.8	0	Negligible

5.2 The results demonstrate that for dwellings located along Junction Road (NSRs 1, 2, 3), dwellings located on the southern portion of Portland Grove (NSR5) and Churchill Living (NSR6), the adjustment to the road network will have a **'Negligible'** impact in the short-term.

5.3 However, for dwellings located on the northern portion of Portland Grove (NSR4), a **'Minor'** impact would be predicted in the short-term.

5.4 The $L_{A10,18hr}$ and L_{night} values have been compared against the Effect Level value presented in DMRB.

Table 5.2: Short Term Effect Level Change

NSR	DMOY				DSOY			
	$L_{A10,18hr}$	Effect Level	L_{night}	Effect Level	$L_{A10,18hr}$	Effect Level	L_{night}	Effect Level
1	58.0	LOAEL	49.4	LOAEL	58.0	LOAEL	49.4	LOAEL
2	58.4	LOAEL	54.8	SOAEL	58.6	LOAEL	55.1	SOAEL
3	57.9	LOAEL	51.1	LOAEL	58.2	LOAEL	51.3	LOAEL
4	53.4	LOAEL	48.5	LOAEL	55.0	LOAEL	50.1	LOAEL
5	53.4	LOAEL	47.7	LOAEL	53.4	LOAEL	48.0	LOAEL
6	60.8	LOAEL	51.7	LOAEL	60.8	LOAEL	51.7	LOAEL

5.5 It can be seen that for the daytime, all NSRs have an Effect Level of LOAEL in both the 'Do Minimum' and 'Do Something' scenarios. Therefore, development results in no change of Effect Level for the daytime based on the road network adjustments.

5.6 For night-time, all NSRs with the exception of NSR2 have an Effect level of LOAEL in both scenarios. NSR2 has SOAEL for both scenarios, with only a very minor increase in L_{night} sound levels of 0.3 dB predicted between the scenarios. It can therefore be concluded that the road network adjustments result in no change to the Effect Level.

5.7 It is further noted that the predicted $L_{A10,18hr}$ sound levels fall below the 68 dB Noise Insulation Regulations criteria and therefore do not qualify for statutory compensation under the Noise Insulation Regulations.

Long Term Impact

5.8 The predicted change in $L_{A10,18hr}$ sound levels and the resulting long term impact of the traffic flow changes in accordance with DMRB is summarised in Table 5.3.

Table 5.3: Long Term Impact Assessment

NSR	Sound Level $L_{A10,18hr}$ dB		Sound Level Change dB [B – A]	Impact
	DMOY [A]	DSFY [B]		Long Term
1	58.0	58.4	+0.8	Negligible
2	58.4	59.7	+0.3	Negligible
3	57.9	59.2	+1.3	Negligible
4	53.4	56.8	+3.4	Minor
5	53.4	54.1	+0.7	Negligible
6	60.8	63.5	+2.7	Negligible

5.9 The results demonstrate that for dwellings located along Junction Road (NSRs 1, 2, 3), dwellings located on the southern portion of Portland Grove (NSR5) and Churchill Living (NSR6), the adjustment to the road network will have a '**Negligible**' impact in the long term.

5.10 However, for dwellings located on the northern portion of Portland Grove (NSR4), a **'Minor'** impact would be predicted in the long term.

5.11 The $L_{A10,18hr}$ and L_{night} values have been compared against the Effect Level value presented in DMRB.

Table 5.4: Long Term Effect Level Change

NSR	DMOY				DSFY			
	$L_{A10,18hr}$	Effect Level	L_{night}	Effect Level	$L_{A10,18hr}$	Effect Level	L_{night}	Effect Level
1	58.0	LOAEL	49.4	LOAEL	58.4	LOAEL	49.6	LOAEL
2	58.4	LOAEL	54.8	SOAEL	59.7	LOAEL	56.1	SOAEL
3	57.9	LOAEL	51.1	LOAEL	59.2	LOAEL	52.2	LOAEL
4	53.4	LOAEL	48.5	LOAEL	56.8	LOAEL	51.7	LOAEL
5	53.4	LOAEL	47.7	LOAEL	54.1	LOAEL	48.5	LOAEL
6	60.8	LOAEL	51.7	LOAEL	63.5	LOAEL	54.0	LOAEL

5.12 It can be seen that for the daytime, all NSRs have an Effect Level of LOAEL in both the 'Do Minimum' and 'Do Something' scenarios. Therefore, development results in no change of Effect Level for the daytime based on the road network adjustments.

5.13 For night-time, all NSRs with the exception of NSR2 have an Effect level of LOAEL in both scenarios. NSR2 has SOAEL for both scenarios, with only a very minor increase in L_{night} sound levels of 1.3 dB predicted between the scenarios. It can therefore be concluded that the road network adjustments result in no change to the Effect Level.

