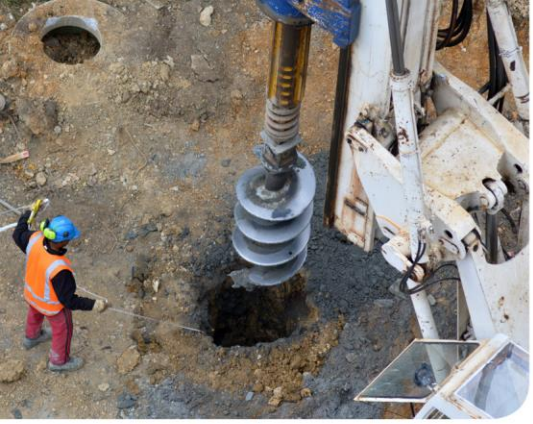


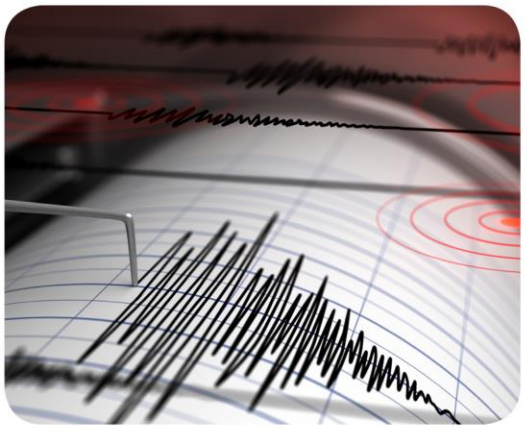
Air & Acoustic Consultants

The Arch Company

30-38 Prowse Place, Camden

Noise Assessment

December 2020



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Noise Assessment

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The Arch Company

30 – 38 Prowse Place, Camden

Noise Assessment

CONTENTS

1 Introduction

1.1 Brief

1.1.1 Air & Acoustic Consultants Limited have been commissioned by Arch Co to undertake a Noise Assessment to support a planning application for a mixed use (Use Classes D1, B1 and A1) development.

1.2 Application Site

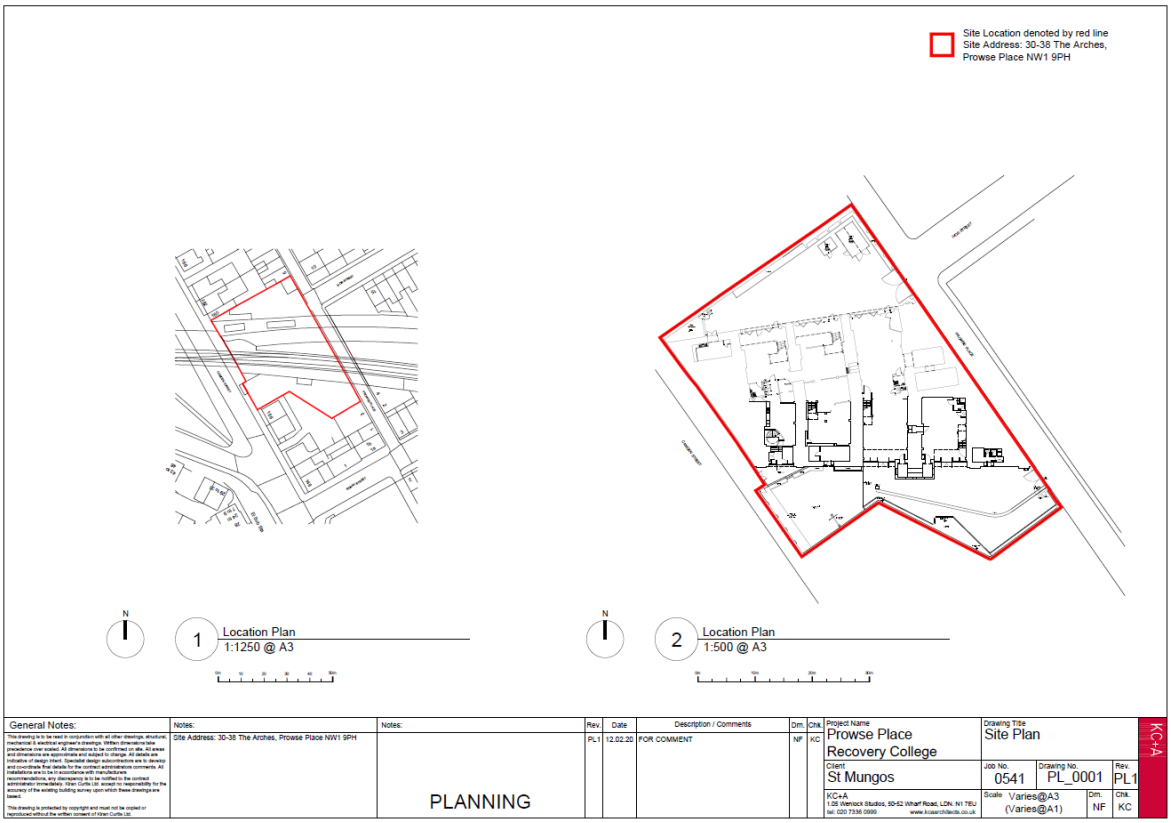
1.2.1 The Site is located at Arches 30-38 adjacent to 5 Prowse Place and 156 Camden Street (formerly 3a Prowse Place (Site)), London, NW1 9PN and comprises of a row of double height arches beneath the London Overground line that runs east-west across the site towards Camden Road Station.

1.2.2 The Site was occupied for 10 years, (until 2018) by a Warren Evans who manufactured beds and mattresses under the current lawful use of Sui Generis, made up of a mixture of retail show rooms (Class A1), office space (Class B2) as well as some storage space (Class B8).

1.2.3 The surrounding area includes other commercial operations and existing residential properties on Prowse Place and Ivor Street.

1.2.4 The National Grid Reference for the centre of the site is, TQ 29026 84231, (British National Grid co-ordinates E: 529026, N: 184231) and the site location and surrounding area are shown in Figure 1.1.

Figure 1.1: Site Location



1.2.5 In terms of the existing noise climate around the site, during both the daytime and night-time this is dominated by noise from train use of the London Overground line but also road traffic travelling on the Camden Street, Prowse Place and Ivor Street.

1.2.6 The Environmental Noise Directive (END) requires, on a five-yearly cycle, the production of strategic noise maps. The Regulations identify Defra as the competent authority for preparing and adopting Noise Action Plans for agglomerations, major roads and major railways. An extract from the 29 March 2019 Noise Maps is provided in Figure 1.2

Figure 1.2: DEFRA Noise Action Planning Mapping

1.3 Development Proposals

1.3.1 The proposed development to which this Noise Assessment relates, is for flexible E / B2 /B8 use.

1.3.2 AAC have been commissioned to undertake a noise impact assessment to predict the likely noise effects upon the existing residential amenity in the vicinity of the Site.

1.3.3 This report concerns the assessment and / or control of atmospheric noise from the proposed development affecting neighbouring noise sensitive receptors.

1.4 Assessment Scope

1.4.1 The proposed development has the potential to cause noise effects from the following sources:

- The associated construction works (minor and temporary)
- Changes in road traffic flows on the local highway network; and
- Operational noise from fixed plant and equipment.

1.4.2 The report is structured as follows:

- **Section 2** - set out an overview of the national legislation and noise policy context, in relation to the development proposals;
- **Section 3** - details the methodology for estimating the noise impacts;
- **Section 4** - describes the baseline conditions;
- **Section 5** - considers the construction phase noise impacts;
- **Section 6** - considers the operational phase noise impacts;
- **Section 7** - summarises and concludes the assessment.

1.4.3 To assist with the understanding of this report a glossary of acoustic terms is provided in Appendix A.

2 Legislation and Policy Context

2.1 Introduction

2.1.1 The prediction and assessment of the likely noise impacts of the proposed development has been considered against the relevant legislation policy and guidance regarding noise, which are discussed in turn below.

2.2 National Planning Policy Framework (NPPF), 2019

2.2.1 The NPPF sets out the Government's planning policy for England. At its heart is an intention to promote more sustainable development. The NPPF addresses noise as a planning issue primarily through the following statement, at paragraph 180:

"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

** for the definition of adverse impacts reference is made here to the Explanatory Note to the NPSE 2010 i.e. the observable effect levels."*

2.2.2 Paragraph 182 introduces the "Agent of Change" principal as follows:

"Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities..... Existing businesses and facilities should not have unreasonable restrictions placed upon 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 development has been completed"

2.2.3 The NPPF refers to the Noise Policy Statement for England (NPSE) for advice on the achievement of these policy aims, and particularly in connection with the explanation of "adverse impacts."

2.3 Noise Policy Statement for England (NPSE), 2010

2.3.1 The NPSE is the overarching Government policy on noise. It seeks to clarify the underlying principles and aims in past and existing policy documents, legislation, and guidance in relation to all forms of noise including environmental noise, neighbour noise and neighbourhood noise (but not noise in the workplace).

2.3.2 It uses the established concepts of No Observed Effect Level (NOEL) and Lowest Observed Adverse Effect Level (LOAEL). The NPSE extends these by introducing Significant Observed Adverse Effect Level (SOAEL). This is the level above which significant adverse effects on health and quality of life occur. However, the explanatory note to the NPSE states that it is not possible to identify a single objective value to define SOAEL for noise that is applicable to all sources of noise in all situations. It is likely to be different for different noise sources, for different receptors and at different times.

2.3.3 The NPSE's vision is to:

"Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.

This long-term vision is supported by the following aims:

- *Avoid significant adverse impacts on health and quality of life;*
- *Mitigate and minimise adverse impacts on health and quality of life; and*
- *Where possible, contribute to the improvement of health and quality of life, through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development."*

2.3.4 The second aim of the NPSE refers to noise impacts that lie somewhere between LOAEL and SOAEL. The NPSE asserts that, while this means that all reasonable steps should be taken to mitigate and minimise adverse effects, this does not mean that such adverse effects cannot occur.

2.4 Planning Practice Guidance (Noise),2019

2.4.1 The Government has published Planning Practice Guidance on a range of subjects including noise. The guidance forms part of the NPPF and provides advice on how to deliver its policies. The NPPG (Noise) reiterates general guidance on noise policy and assessment methods provided in the NPPF, NPSE and British Standards, and contains examples of acoustic environments commensurate with various effect levels.

2.4.2 Paragraph 006 of (Reference ID: 30-006-20190722) of the NPPG (Noise) explains that:

'The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation.'

2.4.3 Paragraph: 004 Reference ID: 30-004-20190722 of the NPPG (Noise) describes the different effect levels which are defined and briefly outlined below:

- No Observable Effect Level (NOEL);
- Lowest Observable Adverse Effect Level (LOAEL); and

- Significant Observed Adverse Effect Level (SOAEL).

2.4.4 The NPPG (Noise) describes noise that is not noticeable to be at levels below the NOEL. Noise exposures in this range are below the LOAEL and no mitigation is required. The NPPG (Noise) suggests that noise exposures above the LOAEL cause small changes in behaviour. Examples of noise exposures above the LOAEL provided in the NPPG (Noise) are having to turn up the volume on the television; needing to speak more loudly to be heard; or, where there is no alternative ventilation, closing windows for some of the time because of the noise. In line with the NPPF and NPSE, the NPPG (Noise) states that consideration needs to be given to mitigating and minimising effects above the LOAEL, but also to taking account of the economic and social benefits being derived from the activity causing the noise. The NPPG (Noise) suggests that noise exposures above the SOAEL cause material changes in behaviour. Examples of noise exposures above the SOAEL provided in the NPPG (Noise) are, where there is no alternative ventilation, keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. In line with the NPPF and NPSE, the NPPG (Noise) states that effects above the SOAEL should be avoided and that whilst the economic and social benefits derived from the activity causing the noise must be taken into account, such exposures are undesirable.

2.4.5 The non-numeric guidance contained within the NPPG (Noise), based upon the starting point in the NPSE, is summarised in Table 2.1.

Table 2.1: Summary of Guidance from NPSE and PPGN

Perception	Examples of Outcomes	Increasing Effect Level	Action
	No Observed Adverse Effect Level		
Not noticeable	No Effect	No Observed Effect	No specific measures required
Noticeable and not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
	Lowest Observed Adverse Effect Level		

Perception	Examples of Outcomes	Increasing Effect Level	Action
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and / or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
	Significant Observed Adverse Effect Level		
Noticeable and disruptive	The noise causes a material change in behaviour and / or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening, and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
`Noticeable and very disruptive	Extensive and regular changes in behaviour and / or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation / awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

2.4.6 In line with the NPPF and the NPSE, the guidance confirms that significant adverse effects should be avoided. At the next level down in the hierarchy, where there is an observed adverse effect, the NPPG (Noise) confirms that effects should be mitigated and reduced to a minimum (as far as reasonably practicable). No mitigation measures are required for effects that are considered to be below the lowest observed adverse effect level (LOAEL).

2.4.7 However, along with the NPSE it does not provide any numerical of definition of the NOEL, LOAEL and SOAEL.

2.4.8 The NPSE refers to the World Health Organisation (WHO) when discussing noise impacts. The WHO Guidelines for Community Noise (1999) suggest guideline values for internal noise exposure which take into consideration the identified health effects and are set, based on the lowest effect levels for general population. Guideline values for amenity which relate to external noise exposure are set at 50 or 55 dB(A), representing daytime levels below which most of the adult population will be protected from becoming moderately or seriously annoyed.

2.5 Local Planning Policy

2.5.1 The Camden Local Plan was adopted in July 2017 and replaced the Core Strategy and Camden Development Policies documents as the basis for planning decisions and future development in the borough.

2.5.2 Policy A4 *Noise and Vibration*, states:

"Development should have regard to Camden's Noise and Vibration Thresholds (Appendix 3). We will not grant planning permission for:

a. development likely to generate unacceptable noise and vibration impacts; or

b. development sensitive to noise in locations which experience high levels of noise, unless appropriate attenuation measures can be provided and will not harm the continued operation of existing uses.