5.14 It is further noted that the predicted $L_{A10,18hr}$ sound levels fall below the 68 dB Noise Insulation Regulations criteria and therefore do not qualify for statutory compensation under the Noise Insulation Regulations.

Proposed Greenspace Sound Levels

5.15 In absence of any specific public greenspace sound level criteria, comparisons can be made to BS 8233's external amenity space criterion. However, it should be recognised that this criterion is not necessarily the most appropriate for such uses given that it is intended for private garden areas where residents would expect to enjoy a certain level of amenity for extended periods.

5.16 Drawings 28483_04_120_09 and 28483_04_120_11 in **Appendix E** demonstrate the external $L_{Aeq,16hr}$ sound levels with and without the road adjustments. It can be seen that sound levels in the western portion of the greenspace would have a marginal increase in sound levels as a result the increased traffic flows arising from Western Avenue becoming two-way.

5.17 However, with the closing of the eastern circulatory of the Western Avenue Gyratory, $L_{Aeq,16hr}$ sound levels are predicted to decrease in the eastern portion of the proposed greenspace, with a larger proportion of the greenspace falling under 60 dB and therefore fall closer in line with the BS 8233's 55 dB private external living area criteria. This therefore, shows a benefit to the greenspace arising from the road adjustments.

5.18 Where there are exceedances, these should be expressed against the caveats included in BS 8233 which states the following *"... it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited."*

HGV Re-routing Assessment

5.19 Given that the NSRs are already exposed to vehicle movements within Lidl car park combined with buses travelling down West Street to Andover Bus Station, it is considered that the noise emanating from HGV pass bys would unlikely be out of character for the area. As such, no character corrections have been applied in accordance with BS 4142.

5.20 The resulting Initial Numerical Impact Assessments (INIA) for NSR5 is presented in Table 5.5.

Table 5.5: Initial Numerical Impact Assessment

Assessment Step	NSR5
Modelled Specific Sound Level [A]	32 dB $L_{Aeq,1hr}$
Acoustic Character Correction [B]	-
Rating Level [C = A + B]	32 dB $L_{Ar,1hr}$
Background Sound Level [D]	40 dB L_{A90}
Rating over Background [E = C – D]	-8 dB
Estimation of Impact[(a)]	Low
[(a)] Impact dependent upon context and other pertinent factors.	

5.21 During the daytime, the rating level due to HGV pass bys lies 8 dB below the measured background sound level of 40 dB L_{A90}. Therefore, the overall conclusion in accordance with BS 4142 is that "*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"*.

5.22 As such, no additional mitigation would be required for the most exposed NSRs.

6.0 CONCLUSIONS

6.1 MEC has been commissioned by Test Valley Borough Council to undertake an Acoustics Assessment for a proposed greenspace development at Western Avenue, Riverside Park, Andover.

6.2 The assessment has been undertaken in accordance with DMRB and the Noise Insulation Regulation 1975 based upon traffic flows and the associated acoustic modelling.

6.3 The short-term and long-term impacts of the development have been assessed and it has been established that a 'Negligible' impact will be experienced at the majority of NSRs in close proximity to the road alterations. However, for NSRs in close proximity to West Street (north of Lidl), a 'Minor' impact has been predicted in the short term and long term.

6.4 The significance of the impact has then been determined against the Effect Level criteria outlined in DMRB. For both the daytime and night-time, in the short-term and long-term, no Effect Level change. It is therefore considered that no mitigation will be required for the existing NSRs.

6.5 Overall, it can be concluded that based on the assessment presented within this report, no existing dwelling, on any road link predicted to be influenced by the proposed development, will qualify for statutory compensation under the Noise Insulation Regulations as a result of the adaption of the road network.

6.6 Furthermore, the assessment has also demonstrated that the road layout adjustment would produce a partial betterment to the ambient sound levels within the proposed greenspace area as a result of the closing of the eastern circulatory of the Western Avenue Gyratory.

6.7 With regards the likely impact arising from the re-routing of HGVs through the Lidl car park, the initial impact assessment in accordance with BS 4142 indicates that the resulting Rating Level at the NSR's would fall 8 dB below the 40 dB L_{A90}. Therefore, the overall conclusion in accordance with BS 4142 is that "*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"*.

6.8 Subsequently, it is considered that the Site is suitable for the proposed greenspace and associated road network alterations from an acoustics perspective.