We will only grant permission for noise generating development, including any plant and machinery, if it can be operated without causing harm to amenity. We will also seek to minimise the impact on local amenity from deliveries and from the demolition and construction phases of development."

2.5.3 Appendix 3: Noise thresholds, provides further guidance on specific noise assessments which is set out in has been provided as Appendix B.

3 Assessment Approach

3.1 Construction Impacts

3.1.1 The development does not include any demolition or construction work and is limited to fitting out the existing structure for the new proposed use.

3.1.2 The potential adverse effects from temporary fitting out works have been considered based upon the typical type of activity, the nature of the existing structure and the location of the potential receptors. The assumptions have been based upon the experience of working on similar projects.

3.2 Operational Impacts

BS4142:2014 - Methods for Rating and Assessing Industrial and Commercial Sound

3.2.1 This standard commenced on 31st October 2014, replacing BS4142:1997 Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas. There are several changes from the previous standard especially regarding the penalties applied for acoustic features and the rating scale. The current standard can be used for assessing sound from:

- industrial and manufacturing processing;
- fixed installations which comprise mechanical and electrical plant;
- sound from loading and unloading of goods and materials at industrial and/or commercial premises; and
- Sound from mobile plant and vehicles which are an intrinsic part of the overall process such as forklift trucks, train or ship movements on or around an industrial and/or commercial site.

3.2.2 The standard indicates that certain features can increase the significance of impact over that expected from a basic comparison between the specific sound level and the background sound level. Where such features are present at the assessment location, the standard requires that a character correction be added to the specific sound level to obtain the rating level. The standard describes various methods for determining the character correction including a subjective approach which is summarised in Table 3.1.

Table 3.1: Subjective Corrections to be Applied to Specific Sound Level if These Features Exist at the Receptor Location.

Tonality	Impulsivity	Other sound Characteristics	Intermittency
+2 dB just perceptible	+3 dB just perceptible	Where specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distinctive against the residual environment, a penalty of 3 dB can be applied.	Where specific sound has identifiable on off conditions which are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.
+4 dB clearly perceptible	+6 dB clearly perceptible		
+6 dB highly perceptible	+9 dB highly perceptible		
The standard indicates that where tonal and impulsive characteristics are present within same reference period these two corrections can both be considered. If one feature is dominant, then it might be appropriate to apply a single correction. Where both features are likely to affect perception and response, the corrections are normally added in a linear fashion.			

3.2.3 Once the specific sound level is corrected to the rating level, the representative background sound level is subtracted from the rating level to provide an initial estimate of the impact - the greater the difference, the greater the magnitude of the impact. The standard states that:

- 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;

- 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; and
- 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.

3.2.4 The standard indicates that, consideration of the context includes taking account of, as appropriate, the absolute noise level of the sound, the character and level of the specific sound compared to that of the residual sound and the sensitivity of the receptors including the existence or otherwise of any façade insulation treatment.

Design Manual for Roads and Bridges (DMRB) Updated March 2020 – Operational Traffic Impacts

3.2.5 When considering two sounds with similar acoustic properties (i.e. similar spectral and temporal characteristics) a change of more than 3dB LA is regarded as being just perceptible to the human ear. It is generally accepted that changes in road traffic noise levels of up to 3dB are not widely perceptible. This is confirmed in Department for Transport document Transport Analysis Guidance Unit 3.3.2 (Department of Transport, 2007). The guidance states:

"For freely flowing traffic, a difference of about 3dB in noise level is required before there is a statistically significant change in the average assessment of nuisance. The assessment of nuisance however could still be affected even if there is only a 1dB change in the noise level if the change is associated with changes in the view of traffic, or if the change occurs suddenly."

3.2.6 This highlights that people are more sensitive to abrupt changes in traffic noise associated with new road schemes than would be predicted from the steady state evidence. In the period following a change in traffic flow, people may find benefits or dis-benefits when the noise changes are as small as 1dB LA.'

3.2.7 The magnitude of traffic noise impacts from a road project should be classified into levels of impact to assist with the interpretation of the road project. The DMRB states:

3.2.8 'A change in road traffic noise of 1dB in the short term (e.g. when a project is opened) is the smallest that is considered perceptible. In the long term a 3dB changes is considered perceptible. The magnitude of impact should, therefore, be considered different in the short term and long term.'

3.2.9 The magnitude of noise impacts is assessed by comparing the increase or decrease in noise levels between scenarios described and the magnitude of noise impacts associated with road traffic noise is defined in DMRB HD213/11, reproduced as Table 3.2, (short term) and Table 3.3, (Long Term). The changes in noise level can either be increases or decreases.

Table 3.2: DMRB Short Term Magnitude of Impact

Change in Noise level e ($L_{A10,18h}$)	Magnitude of Impact
0	No Change
0.1 – 0.9	Negligible
1 – 2.9	Minor
3 – 4.9	Moderate
5+	Major

Table 3.3: DMRB Long Term Magnitude of Impact

Change in Noise level ($L_{A10,18h/Lnight,outside}$)	Magnitude of Impact
0	No Change
0.1 – 2.9	Negligible
3 – 4.9	Minor
5 – 9.9	Moderate
10+	Major

3.2.10 DMRB Section 2, Part 4. 'Environmental Assessment and Monitoring' contains guidance on describing the magnitude of impact upon receptors which is provided in Table 3.4.

Table 3.4: DMRB Impact

Magnitude of Impact (Change in Noise level/dB)		Description
Major	Adverse	Loss of Resource and/or quality and integrity of resource; sever damage to key characteristics, features or elements
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements
	Beneficial	Benefit to, or addition to, key characteristics, features or elements; improvement of attributable quality
Major	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements
	Beneficial	Minor benefit to, or addition to, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring
Negligible	Adverse	Very minor loos or detrimental alteration to one or more characteristics, features or elements
	Beneficial	Very minor benefit to, or positive addition to one or more characteristics, features or elements
No Change		No loss or alteration of characteristics, features or elements; no observable impact in either direction

BS8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings

3.2.11 British Standard BS8233:2014 'Guidance on sound insulation and noise reduction for buildings' draws on the results of research and experience to provide information on the design of buildings to provide internal acoustic environments appropriate to their functions. It deals with control of noise from outside the building, noise from plant and services within it, and room acoustics in non-critical situations.

3.2.12 BS8233:2014 defines a range of indoor ambient noise levels for spaces when they are unoccupied. A summary of the noise levels recommended in Table 4 of BS8233:2014 for rooms used for resting and sleeping, which has been replicated in Table 3.5. The levels are for sources without a specific acoustic character.

3.2.13 The noise levels defined within BS8233:2014 are based on guidance published by the World Health Organisation (WHO).

Table 3.5: Desirable Ambient Noise Levels for Dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35dB $L_{Aeq, 16hour}$	-
Dining	Dining room	40dB $L_{Aeq, 16hour}$	-
Sleeping (daytime resting)	Bedroom	35dB $L_{Aeq, 16hour}$	30dB $L_{Aeq, 8hour}$
External Noise	Amenity Spaces	50 - 55dB $L_{Aeq, 16hour}$	-

3.2.14 BS 8233:2014 provides the following guidance regarding acceptable noise levels in external amenity areas:

"'7.7.3.2 Design criteria for external noise

For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognised 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.'

3.2.15 The lower values shown in Table 3.1 above are generally regarded as the LOAEL for steady external sound, i.e. no adverse effect due to the impact of the sound would be expected. If the sound has certain characteristics, it could be appropriate to consider a lower value as the LOAEL.

3.2.16 BS 8233:2014 also states that "*Where development is necessary or desirable.... the internal target levels can be relaxed by up to 5dB and reasonable internal conditions achieved.*"

3.2.17 Table 7 from BS8233:2014 (replicated in Table 3.6.) contains the maximum noise levels for reliable speech communication. This table can be used to gauge the effect of a new noise source at a nearby receptors.

Table 3.6: Maximum Steady Noise Levels for Reliable Speech Communication

Distance **Between Talker** and **Listener** (m)	Noise level dB(A)	
	Normal Voice	Raised Voice
1	57	62
2	51	56
4	45	50
8	39	44

World Health Organisation Guidelines for Community Noise (1999)

3.2.18 The World Health Organisation's Guidelines for Community Noise have been considered regarding the potential impact from any maximum short-term noise levels. It is unknown if the Proposed Development includes any external plant. Therefore, the only operational impact noise for this assessment is associated occasional traffic to and from the Proposed Development.

3.2.19 The WHO Guidelines indicate that sound pressure levels at the outside façades of living spaces should not exceed 60dB L_{Amax} so that people may sleep with bedroom windows open. These values assume the noise reduction with a window partially open is 15dB, resulting in an internal noise level of 45dB L_{Amax}. The guidelines state that for a good sleep, indoor sound pressure levels should not exceed approximately 45dB L_{Amax} more than 10 – 15 times per night. It is generally accepted that 60dB L_{Amax} at the façade is a LOAEL.

4 Baseline Conditions

4.1 Noise Survey

4.1.1 A baseline noise survey was undertaken at two monitoring positions around the site, as detailed below, between Thursday 8th October and Monday 19th October 2020.

4.1.2 Details of the monitoring positions are as follows:

- L1 – on the Northern end of the site, within the external area of the site; and
- L2 – on the Southern end of the site, within the external area.

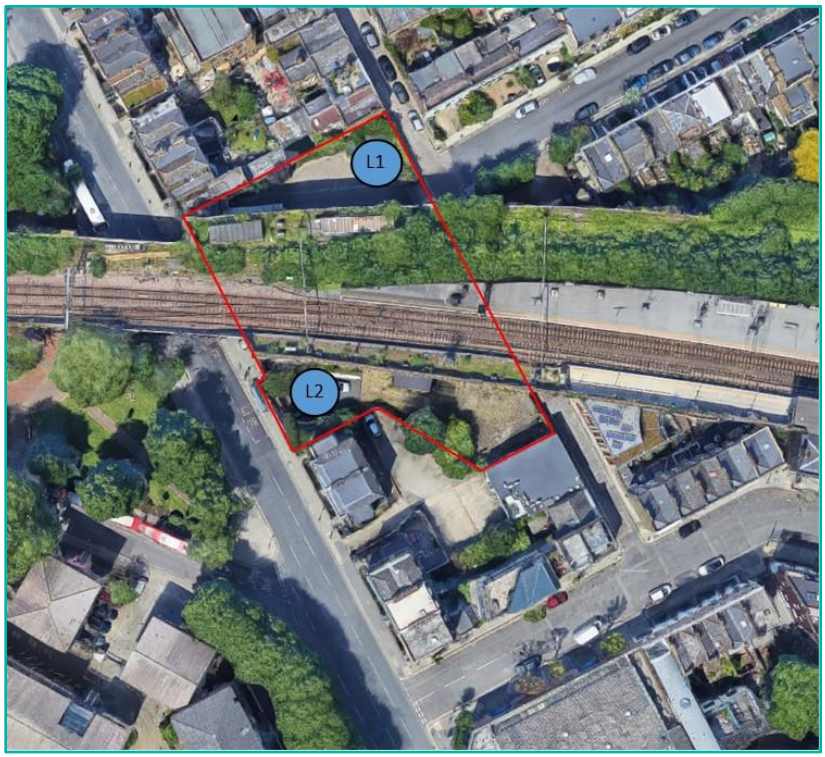
4.1.3 Both measurement positions utilised class 1 sound level meters. The microphones measurement position was in the acoustic free field, mounted on a tripod at lease 1m from the façade at a height of 1.5m above local ground level, with a windshield always fitted. Calibration checks were performed at the start and end of the survey; no significant drift in calibration was observed.

4.1.4 The details of the monitoring equipment used is set out in Table 4.1 and the monitoring positions are illustrated in Figure 4.1.

Table 4.1: Noise Monitoring Equipment

Equipment Type	Manufacturer	Model	Serial Number	Calibration Due
Sound Level Meter		Model Lxt1	4473	
Pre-Amplifier	Larson Davis	PRMLxT1	36007	03/2021
Microphone		377BO2	153565	
Sound Level Meter		Model Lxt1	5818	
Pre-Amplifier	Larson Davis	PRMLxT1	055726	03/2021
Microphone		377BO2	311751	
Calibrator	Larson Davis	Cal 200	13096	04/2020

Figure 4.1: Noise Monitoring Locations



4.1.5 The weather conditions during the survey were influenced by south-westerly winds, with average wind speeds during the majority of the survey period being below 5 metres per second (11 mph). The information provided in Table 4.2, uses data from Weather Underground, weather station: London City Airport Station, accessed on 05/11/2019).

Table 4.2: Summary of Weather Conditions

Date	Temp (°C)	Wind Speed (mph) Average	Wind Direction	Precipitation (mm)
08/10/2020	19	18.1	SW	0
09/10/2020	15	14.6	SW	0
10/10/2020	14	18.5	W	0
11/10/2020	14	12.1	W	0
12/10/2020	14	9.1	SW	0
13/10/2020	11	11.2	NW	0
14/10/2020	14	12.3	NE	0
15/10/2020	13	10.7	N	0
16/10/2020	13	6.2	NE	0
17/10/2020	12	6.8	NE	0
18/10/2020	13	5	N	0
19/10/2020	16	13.6	S	0

4.2 Noise Survey Results

4.2.1 A summary of the monitored noise results for monitoring location L1 in the northern external area of the site, has been provided as an average level for the daytime period and night-time periods in Table 4.3. The data has also been shown as a range of the 15-minute average monitored levels during the periods in Table 4.4.