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APPENDICES

APPENDIX A


A3057 Western Avenue
West Street
Chantry Street
Portland Grove
Waterloo Court
LEGEND
Boundary
Site boundary
Southern Water extend of work
Level
Existing level
Proposed level
Paving
Pavement
Concrete paving blocks
Cycleway
Park path
Play safety surface
Natural stone paving
GRP grating deck
Tactile paving
Kerb
Road kerb
Metal edge
Furniture
Timber bench
Wall top timber seating
Concrete wall
Water feature
Metal wall
Balustrade
Fencing
Play equipments
Pavilion
Sheffield cycle stands
Bins
Lighting column
Lighting bollard
Tree (potential location)
Existing tree
Existing tree
Existing tree
Boundary trees
Feature tree
River tree
Planting
Existing mowed lawn retained
Existing woodland planting retained
Protective holt
Active glade
Chalk woodland
Passive grassland
Standard grass seed
Reinforced lawn
Rev Date Description Drn Chk App
Scale 1:500
Do not scale from this drawing
All dimensions are to be verified on site
© Drawing & design © copyright LUC
LUC
www.landuse.co.uk
Project
Andover Western Avenue
Riverside Park
Client
Test Valley Borough Council
LUC Job Nr Scale @A1 Status
12766 1:500 S1-Suitable for co-ordination
Drawing Title
General Arrangement
Landscape Layout
Drawing Nr Issue
12766-LUC-XX-XX-DR-L-0001 P05

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APPENDICES

APPENDIX B

GLOSSARY OF TECHNICAL TERMS

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude, but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source.

The most widely used weighting mechanism that best corresponds to the response of the human ear is the 'A'-weighting scale. This is widely used for environmental noise measurements, and the levels are denoted as dB(A) or L_{Aeq}, L_{A90} etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions.

Typical sound levels found in the environment

Sound Level	Location
0 dB(A)	Threshold of hearing
20 to 30 dB(A)	Quiet bedroom at night
30 to 40 dB(A)	Living room during the day
40 to 50 dB(A)	Typical office
50 to 60 dB(A)	Inside a car
60 to 70 dB(A)	Typical high street
70 to 90 dB(A)	Inside a factory
100 to 110 dB(A)	Burglar alarm at 1m away
110 to 130 dB(A)	Jet aircraft taking off
140 dB(A)	Threshold of pain

Descriptor	Terminology
Sound Pressure	Sound, or sound pressure, is a fluctuation in air pressure over the static ambient pressure.
Sound Pressure Level	The sound level is the sound pressure relative to a standard reference pressure of 20μPa (20x10-6 Pascals) on a decibel scale.
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s1 and s2 is given by 20 log10 (s1 / s2). The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is 20μPa.
A-weighting (dB(A))	The unit of sound level, weighted according to the A-scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
$L_{eq, T}$	A noise level index called the equivalent continuous noise level over the time period, *T*. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
$L_{AFmax, T}$	A noise level index defined as the maximum noise level during the measurement period. L_{Max} is sometimes used for the assessment of discrete loud noises, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. It is typically measured using the 'fast' sound level meter response.
$L_{90, T}$	A noise level index. The noise level exceeded for 90% of the time over the period, *T*. *L*90 can be considered to be the "average minimum" noise level and is often used to describe the background noise.
$L_{10, T}$	A noise level index. The noise level exceeded for 10% of the time over the period, *T*. *L*10 can be considered to be the "average maximum" noise level. Generally used to describe road traffic noise.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5m.
Façade	At a distance of 1m in front of a large sound reflecting object such as a building facade.
Fast/Slow Time Weighting	Averaging times used in sound level meters.
Octave Band	A range of frequencies whose upper limit is twice the frequency of the lower limit
One-third Octave Band	A frequency band in which the upper limit is 21/3 times the frequency of the lower limit.
Rating Level	The specific sound level, plus any adjustment for characteristic feature of sound in BS 4142.
Specific Sound Level	The A-weighted L_{eq} sound level produced by a sound source during a specified period of time. Commonly known as the sound source under investigation as defined in BS 4142.
Typical Maximum Level	The 90th percentile maximum event level (L_{AFmax}) measured during a period. Used for assessing night-time maximum levels under typical and overheating conditions.

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APPENDICES

APPENDIX C

Time	$L_{Aeq,1min}$	$L_{AFmax,1min}$	$L_{A10,1min}$	$L_{A90,1min}$
21:00	46.3	51.5	49.7	41.2
21:01	44.5	50.5	48.1	40
21:02	58.7	69.7	62.9	41.3
21:03	53.9	62.6	59.4	42.4
21:04	56.7	67.6	60.3	48.3
21:05	62.9	74	65.7	59.5
21:06	55.5	61.3	58.9	48
21:07	50.8	56.4	54.4	44
21:08	56.3	60.6	58.8	50.5
21:09	57.7	63.8	60.8	52.6
21:10	59.2	64.8	61.8	52.2
21:11	56.5	77.9	56.8	45.8
21:12	47.2	52.5	50.6	41.2
21:13	50	57.5	54.9	40.5
21:14	47.9	54.7	52.2	39.6
21:15	50.8	60.1	56.3	40.7
21:16	53.6	61.7	58	42.6
21:17	48.3	56.3	51.8	41.2
21:18	51.1	59.3	55.4	44.8
21:19	44.6	50.2	48.4	38.3
21:20	52.4	64.6	55.8	37.8
21:21	54	62	56.6	48.9
21:22	50.1	59.5	54.1	39.6
21:23	42.6	49.3	46.6	38.3
21:24	52.7	60	57.7	40.1
21:25	47.9	57.3	53.1	39.2
21:26	57.6	68.6	62	47.9
21:27	74.7	90.6	76.8	44.3
21:28	63.4	74.3	70.3	40
21:29	74.9	90.5	74.7	41.6
21:30	64.2	79.3	69.1	44.6
21:31	58.5	64.7	61.6	50.9
21:32	53.2	68.4	54.2	47
21:33	60.6	72.2	64.8	51.2
21:34	57.6	68.3	60.6	47.2
21:35	57.7	65.8	62.9	41.5
21:36	56.8	69.1	61.4	40.1
21:37	53.1	61.5	59	41.2
21:38	58.4	68.4	63.9	45.6
21:39	45.9	54.2	48.4	40.7
21:40	51.1	59.8	56.2	42.5
21:41	56.2	64.2	60.6	44.8
21:42	44.3	60.3	46.3	39.2

Time	$L_{Aeq,1min}$	$L_{AFmax,1min}$	$L_{A10,1min}$	$L_{A90,1min}$
21:43	48.7	57.3	54.2	39.7
21:44	50.9	60.3	54.3	40
21:45	50.4	59	55	42.4
21:46	47.1	52.5	49.8	42.1
21:47	53.2	61.3	58.3	39.4
21:48	54.5	62.8	60.6	42.9
21:49	46	52.2	49.4	39.9
21:50	50.6	60.6	56.6	39.8
21:51	53.4	60.6	58	41.7
21:52	52.9	62.9	59.2	41
21:53	56.3	70.5	57.7	46.8
21:54	53.5	64.6	56.6	47.8
21:55	48.9	60.5	49.5	40.2
21:56	54	61.9	59.8	43.1
21:57	53.1	61.8	58.3	44.2
21:58	54.9	66.5	59	39.7
21:59	49	56.2	54.3	39.6

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APPENDICES

APPENDIX D

Table 1: 2028 Do Minimum Flows (2 way)

Link No.	Link Description	AM (0800-0900)		PM (1700-1800)		AAWT Estimate		
		All Vehs	HGVs	All Vehs	HGVs	All Vehs	HGVs	HGV %
1	A3507 Western Avenue Gyratory - northern arm	930	30	1272	18	13235	286	2.16%
2	A3507 Western Ave Gyratory - eastern circulatory (N of LIDL Car Park)	519	6	569	1	6540	44	0.00%
3	A3507 Western Ave Gyratory - eastern circulatory (N of Waterloo Ct)	654	27	838	18	8965	267	0.00%
4	A3507 Western Ave Gyratory - southern arm	892	35	1161	20	12334	329	2.67%
5	West St (South of Lidl)	173	27	331	25	3028	311	10.27%
6	West St (North of Lidl)	98	24	161	20	1560	261	16.73%
7	Chantry St (west of High St)	73	5	119	6	1156	68	5.91%
8	A3507 Western Avenue Gyratory - northbound arm (between N and S exit)	545	25	799	14	8076	236	2.93%
9	West Street (South of Portland Grove)	116	27	219	24	2014	305	15.12%

Table 2: 2028 Do Something Flows (2 way)

Link No.	Link Description	AM (0800-0900)		PM (1700-1800)		AAWT Estimate		
		All Vehs	HGVs	All Vehs	HGVs	All Vehs	HGVs	HGV %
1	A3507 Western Avenue Gyratory - northern arm	930	30	1272	18	13235	286	2.16%
2	A3507 Western Ave Gyratory - eastern circulatory (N of LIDL Car Park)	0	0	0	0	0	0	0.00%
3	A3507 Western Ave Gyratory - eastern circulatory (N of Waterloo Ct)	0	0	0	0	0	0	0.00%
4	A3507 Western Ave Gyratory - southern arm	892	35	1161	20	12334	329	2.67%
5	West St (South of Lidl)	54	40	116	35	1023	451	44.07%
6	West St (North of Lidl)	203	50	378	41	3492	546	15.63%
7	Chantry St (west of High St)	73	5	119	6	1156	68	5.91%
8	A3507 Western Avenue Gyratory - northbound arm (between N and S exit)	916	12	1179	6	12595	106	0.84%
9	West Street (South of Portland Grove)	130	21	258	14	2332	211	9.06%

Table 3: 2040 Do Minimum Flows (2 way)