Table 4.3: Noise Monitoring Average Results – L1 Northern External Area of Site

Date	Period	Average Monitored Noise Levels					
		L_{Aeq}	L_{AE}	L_{AFmin}	L_{AFmax}	L_{AF10}	L_{AF90}
08/10/20	Day 07.00 – 23.00*	59	88	44	80	61	49
	Night 23.00 – 07.00	56	85	39	75	59	43
09/10/20	Day 07.00 – 23.00	60	89	44	82	62	49
	Night 23.00 – 07.00	55	84	38	74	59	42
10/10/20	Day 07.00 – 23.00	59	88	43	79	61	48
	Night 23.00 – 07.00	54	84	36	75	58	40
11/10/20	Day 07.00 – 23.00	59	89	41	83	61	46
	Night 23.00 – 07.00	55	85	38	77	58	42
12/10/20	Day 07.00 – 23.00	60	90	47	80	63	51
	Night 23.00 – 07.00	56	86	38	75	60	42
13/10/20	Day 07.00 – 23.00	60	90	46	79	63	51
	Night 23.00 – 07.00	57	86	40	76	61	44
14/10/20	Day 07.00 – 23.00	59	89	45	79	62	49
	Night 23.00 – 07.00	55	85	39	74	59	43
15/10/20	Day 07.00 – 23.00	59	89	43	80	62	49
	Night 23.00 – 07.00	56	85	39	74	59	43
16/10/20	Day 07.00 – 23.00	59	88	43	78	61	48
	Night 23.00 – 07.00	54	84	35	72	58	40
17/10/20	Day 07.00 – 23.00	58	88	40	80	61	46
	Night 23.00 – 07.00	52	82	34	73	56	38
18/10/20	Day 07.00 – 23.00	59	89	41	82	61	47
	Night 23.00 – 07.00	54	84	38	74	58	42
Average	Day 07.00 – 23.00	59	89	43	80	62	48
	Night 23.00 – 07.00	55	85	38	74	59	42

*Based on Partial Data

Table 4.4: Noise Monitoring Results Ranges – L1 Northern External Area of Site

Date	Period	Average Monitored Noise Levels					
		L_{Aeq}	L_{AE}	L_{AFmin}	L_{AFmax}	L_{AF10}	L_{AF90}
08/10/20	Day 07.00 – 23.00*	55 - 66	84 - 95	35 - 52	66 - 92	59 - 64	42 - 55
	Night 23.00 – 07.00	48 - 61	77 - 91	32 - 45	63 - 84	52 - 62	34 - 50
09/10/20	Day 07.00 – 23.00	55 - 64	85 - 94	40 - 49	67 - 92	59 - 65	44 - 53
	Night 23.00 – 07.00	50 - 59	80 - 89	35 - 43	64 - 86	55 - 61	37 - 46
10/10/20	Day 07.00 – 23.00	56 - 62	85 - 92	40 - 46	66 - 87	60 - 63	44 - 51
	Night 23.00 – 07.00	49 - 60	78 - 89	34 - 39	64 - 85	53 - 61	36 - 43
11/10/20	Day 07.00 – 23.00	53 - 66	82 - 95	36 - 45	65 - 95	57 - 67	39 - 52
	Night 23.00 – 07.00	47 - 60	77 - 89	33 - 44	62 - 86	51 - 62	34 - 50
12/10/20	Day 07.00 – 23.00	56 - 68	85 - 97	35 - 54	67 - 93	60 - 65	39 - 56
	Night 23.00 – 07.00	51 - 60	80 - 89	31 - 43	65 - 84	55 - 63	34 - 48
13/10/20	Day 07.00 – 23.00	54 - 64	84 - 94	39 - 52	66 - 91	59 - 66	43 - 55
	Night 23.00 – 07.00	52 - 61	81 - 91	34 - 45	66 - 85	56 - 64	36 - 51
14/10/20	Day 07.00 – 23.00	54 - 62	84 - 92	37 - 51	66 - 88	58 - 64	42 - 55
	Night 23.00 – 07.00	50 - 59	79 - 89	34 - 45	64 - 85	54 - 62	36 - 50
15/10/20	Day 07.00 – 23.00	55 - 63	84 - 93	35 - 48	66 - 88	59 - 66	40 - 52
	Night 23.00 – 07.00	50 - 60	80 - 89	31 - 45	64 - 86	55 - 62	33 - 48
16/10/20	Day 07.00 – 23.00	55 - 64	85 - 94	38 - 52	66 - 90	60 - 63	43 - 56
	Night 23.00 – 07.00	51 - 59	81 - 88	30 - 39	63 - 82	55 - 60	34 - 44
17/10/20	Day 07.00 – 23.00	54 - 66	84 - 95	36 - 43	65 - 91	58 - 62	40 - 49
	Night 23.00 – 07.00	48 - 59	77 - 89	32 - 38	62 - 87	53 - 58	34 - 42
18/10/20	Day 07.00 – 23.00	53 - 64	83 - 94	36 - 51	64 - 92	58 - 66	40 - 60
	Night 23.00 – 07.00	46 - 60	76 - 90	33 - 44	62 - 85	50 - 62	35 - 49

*Based on Partial Data

4.2.2 Table(s) 4.5 and 4.6 provide the range and average monitored noise levels from position L2 within the southern external area of the site.

Table 4.5: Noise Monitoring Average Results – L2 Southern External Area of Site

Date	Period	Average Monitored Noise Levels					
		L_{Aeq}	L_{AE}	L_{AFmin}	L_{AFmax}	L_{AF10}	L_{AF90}
08/10/20	Day 07.00 – 23.00*	50	79	40	69	51	43
	Night 23.00 – 07.00	47	76	34	66	50	37
09/10/20	Day 07.00 – 23.00	51	81	42	71	53	45
	Night 23.00 – 07.00	47	77	36	63	51	39
10/10/20	Day 07.00 – 23.00	51	80	42	70	53	45
	Night 23.00 – 07.00	46	75	36	64	47	38
11/10/20	Day 07.00 – 23.00	53	83	40	72	56	43
	Night 23.00 – 07.00	44	74	33	65	47	36
12/10/20	Day 07.00 – 23.00	50	80	41	70	52	44
	Night 23.00 – 07.00	47	76	36	65	50	38
	Day 07.00 – 23.00	51	81	43	70	53	46

13/10/20	Night 23.00 – 07.00	47	77	37	73	50	40
14/10/20	Day 07.00 – 23.00	51	80	43	70	53	45
	Night 23.00 – 07.00	47	76	38	64	50	40
15/10/20	Day 07.00 – 23.00	51	81	42	71	53	45
	Night 23.00 – 07.00	49	78	36	78	49	38
16/10/20	Day 07.00 – 23.00	50	80	41	72	52	43
	Night 23.00 – 07.00	45	74	34	63	48	37
17/10/20	Day 07.00 – 23.00	49	78	39	68	51	42
	Night 23.00 – 07.00	43	73	32	62	46	35
18/10/20	Day 07.00 – 23.00	49	79	38	70	51	41
	Night 23.00 – 07.00	44	74	32	66	46	35
Average	Day 07.00 – 23.00	51	80	41	70	53	44
	Night 23.00 – 07.00	46	75	35	66	49	38

*Based on Partial Data

Table 4.6: Noise Monitoring Results Ranges – L2 Southern External Area of Site

Date	Period	Average Monitored Noise Levels					
		L_{Aeq}	L_{AE}	L_{AFmin}	L_{AFmax}	L_{AF10}	L_{AF90}
08/10/20	Day 07.00 – 23.00*	45 - 58	75 - 87	34 - 46	58 - 81	49 - 55	38 - 49
	Night 23.00 – 07.00	38 - 53	67 - 82	28 - 41	49 - 72	42 - 54	30 - 44
09/10/20	Day 07.00 – 23.00	47 - 56	76 - 86	38 - 44	56 - 79	50 - 58	41 - 48
	Night 23.00 – 07.00	40 - 52	70 - 82	32 - 42	53 - 71	44 - 56	35 - 43
10/10/20	Day 07.00 – 23.00	47 - 56	76 - 86	37 - 44	56 - 78	49 - 59	40 - 47
	Night 23.00 – 07.00	39 - 55	69 - 84	31 - 41	49 - 73	43 - 50	33 - 42
11/10/20	Day 07.00 – 23.00	45 - 64	75 - 94	36 - 46	55 - 81	48 - 68	38 - 52
	Night 23.00 – 07.00	36 - 50	66 - 79	28 - 40	48 - 73	40 - 53	29 - 43
12/10/20	Day 07.00 – 23.00	47 - 58	76 - 87	35 - 44	57 - 82	50 - 56	40 - 47
	Night 23.00 – 07.00	40 - 51	69 - 81	30 - 43	51 - 75	44 - 56	33 - 45
13/10/20	Day 07.00 – 23.00	48 - 55	77 - 85	38 - 47	57 - 79	50 - 57	41 - 50
	Night 23.00 – 07.00	41 - 53	71 - 83	31 - 43	53 - 87	44 - 55	32 - 46
14/10/20	Day 07.00 – 23.00	46 - 57	75 - 86	38 - 47	57 - 81	49 - 57	40 - 50
	Night 23.00 – 07.00	40 - 52	69 - 82	33 - 43	51 - 75	43 - 54	35 - 45
15/10/20	Day 07.00 – 23.00	47 - 57	77 - 87	38 - 45	56 - 77	50 - 60	41 - 47
	Night 23.00 – 07.00	40 - 60	70 - 90	30 - 42	51 - 93	43 - 53	32 - 44
16/10/20	Day 07.00 – 23.00	46 - 56	75 - 86	37 - 43	56 - 87	49 - 57	40 - 46
	Night 23.00 – 07.00	40 - 50	70 - 79	30 - 39	52 - 71	43 - 52	32 - 41
17/10/20	Day 07.00 – 23.00	45 - 56	75 - 85	35 - 41	55 - 81	48 - 54	39 - 44
	Night 23.00 – 07.00	36 - 48	66 - 78	28 - 38	46 - 72	41 - 51	29 - 40
18/10/20	Day 07.00 – 23.00	44 - 57	74 - 86	31 - 40	56 - 79	47 - 60	34 - 43
	Night 23.00 – 07.00	36 - 53	66 - 83	27 - 40	49 - 78	40 - 52	29 - 43

*Based on Partial Data

4.2.3 Sound levels across the site were dominated by background road traffic using the surround roads and trains passing on the overhead London Overground Camden Line. Most of the noise from road traffic is attributable to tyre interactions with the road surface which has a characteristic mid frequency tonal peak.

4.2.4 The monitored background noise level that is considered within the assessment is based on the Modal Mean, (the most frequently occurring background level) and it not intended to reflect the lowest or the average background level.

4.2.5 The use of the Modal Mean is considered to be robust in terms of assessing the background and BS:4142:2014 states: 'the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods'.

4.2.6 Table 4.7 provides the modal means from the monitoring data collected in the week 12th October to 18th October and the graphs of the background data are provided in Appendix C.

Table 4.7: Background Modal Mean Noise Levels

Date	Period	Modal Mean Background Noise Levels	
		Location L1	Location L2
12/10/20	Day 07.00 – 23.00	44	52
	Night 23.00 – 07.00	33	35
13/10/20	Day 07.00 – 23.00	46	51
	Night 23.00 – 07.00	36	38
14/10/20	Day 07.00 – 23.00	46	51
	Night 23.00 – 07.00	38	38
15/10/20	Day 07.00 – 23.00	46	50
	Night 23.00 – 07.00	35	36
16/10/20	Day 07.00 – 23.00	43	49
	Night 23.00 – 07.00	33	37
17/10/20	Day 07.00 – 23.00	42	46
	Night 23.00 – 07.00	31	39
18/10/20	Day 07.00 – 23.00	42	46
	Night 23.00 – 07.00	29	35
Average	Day 07.00 – 23.00	44	34
	Night 23.00 – 07.00	49	37

5 Construction Impacts

5.1.1 The development does not include any demolition or construction work and is limited to fitting out the existing structure for the new proposed use.

5.1.2 During the fitting out work some activities may lead to the generation of noise; however, as the external works are considered to be minimal and as the noise from the internal fit-out will partly be attenuated by the structure the potential for adverse impacts are not considered to be significant.

5.1.3 It should be noted that the noise levels at the receptors will vary depending on what area of the site the activities are taking place in, i.e. the levels are likely to be lower when works are on the furthest part of the site, and higher when on the nearest part of the site. Considering the proximity of some of the receptors to the site boundary, it is possible that the works may be audible when the activities are taking place in the proximity of a specific receptor However, it is unlikely that the activity would be in such location for a significant period of time, and therefore significant adverse effects from works would not be expected.

5.1.4 The work will be carried out under the Considerate Contractors Scheme, which, as one of its objectives, aims to reduce adverse noise impacts on nearby residents.

5.1.5 Overall, based on the experienced gained from similar sites, elsewhere, the distance between the site and the closest residential receptors combined with the existing noise from the local highway network and train line, it is anticipated that the main fitting out phases may be audible at times but will result in a negligible impact at the identified receptors.

6 Operational Impacts

6.1 Operation Activity

6.1.1 The specific end user is not known at this stage but the nature and locations of the proposed development units, does not fit the requirements of a large manufacture or distribution facility.

6.1.2 Based upon the information provided by the project transport consultants due to the nature of the development and the previous use of the site is anticipated to generate the same or less traffic than the previous use, especially with regard to heavy goods vehicles, which cannot access the site easily.

6.1.3 Access for staff and visitors will be via the existing access points from Camden Street and Prowse Place.

6.1.4 The main operation is considered to be car free and visitors and staff will be expected to travel to the site via public transport, cycle or walking. Cycle parking for staff and visitors will be provided in the southern courtyard to meet London Plan standards.

6.1.5 The existing / previous retail and distribution use of the proposed site would have included significant collections and deliveries of goods using large, ridged lorries. The proposed use is considered to represent a reduction in real terms with minimal deliveries and only using light goods vehicles such as small to medium size vans.

6.2 Operational Plant

6.2.1 The specific end use is not known at this stage, but it is noted that the existing use includes existing air handling units on the northern façade as shown in Figure 6.1. If this system was to be replaced, it is likely that any new system would be based on improved technology and efficiency resulting in lower noise emissions.

Figure 6.1: Existing Air Handling Units

6.2.2 It is proposed that the potential impact associated with any operational activity can be managed with an appropriate planning condition which prohibits the installation of any new plant or equipment without the submission of the full details of the proposed plant to the local authority, which would have to approve the proposals.

6.2.3 The closest receptors to the northern façade is the residential units at 5 Prowse Place; however, the receptors do not have windows that overlook the proposed site and the closest receptor windows are on the front and rear façade without direct line of sight to the proposed development.

6.2.4 The closest receptors to the southern façade are at 3 Prowse Place which is a neighbouring commercial unit, again the windows do not overlook the site but are on the front and rear facades, and 156 Camden Street.

6.2.5 It is not anticipated that the overall noise from any proposed plant will stand out from the background noise especially with the existing rail and road transport noise sources.

7 Summary & Conclusions

7.1 Fitting Out Phase

7.1.1 The assessment of construction noise has indicated that while some temporary adverse effects are expected during the work especially when taking place close to the receptors, significant adverse effects are not expected. Noise from all construction works will be mitigated and minimised using appropriate best practicable means (BPM) measures as required.

7.2 Operational Phase

7.2.1 The proposal represents an improvement in terms of a reduction in traffic related noise when compared to the existing / previous use of the site.

7.2.2 As the proposed use will operate as a predominantly car free development the potential for the development traffic to result in an adverse impact is considered to be negligible.

7.2.3 The replacement of the existing air conditioning system would likely result in further improvements due to new more efficient systems that are readily available.

7.2.4 The installation of any plant and or equipment can be controlled with a standard planning condition, which requires the full details to be submitted and approved prior to installation.

Appendices

Appendix A – Definition of Terms

This Appendix is an introduction to the units, scales and indices used to measure and describe noise.

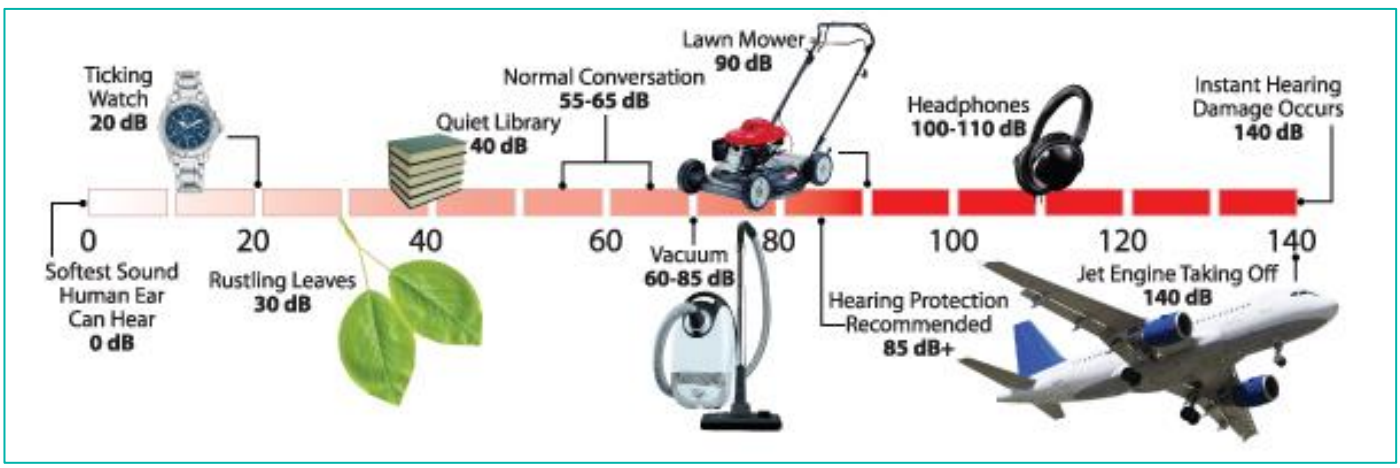
Sound Pressure - Sound, or sound pressure, is a fluctuation in air pressure over the static ambient pressure.

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.

Decibels dB - Noise is commonly defined as unwanted sound. The range of audible sound is from 0dB to 140dB, which is taken to be the threshold of pain. The sound pressure detected by the human ear covers an extremely wide range. The decibel (dB) is used to condense this range into a manageable scale by taking the logarithm of the ratio of the sound pressure and a reference sound pressure.

The decibel scale is logarithmic and therefore when two noise sources are present together, they must be combined logarithmically, therefore, when two sound sources of the same sound pressure level are combined the resultant level is 3dB(A) higher than the single source. However, in subjective terms the ear can distinguish a difference in 'loudness' between two simple noises sources when there is a 3dB(A) difference between them. I emphasis, loudness, not a measure of annoyance. Again, for simple sources, when two sounds differ by 10dB(A) one is said to be twice as loud as the other.

Examples of typical noise levels



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.

'A' Weighted Decibels dB(A) - The frequency response of the ear is usually taken to be about 18Hz (number of oscillations per second) to 18,000Hz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than at the lower and higher frequencies, and because of this, the low and high frequency component of a sound are reduced in importance by applying a weighting (filtering) circuit to the noise measuring instrument. The weighting which is most used, and which correlates best with the subjective response to noise, including that of music, is the dB(A) weighting. This electronic filter matches the variation in the frequency sensitivity of the meter to that of the human ear. This is an internationally accepted standard for noise measurements.

Other Standard Noise Units:

Unit	Meaning	Modal Mean Background Noise Levels Location L1
$L_{Aeq,T}$	Equivalent Continuous Sound Level	The A-weighted sound pressure level of a steady sound that has, over a given period, the same energy as the fluctuating sound under investigation. The LAeq provides a single value to express the average sound energy over the measurement period and is the most widely used indicator for environmental noise.
$L_{Amax,T}$	maximum 'A' weighted noise level	This is the maximum 'A' weighted noise level recorded during the measurement period, (T).
$L_{A90,T}$	the 'A' weighted noise level	This is the 'A' weighted noise level exceeded for 90% of the measurement period (T). This is normally used to describe the background noise.
$L_{A10,T}$	the 'A' weighted noise level exceeded for just 10 % of time	This is the 'A' weighted noise level exceeded for just 10 % of the measurement period, (T). This is normally used to describe traffic noise.
$L_{A90,T}$	the 'A' weighted noise level exceeded for just 90 % of time	A noise level index. The noise level exceeded for 90% of the time over the period T. L90, can be considered to be the "average minimum" noise level and is often used to describe the background noise.
L_S	Specific noise level.	The equivalent continuous A-weighted sound pressure level at the assessment position produced by the specific noise source over a given reference time interval.
$L_{Ar,Tr}$	Rating noise level	The specific noise level plus any adjustments for characteristic features of the noise.
$D_{n,c,w}$	Laboratory Insulation Rating	A single-number rating of the laboratory measurement of room-to-room airborne sound insulation of a suspended ceiling with a plenum above it.
$D_{nf,w}$	Weighted normalised flanking level difference	A single-number that quantifies the in-situ airborne sound insulation between rooms, when the transmission only occurs through a specified flanking path.
$D_{nT,w}$	Weighted standardized level difference	Single-number quantity that characterizes the in-situ airborne sound insulation between rooms.
R_w	Weighted sound reduction index.	Single-number quantity which characterizes the airborne sound insulating properties of a material or building element over a range of frequencies in a laboratory.
C_{tr}		Correction term applied against the sound insulation single-number values (Rw, Dw and DnT,w) to provide a weighting against low frequency performance.
NOEL	No Observed Effect Level	Noise Policy Statement for England (2010) - The noise level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
LOAEL	Lowest Observed Adverse Effect Level	Noise Policy Statement for England (2010) - The noise level above which adverse effects on health and quality of life can be detected.
SOAEL	Significant Observed Adverse Effect	Noise Policy Statement for England (2010) - The noise level above which significant adverse effects on health and quality of life occur.

Appendix B – Camden Local Plan Appendix 3: Noise Thresholds

Appendix 3: Noise Thresholds

The significance of noise impact varies dependent on the different noise sources, receptors and times of operation presented for consideration within a planning application. Therefore, Camden's thresholds for noise and vibration evaluate noise impact in terms of various 'effect levels' described in the National Planning Policy Framework and Planning Practice Guidance:

• NOEL – No Observed Effect Level

• LOAEL – Lowest Observed Adverse Effect Level

• SOAEL – Significant Observed Adverse Effect Level

Three basic design criteria have been set for proposed developments; these being aimed at guiding applicants as to the degree of detailed consideration needed to be given to noise in any planning application. The design criteria outlined below are defined in the corresponding noise tables. The values will vary depending on the context, type of noise and sensitivity of the receptor:

• Green – where noise is considered to be at an acceptable level.

• Amber – where noise is observed to have an adverse effect level, but which may be considered acceptable when assessed in the context of other merits of the development.

• Red – where noise is observed to have a significant adverse effect.

Proposed Developments likely to be Sensitive to Noise

Special consideration will need to be given to noise sensitive developments that are proposed in areas which are, or expected to become, subject to levels of noise likely to have an adverse effect. The threshold of acceptability of the noise will primarily depend on two factors: the intended use of the noise sensitive development and the source of the noise experienced, or likely to be experienced.

Table B: Noise levels applicable to noise sensitive residential development

proposed in areas of existing noise

Dominant Noise Source	Assessment Location	Design Period	LOAEL (Green)	LOAEL to SOAEL (Amber)	SOAEL (Red)
Anonymous noise such as general environmental noise, road traffic and rail traffic ~	Noise at 1 metre from noise sensitive façade/free field	Day	<50dB$L_{Aeq,16hr}$*	50dB to 72dB$L_{Aeq,6hr}$*	>72dB$L_{Aeq,16hr}$*
		Night	<45dB$L_{Aeq,8hr3}$ <40 dB$L_{Aeq,8hr}$**	45dB to 62dB$L_{Aeq,8hr}$* >40dBL_{night}**	>62dB$L_{Aeq,8hrs}$*
	Inside a bedroom	Day	<35dB$L_{Aeq,16hr}$	35dB to 45dB$L_{Aeq,16hr}$	>45dB$L_{Aeq,16hr}$
		Night	<30dB$L_{Aeq,8hr}$ 42dB$L_{Amax,fast}$	30dB to 40dB$L_{Aeq,16hr}$ 40dB to 73dB$L_{Amax,fast}$	>40dB$L_{Aeq,8hr}$ >73dB$L_{Amax,fast}$
	Outdoor living space (free field)	Day	<50dB$L_{Aeq,16hr}$	50dB to 55dB$L_{Aeq,6hr}$	>55dB$L_{Aeq,16hr}$
Non-anonymous noise	See guidance note on non-anonymous noise				

*LAeq, T values specified for outside a bedroom window are façade levels

**Lnight values specified for outside a bedroom window are free field levels

The levels given above are for dwellings, however, levels are use specific and different levels will apply dependent on the use of the premises. The Council will also take into account the likely times of occupation for types of development and will be amended according to the times of operation of the establishment under consideration.

Industrial and Commercial Noise Sources

A relevant standard or guidance document should be referenced when determining values for LOAEL and SOAEL for non-anonymous noise. Where appropriate and within the scope of the document it is expected that British Standard 4142:2014 'Methods for rating and assessing industrial and commercial sound' (BS 4142) will be used. For such cases a 'Rating Level' of 10 dB below background (15dB if tonal components are present) should be considered as the design criterion).

Table C: Noise levels applicable to proposed industrial and commercial developments (including plant and machinery)

Existing Noise sensitive receptor	Assessment Location	Design Period	LOAEL (Green)	LOAEL to SOAEL (Amber)	SOAL (Red)
Dwellings**	Garden used for main amenity (free field) and Outside living or dining or bedroom window (façade)	Day	'Rating level' 10dB* below background	'Rating level' between 9dB below and 5dB above background	'Rating level' greater than 5dB above background
Dwellings**	Outside bedroom window (façade)	Night	'Rating level' 10dB* below background and no events exceeding 57dBL_{Amax}	'Rating level' between 9dB below and 5dB above background or noise events between 57dB and 88dB L_{Amax}	'Rating level' greater than 5dB above background and/or events exceeding 88dBL_{Amax}

*10dB should be increased to 15dB if the noise contains audible tonal elements. (day and night). However, if it can be demonstrated that there is no significant difference in the character of the residual background noise and the specific noise from the proposed development then this reduction may not be required. In addition, a frequency analysis (to include, the use of Noise Rating (NR) curves or other criteria curves) for the assessment of tonal or low frequency noise may be required.

**levels given are for dwellings, however, levels are use specific and different levels will apply dependent on the use of the premises.

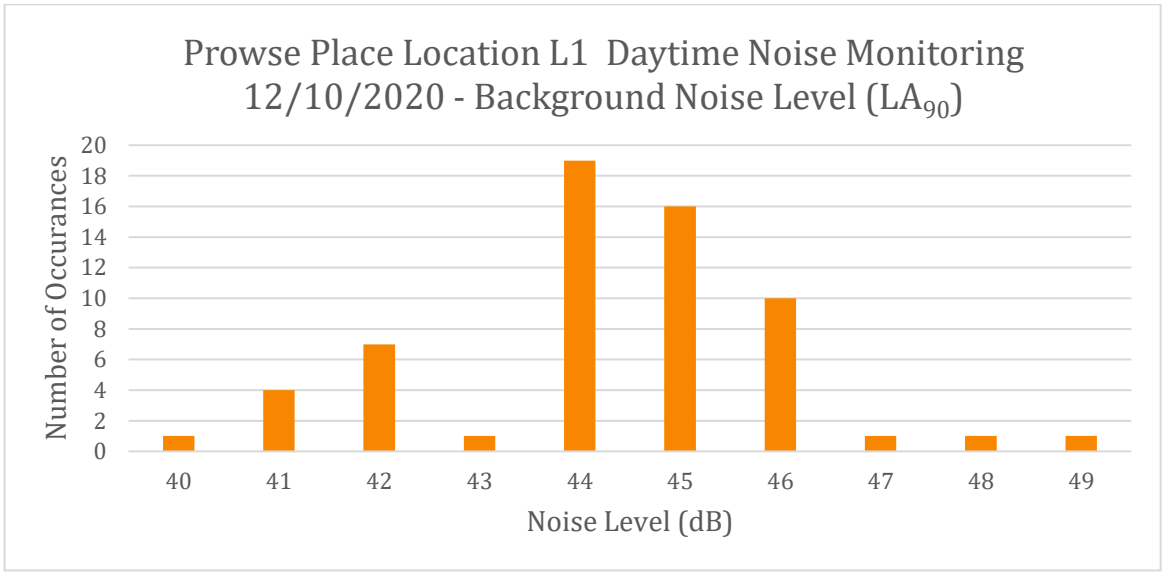
The periods in Table C correspond to 0700 hours to 2300 hours for the day and 2300 hours to 0700 hours for the night. The Council will take into account the likely times of occupation for types of development and will be amended according to the times of operation of the establishment under consideration.