Link No.	Link Description	AM (0800-0900)		PM (1700-1800)		AAWT Estimate		
		All Vehs	HGVs	All Vehs	HGVs	All Vehs	HGVs	HGV %
1	A3507 Western Avenue Gyratory - northern arm	1054	34	1442	20	14996	324	2.16%
2	A3507 Western Ave Gyratory - eastern circulatory (N of LIDL Car Park)	588	7	645	1	7410	49	0.67%
3	A3507 Western Ave Gyratory - eastern circulatory (N of Waterloo Ct)	741	30	949	20	10157	303	2.98%
4	A3507 Western Ave Gyratory - southern arm	1010	40	1315	22	13975	373	2.67%
5	West St (South of Lidl)	196	30	375	28	3430	352	10.27%
6	West St (North of Lidl)	111	27	183	22	1768	296	16.73%
7	Chantry St (west of High St)	83	6	135	7	1310	77	5.91%
8	A3507 Western Avenue Gyratory - northbound arm (between N and S exit)	618	28	905	16	9150	268	2.93%
9	West Street (South of Portland Grove)	131	30	248	27	2282	345	15.12%

Table 4: 2040 Do Something Flows (2 way)

Link No.	Link Description	AM (0800-0900)		PM (1700-1800)		AAWT Estimate		
		All Vehs	HGVs	All Vehs	HGVs	All Vehs	HGVs	HGV %
1	A3507 Western Avenue Gyratory - northern arm	1054	34	1442	20	14996	324	2.16%
2	A3507 Western Ave Gyratory - eastern circulatory (N of LIDL Car Park)	0	0	0	0	0	0	0.00%
3	A3507 Western Ave Gyratory - eastern circulatory (N of Waterloo Ct)	0	0	0	0	0	0	0.00%
4	A3507 Western Ave Gyratory - southern arm	1010	40	1315	22	13975	373	2.67%
5	West St (South of Lidl)	56	40	127	35	1100	451	40.98%
6	West St (North of Lidl)	237	57	428	48	3996	634	15.86%
7	Chantry St (west of High St)	83	6	135	7	1310	77	5.91%
8	A3507 Western Avenue Gyratory - two way carriageway	1038	40	1336	22	14271	373	2.62%
9	West Street (South of Portland Grove)	152	52	287	41	2638	556	21.09%

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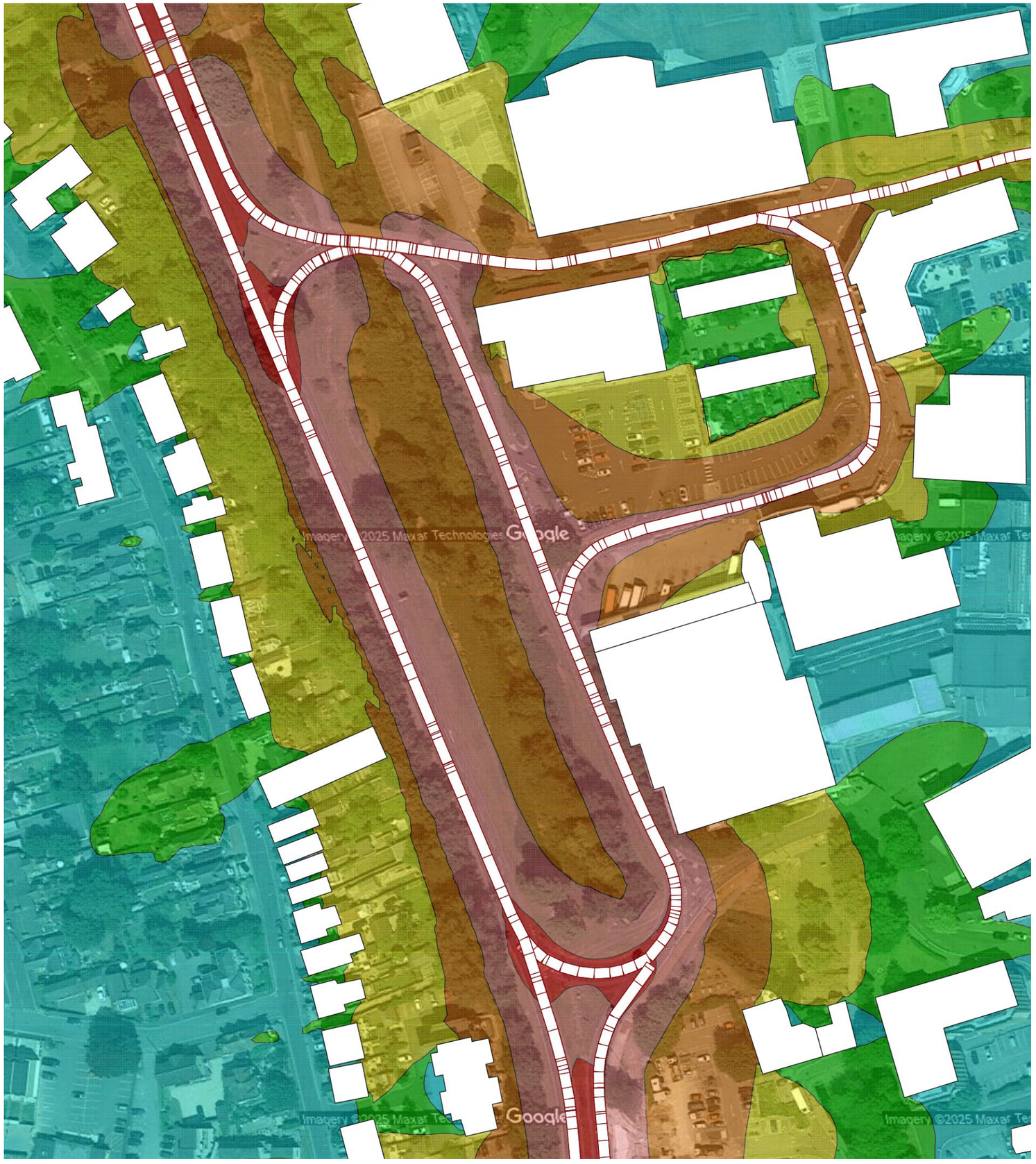
APPENDICES