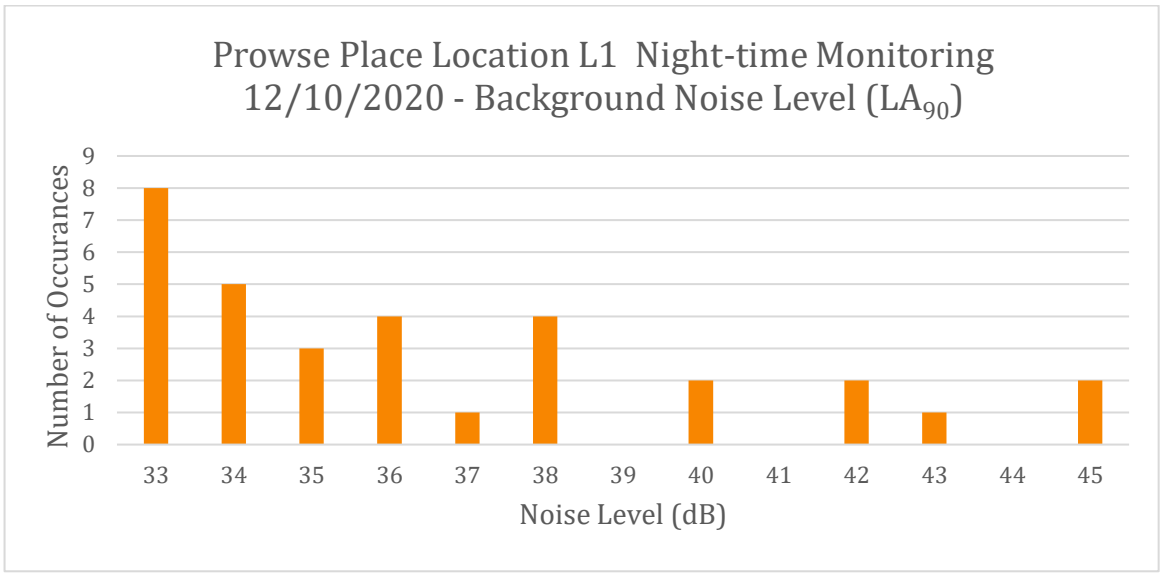
There are certain smaller pieces of equipment on commercial premises, such as extract ventilation, air conditioning units and condensers, where achievement of the rating levels (ordinarily determined by a BS:4142 assessment) may not afford the necessary protection. In these cases, the Council will generally also require a NR curve specification of NR35 or below, dependant on the room

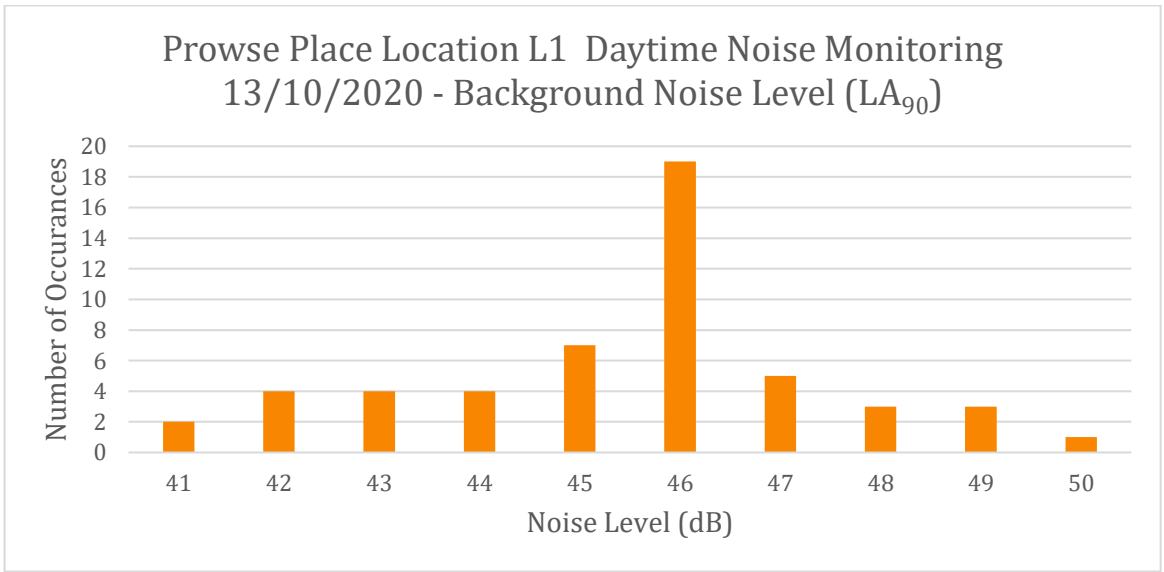
(based upon measured or predicted Leq,5mins noise levels in octave bands) 1 metre from the façade of affected premises, where the noise sensitive premise is located in a quiet background area.

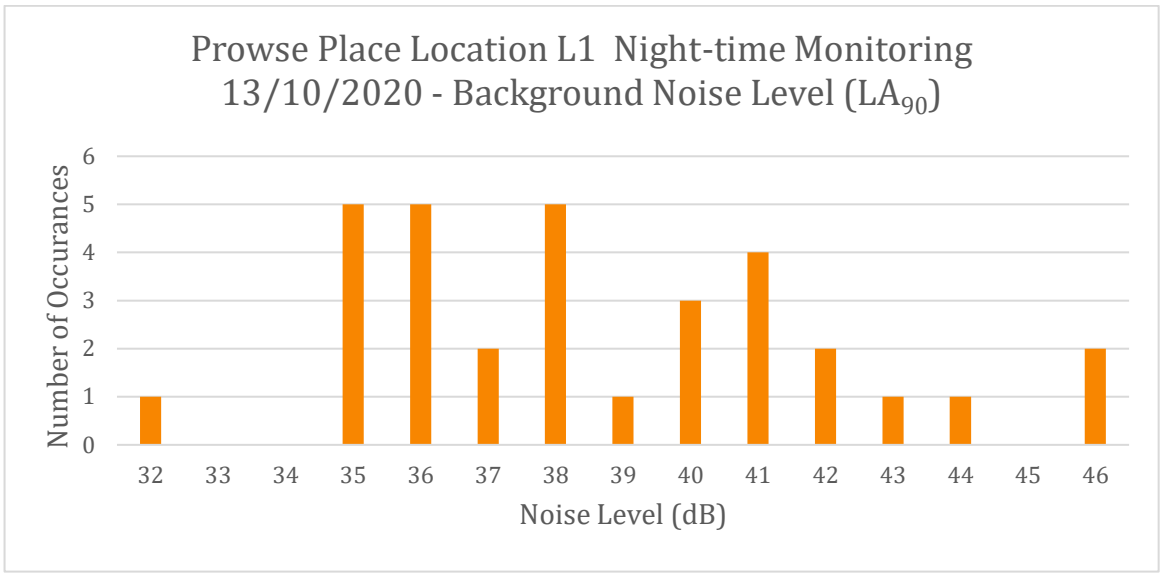
Appendix C – Modal Mean Background Noise Data 12th to 18th October 2020

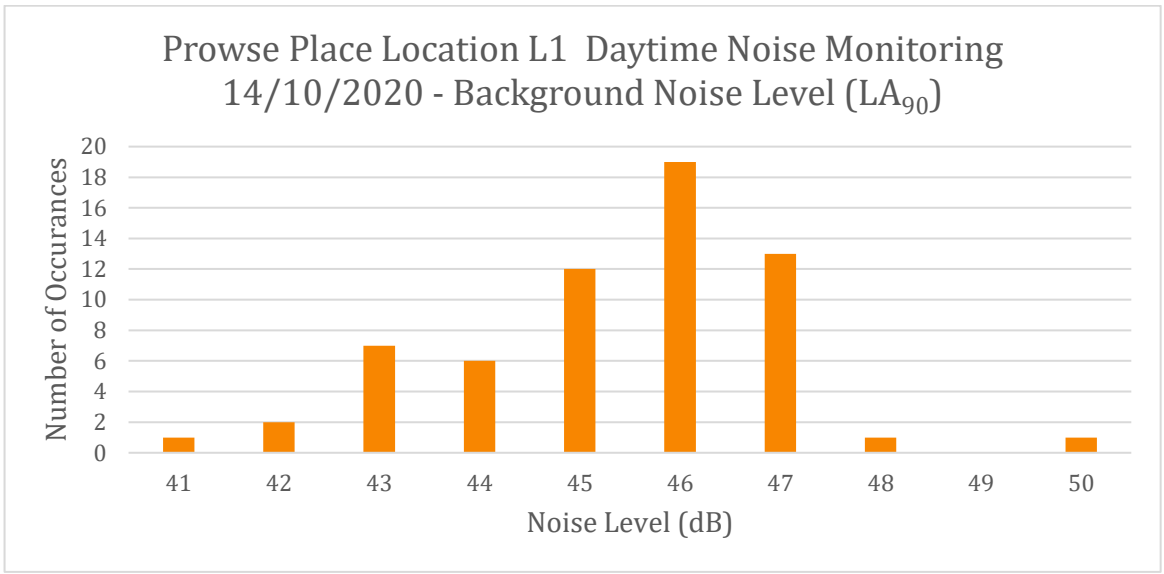
Noise Monitoring at Location 1 Northern External Area – 12th October to 18th October 2020

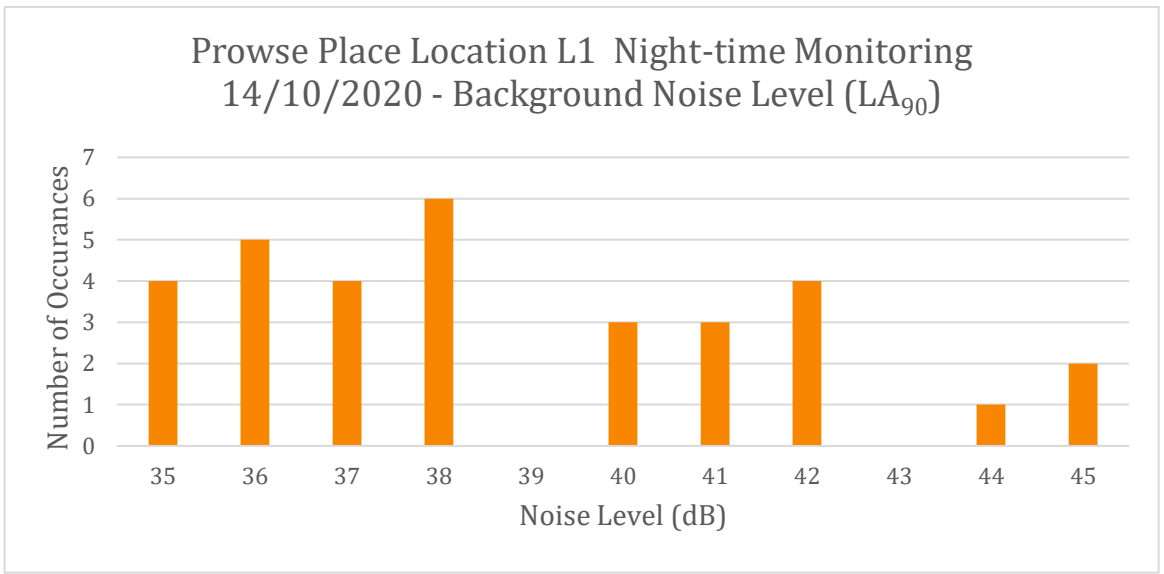


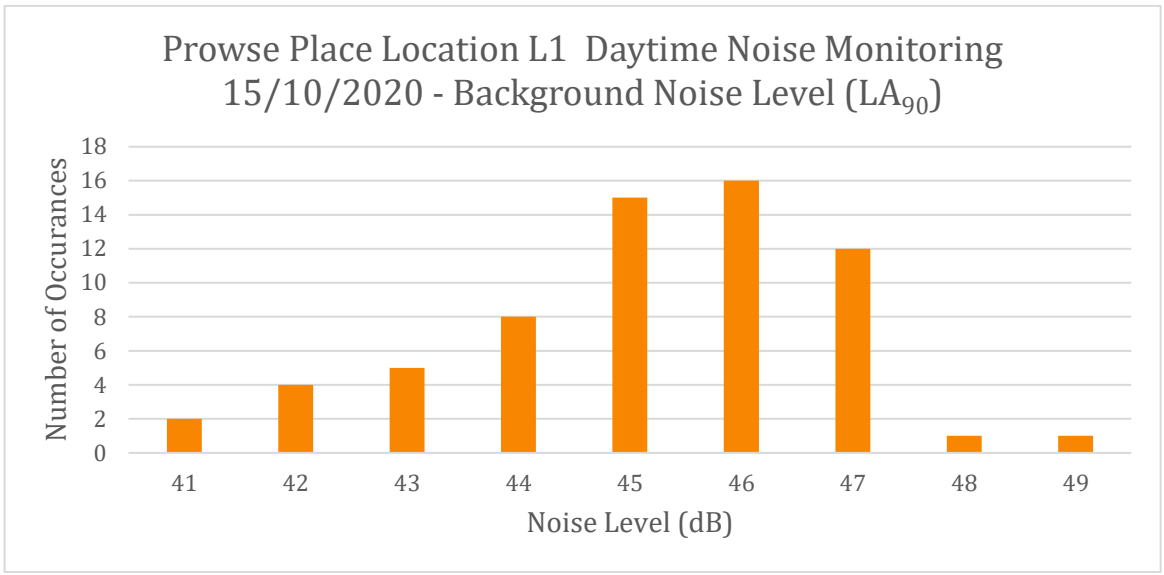


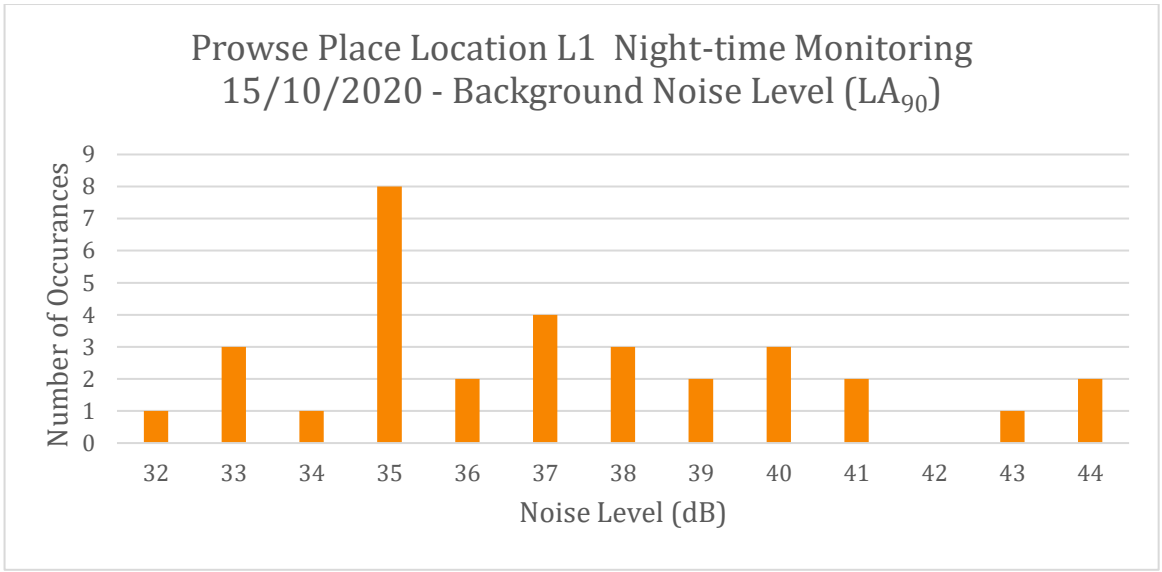


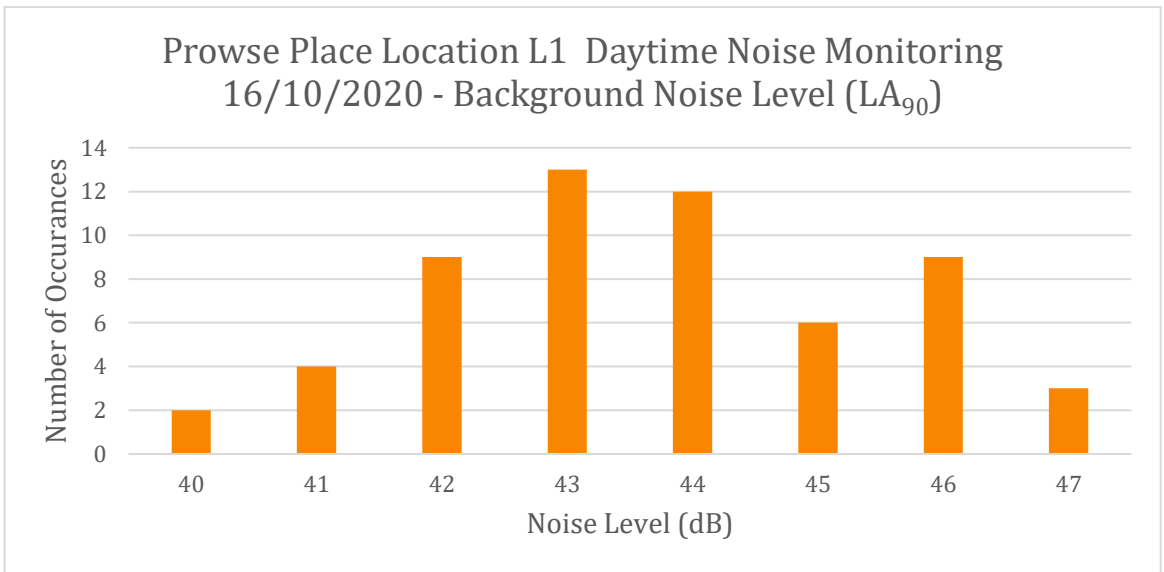

Prowse Place Location L1 Night-time Monitoring
13/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
1
2
3
4
5
6
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
Noise Level (dB)

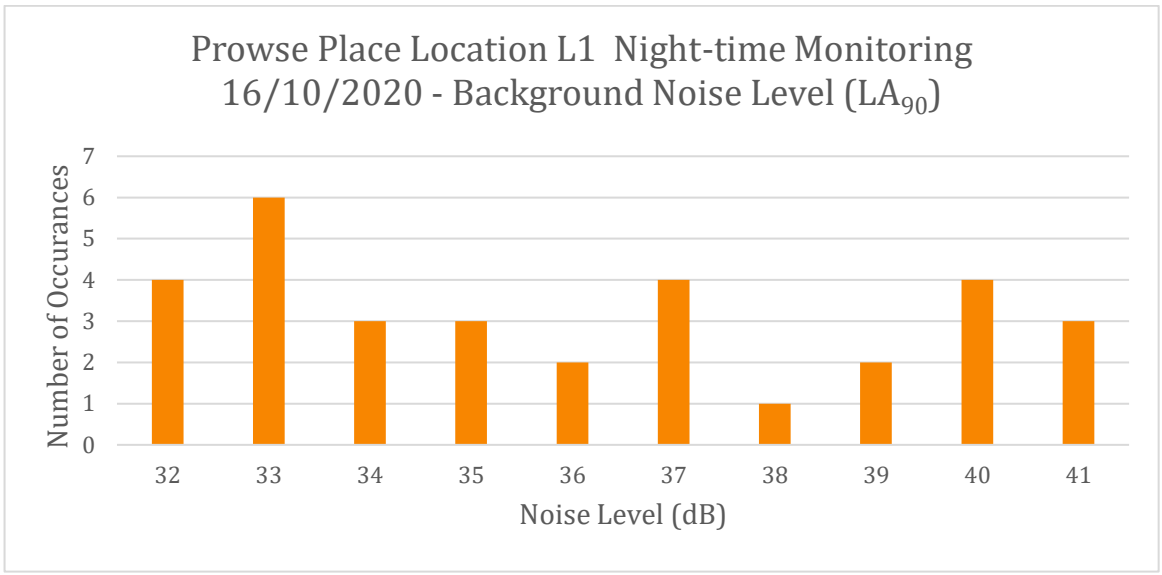

Prowse Place Location L1 Daytime Noise Monitoring
14/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
2
4
6
8
10
12
14
16
18
20
41
42
43
44
45
46
47
48
49
50
Noise Level (dB)

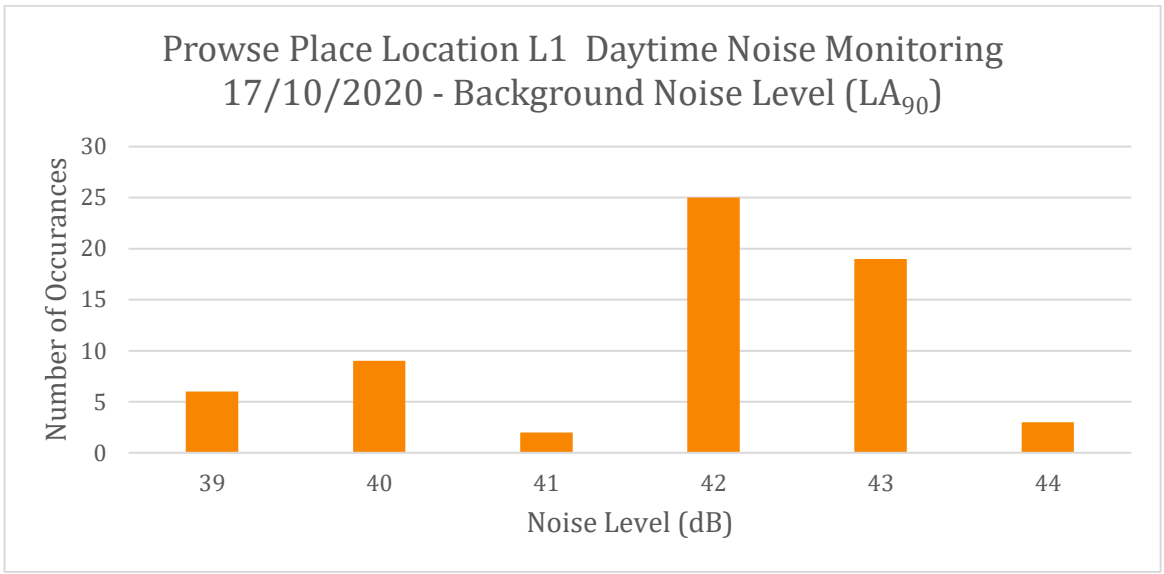

Prowse Place Location L1 Night-time Monitoring
14/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
1
2
3
4
5
6
7
35
36
37
38
39
40
41
42
43
44
45
Noise Level (dB)

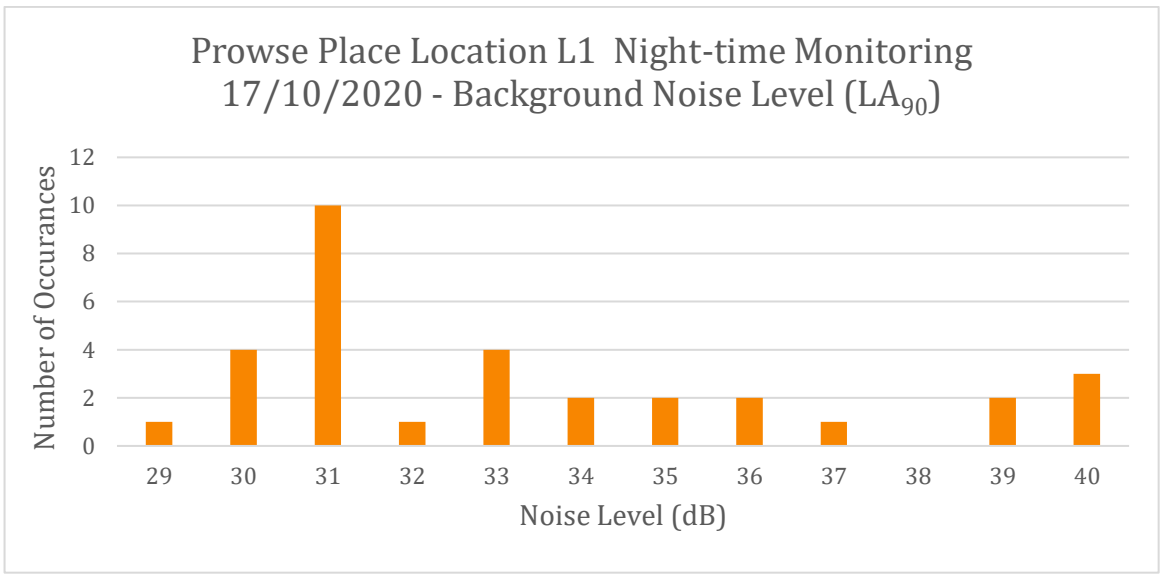

Prowse Place Location L1 Daytime Noise Monitoring
15/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
2
4
6
8
10
12
14
16
18
41
42
43
44
45
46
47
48
49
Noise Level (dB)

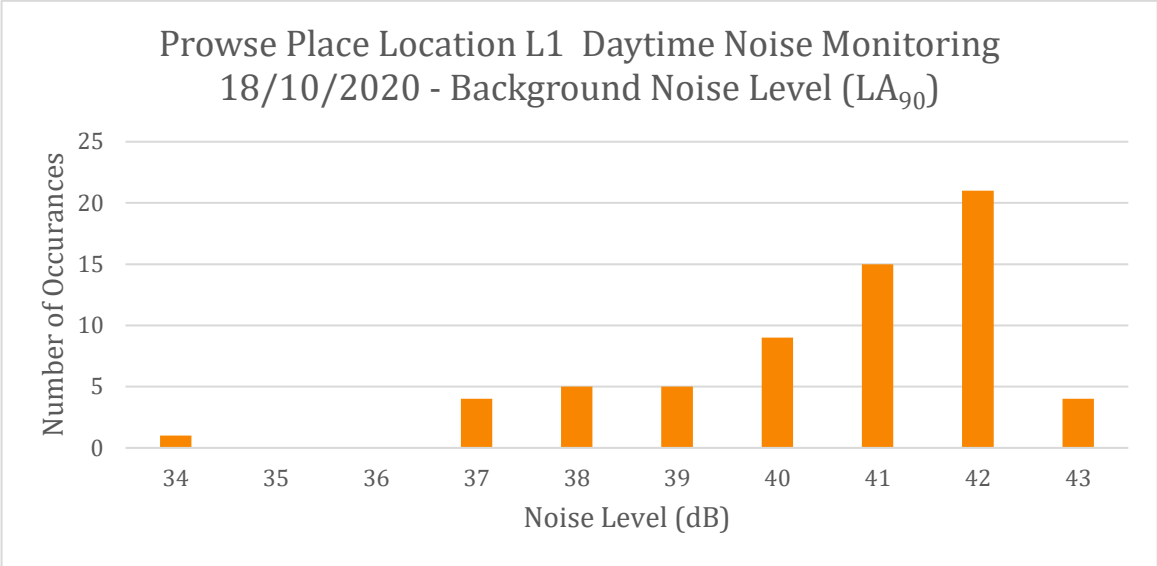

Prowse Place Location L1 Night-time Monitoring
15/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
1
2
3
4
5
6
7
8
9
32
33
34
35
36
37
38
39
40
41
42
43
44
Noise Level (dB)