APPENDIX E



N

NOTES:

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- 55–60dB(A)
- 60–65dB(A)
- 65–70dB(A)
- 70–75dB(A)
- 75–80dB(A)
- >80dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
B	UPDATED ASSESSMENT	HJ	NF	TR	01.05.25
A	UPDATED TRAFFIC FLOWS	HJ	NF	TR	11.03.25
-	-	HJ	NF	TR	31.01.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
DAYTIME EXTERNAL SOUND LEVELS
LA10,18hr
DMOY

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_01

REVISION:	SHEET SIZE:	SCALE:
B	A3	NFS

STATUS:
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REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
B	UPDATED ASSESSMENT	HJ	NF	TR	01.05.25
A	UPDATED TRAFFIC FLOWS	HJ	NF	TR	11.03.25
-	-	HJ	NF	TR	31.01.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
DAYTIME EXTERNAL SOUND LEVELS
LAeq,16hr
DMOY

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_02

REVISION:	SHEET SIZE:	SCALE:
B	A3	NFS

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- 60–65dB(A)
- 65–70dB(A)
- 70–75dB(A)
- 75–80dB(A)
- >80dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
B	UPDATED ASSESSMENT	HJ	NF	TR	01.05.25
A	UPDATED TRAFFIC FLOWS	HJ	NF	TR	11.03.25
-	-	HJ	NF	TR	31.01.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
NIGHT-TIME EXTERNAL SOUND LEVELS
Lnight
DMOY

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_03

REVISION:	SHEET SIZE:	SCALE:
B	A3	NFS

STATUS:
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KEY

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- 50–55dB(A)
- 55–60dB(A)
- 60–65dB(A)
- 65–70dB(A)
- 70–75dB(A)
- 75–80dB(A)
- >80dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
B	UPDATED ASSESSMENT	HJ	NF	TR	01.05.25
A	UPDATED TRAFFIC FLOWS	HJ	NF	TR	11.03.25
-	-	HJ	NF	TR	31.01.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
DAYTIME EXTERNAL SOUND LEVELS
LA10,18hr
DSOY

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_04

REVISION:	SHEET SIZE:	SCALE:
B	A3	NFS

STATUS:
FOR INFORMATION / APPROVAL

MEC
Consulting Group
Birmingham | Brighton | Leicester

Telephone: 01530 264 753
Email: group@m-ec.co.uk
Website: www.m-ec.co.uk

N

NOTES:

1. DO NOT SCALE THIS DRAWING.

KEY

- 0–50dB(A)
- 50–55dB(A)
- 55–60dB(A)
- 60–65dB(A)
- 65–70dB(A)
- 70–75dB(A)
- 75–80dB(A)
- >80dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
B	UPDATED ASSESSMENT	HJ	NF	TR	01.05.25
A	UPDATED TRAFFIC FLOWS	HJ	NF	TR	11.03.25
-	-	HJ	NF	TR	31.01.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
DAYTIME EXTERNAL SOUND LEVELS
LAeq,16hr
DSOY

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_05

REVISION:	SHEET SIZE:	SCALE:
B	A3	NFS

STATUS:
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REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
B	UPDATED ASSESSMENT	HJ	NF	TR	01.05.25
A	UPDATED TRAFFIC FLOWS	HJ	NF	TR	11.03.25
-		HJ	NF	TR	31.01.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
NIGHT-TIME EXTERNAL SOUND LEVELS
Lnight
DSOY

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_06

REVISION:	SHEET SIZE:	SCALE:
B	A3	NFS

STATUS:
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- >80dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
-		HJ	NF	TR	01.05.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
DAYTIME EXTERNAL SOUND LEVELS
LA10,18hr
DSFY