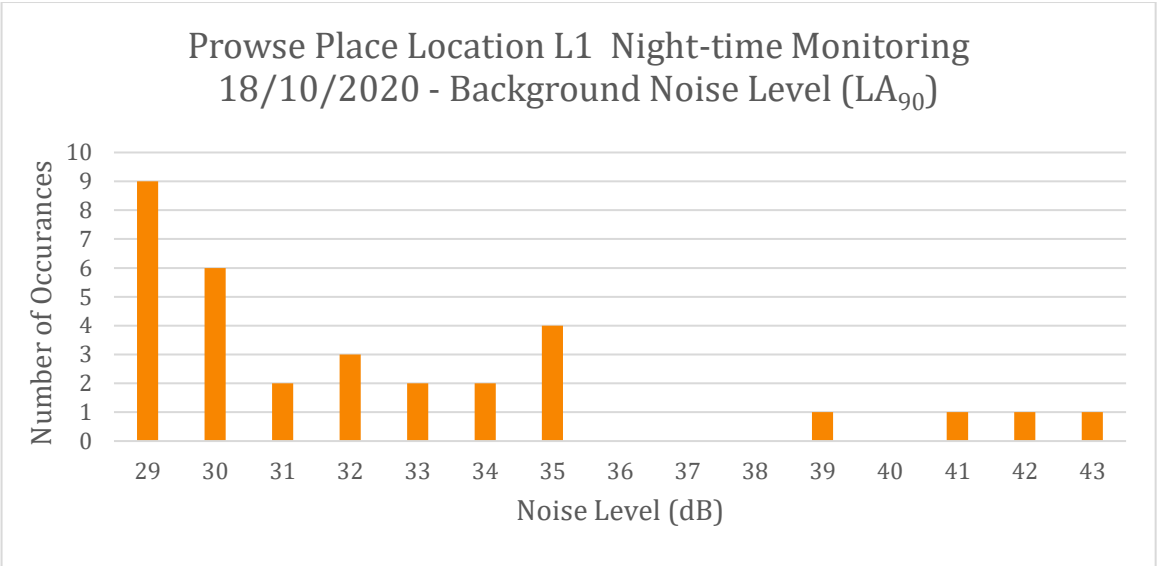

Prowse Place Location L1 Daytime Noise Monitoring
16/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
2
4
6
8
10
12
14
40
41
42
43
44
45
46
47
Noise Level (dB)


Prowse Place Location L1 Night-time Monitoring
16/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
1
2
3
4
5
6
7
32
33
34
35
36
37
38
39
40
41
Noise Level (dB)

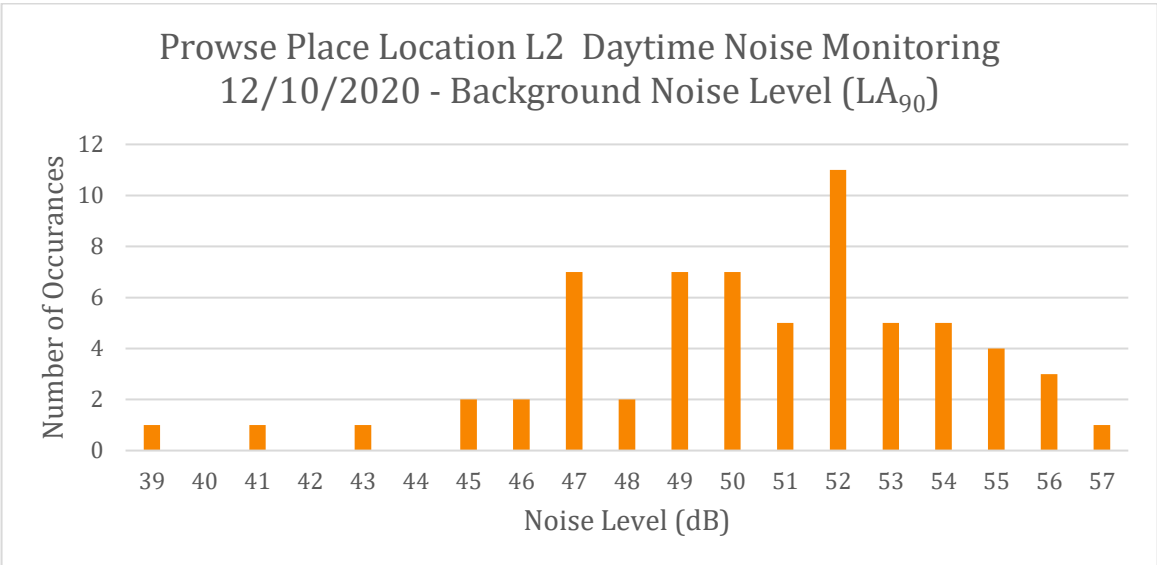

Prowse Place Location L1 Daytime Noise Monitoring
17/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
5
10
15
20
25
30
39
40
41
42
43
44
Noise Level (dB)

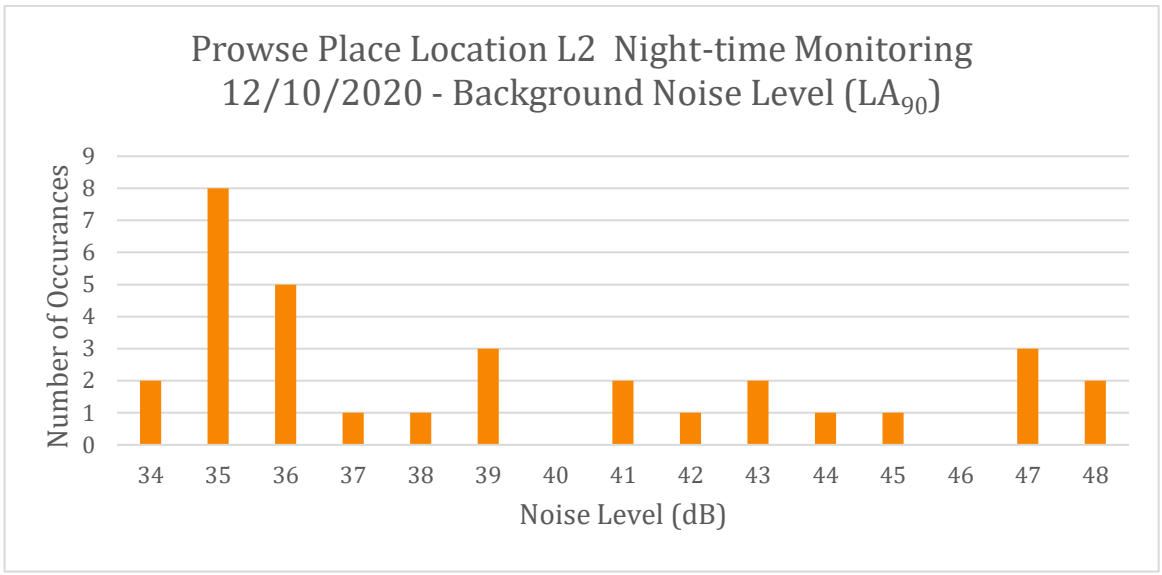

Prowse Place Location L1 Night-time Monitoring
17/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
2
4
6
8
10
12
29
30
31
32
33
34
35
36
37
38
39
40
Noise Level (dB)

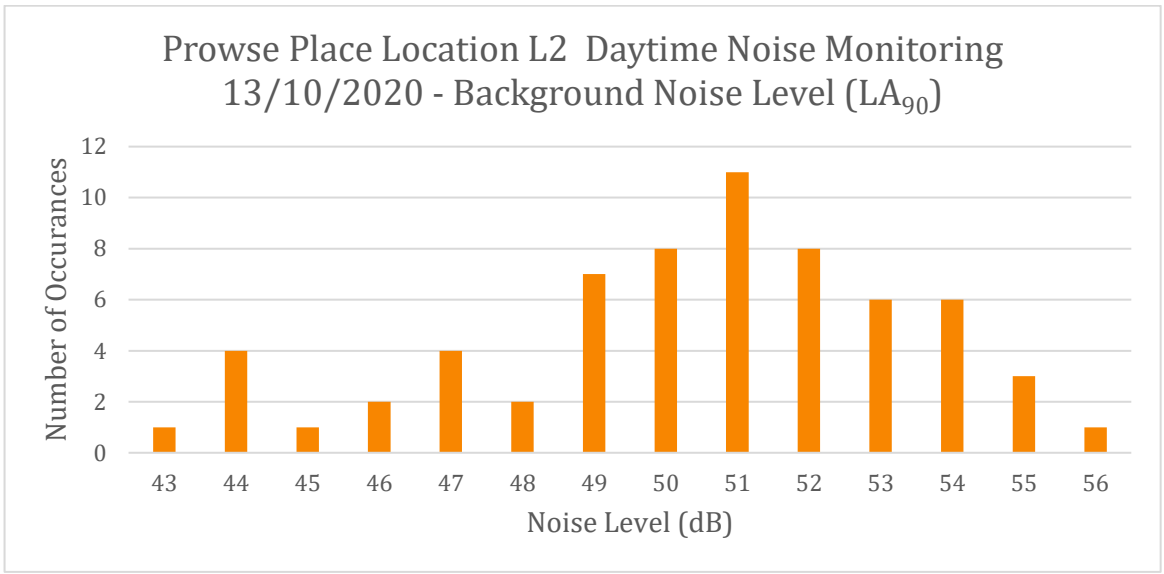


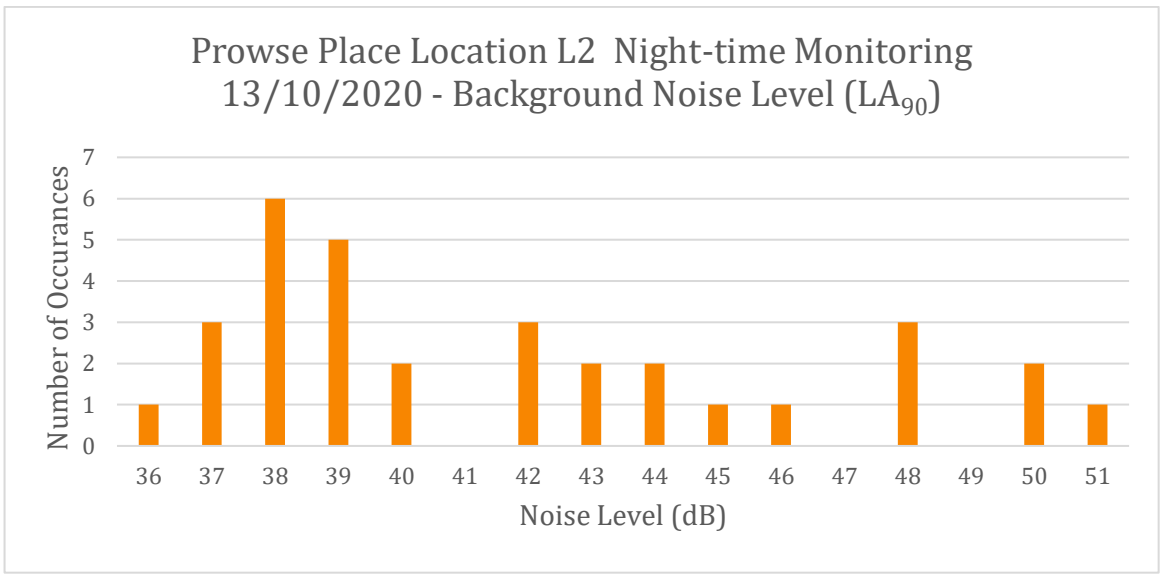


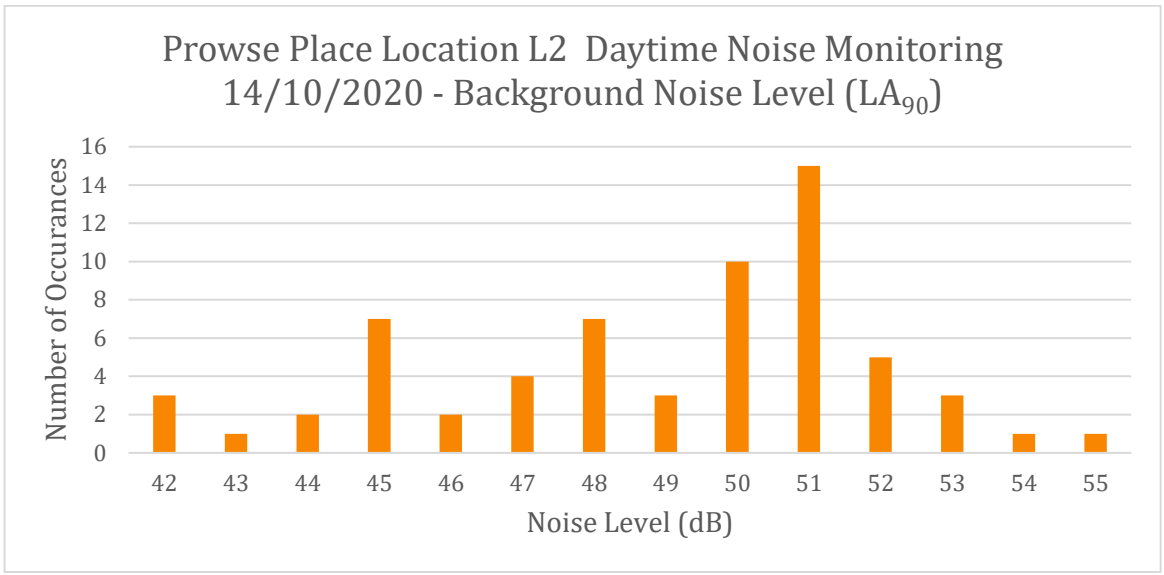
Noise Monitoring at Location 2 Southern External Area – 12th October to 18th October 2020