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_08

REVISION:	SHEET SIZE:	SCALE:
-	A3	NFS

STATUS:
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- 75–80dB(A)
- >80dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
-		HJ	NF	TR	01.05.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
DAYTIME EXTERNAL SOUND LEVELS
LAeq,16hr
DSFY

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_09

REVISION:	SHEET SIZE:	SCALE:
-	A3	NFS

STATUS:
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- 75–80dB(A)
- >80dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
-		HJ	NF	TR	01.05.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
NIGHT-TIME EXTERNAL SOUND LEVELS
Lnight
DSFY

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_10

REVISION:	SHEET SIZE:	SCALE:
-	A3	NFS

STATUS:
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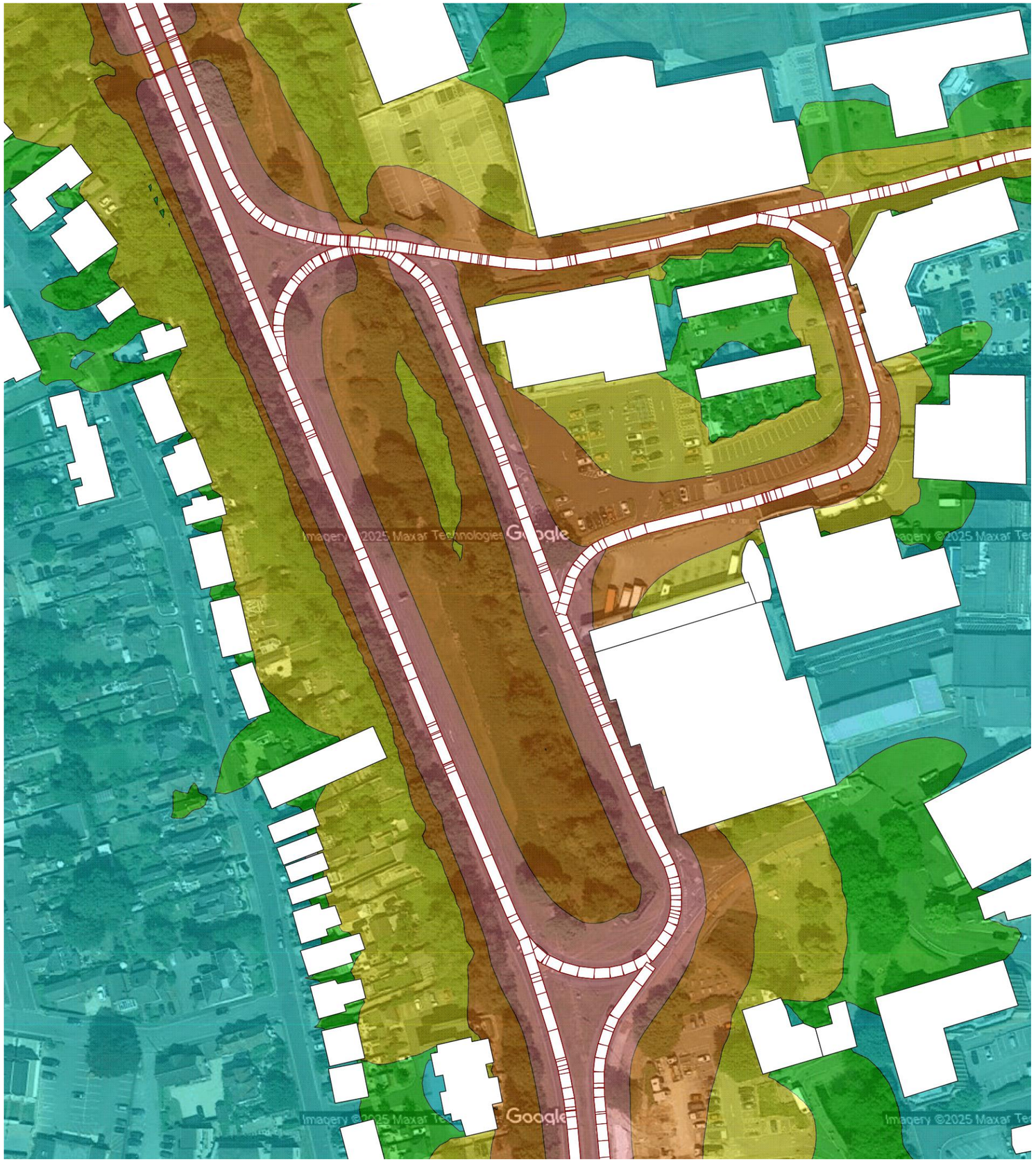

N

NOTES:

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- 50–55dB(A)
- 55–60dB(A)
- 60–65dB(A)
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- 75–80dB(A)
- >80dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
-		HJ	NF	TR	01.05.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
DAYTIME EXTERNAL SOUND LEVELS
LAeq,16hr
DMFY

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_11

REVISION:	SHEET SIZE:	SCALE:
-	A3	NFS

STATUS:
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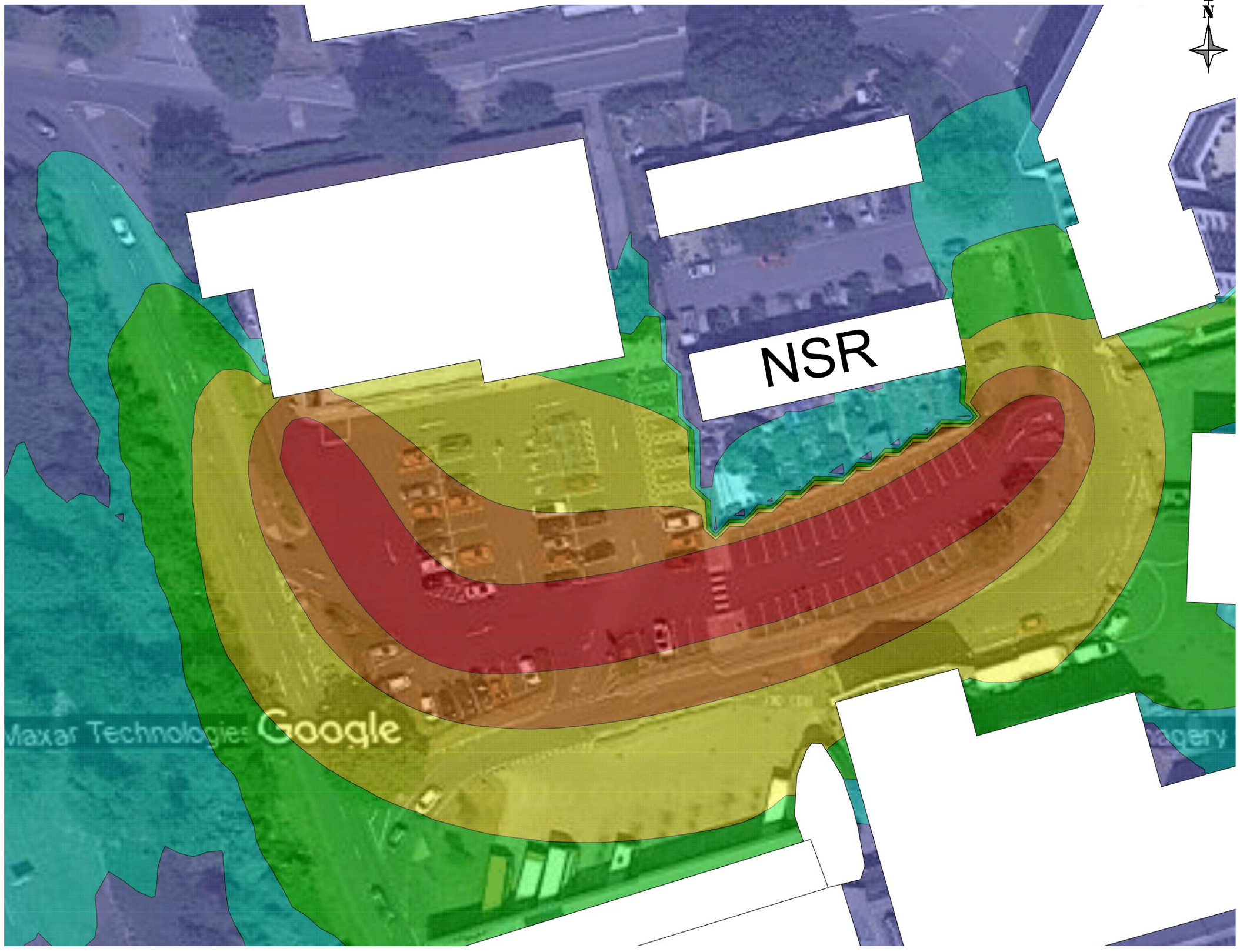
APPENDICES

APPENDIX F



NOTES:

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KEY

- <30dB(A)
- 30–35dB(A)
- 35–40dB(A)
- 40–45dB(A)
- 45–50dB(A)
- >50dB(A)

REV:	AMENDMENTS:	DRN:	CHK:	APP:	DATE:
A	UPDATED ASSESSMENT	HJ	NF	TR	01.05.25
-		HJ	NF	TR	11.03.25

PROJECT:
WESTERN AVENUE, RIVERSIDE PARK
ANDOVER

DRAWING TITLE:
DAYTIME EXTERNAL SOUND LEVELS
HGV RE-ROUTE
LAeq,1hr

CLIENT:
TEST VALLEY BOROUGH COUNCIL

DRAWING NUMBER:
28483_04_120_07

REVISION:	SHEET SIZE:	SCALE:
A	A3	NFS

STATUS:
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