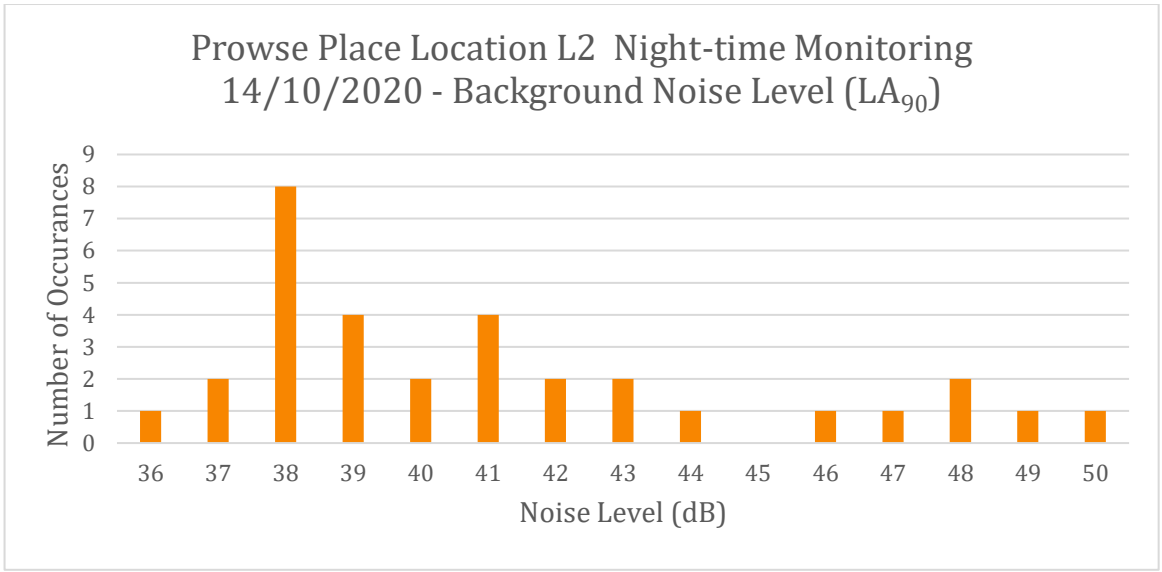


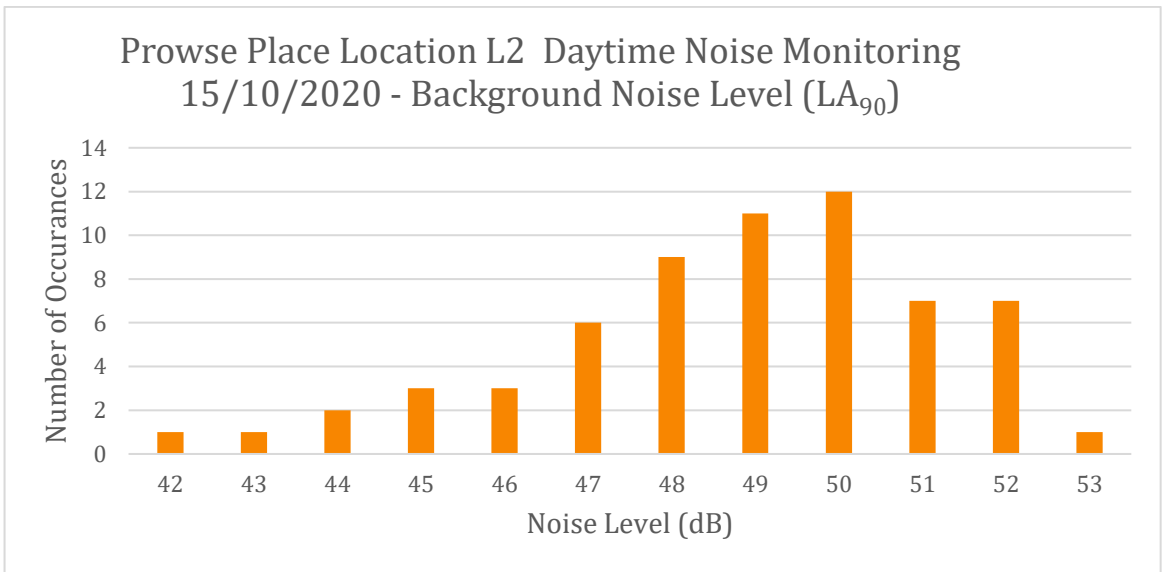

Prowse Place Location L2 Night-time Monitoring
12/10/2020 - Background Noise Level (LA_{90})
Number of Occurances
0 1 2 3 4 5 6 7 8 9
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
Noise Level (dB)

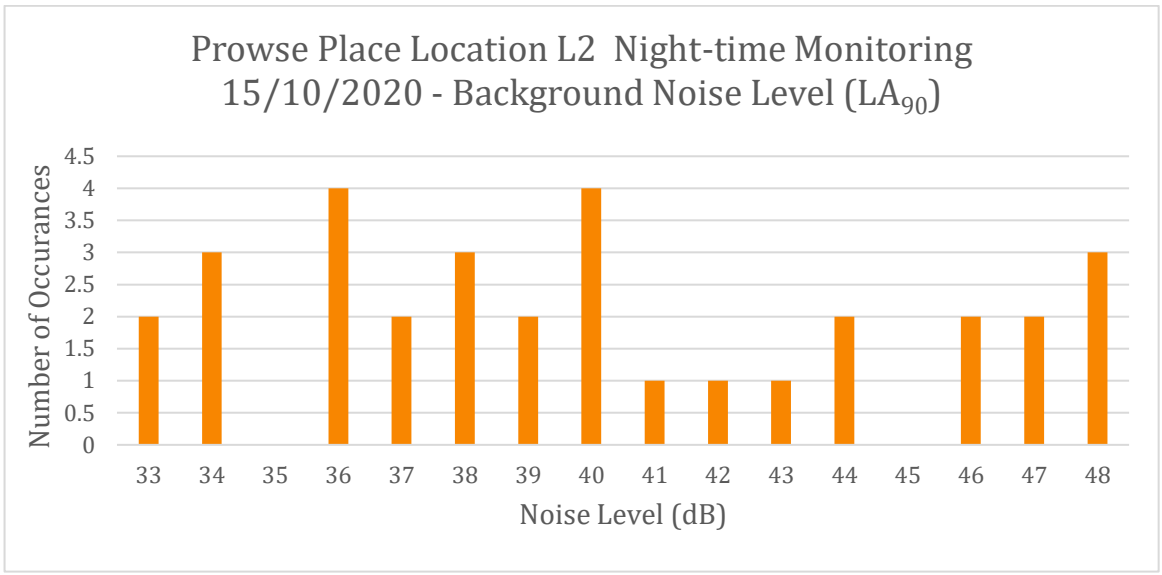

Prowse Place Location L2 Daytime Noise Monitoring
13/10/2020 - Background Noise Level (LA_{90})
Number of Occurances
0 2 4 6 8 10 12
43 44 45 46 47 48 49 50 51 52 53 54 55 56
Noise Level (dB)

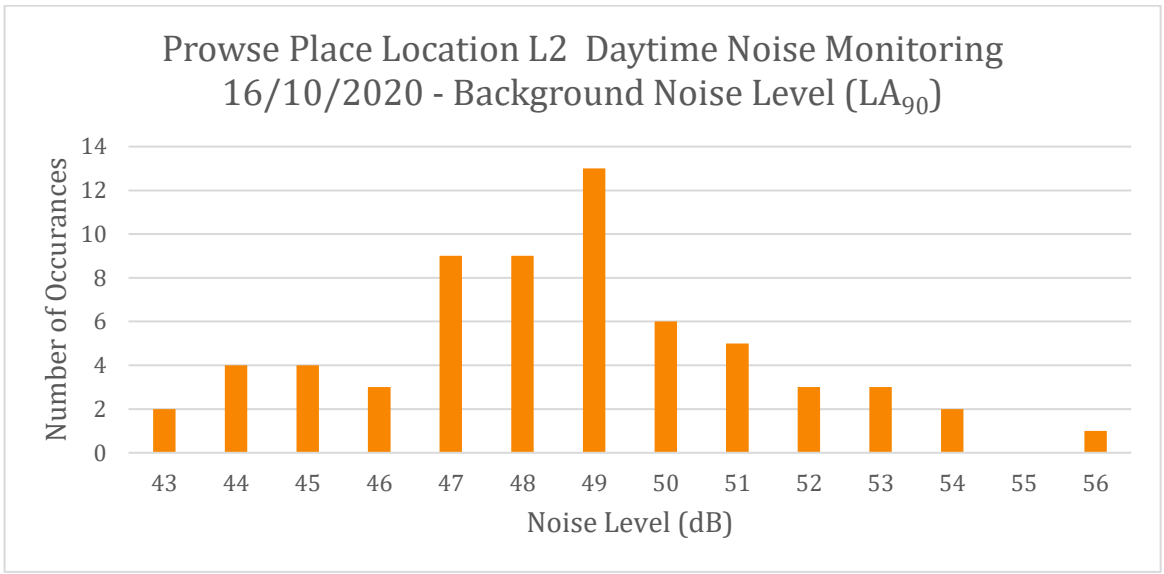

Prowse Place Location L2 Night-time Monitoring
13/10/2020 - Background Noise Level (LA_{90})
Number of Occurances
0 1 2 3 4 5 6 7
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
Noise Level (dB)

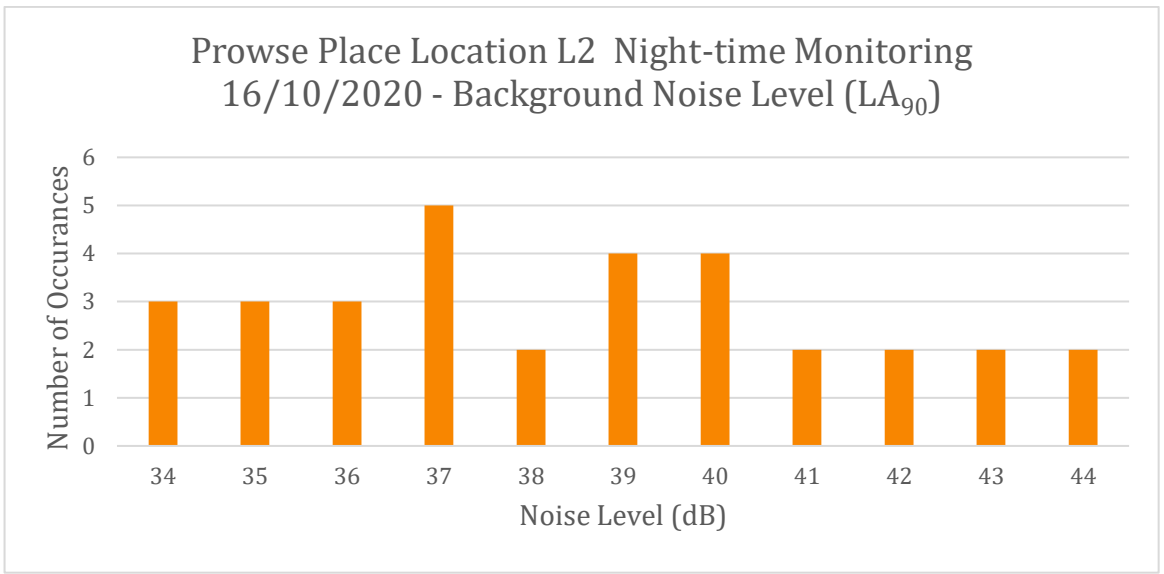

Prowse Place Location L2 Daytime Noise Monitoring
14/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
2
4
6
8
10
12
14
16
42
43
44
45
46
47
48
49
50
51
52
53
54
55
Noise Level (dB)

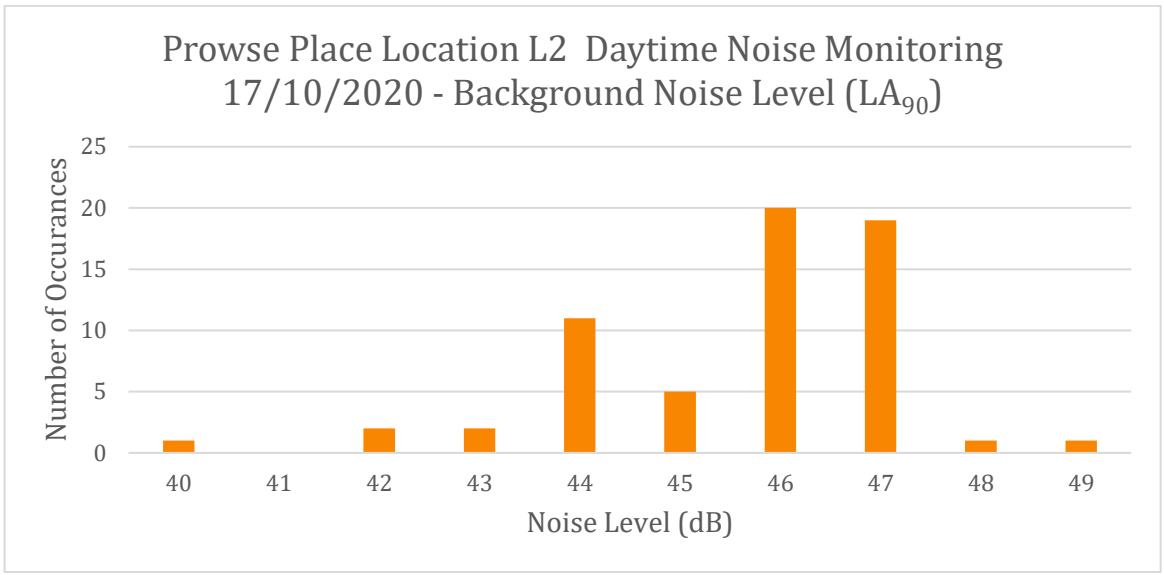

Prowse Place Location L2 Night-time Monitoring
14/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
1
2
3
4
5
6
7
8
9
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
Noise Level (dB)

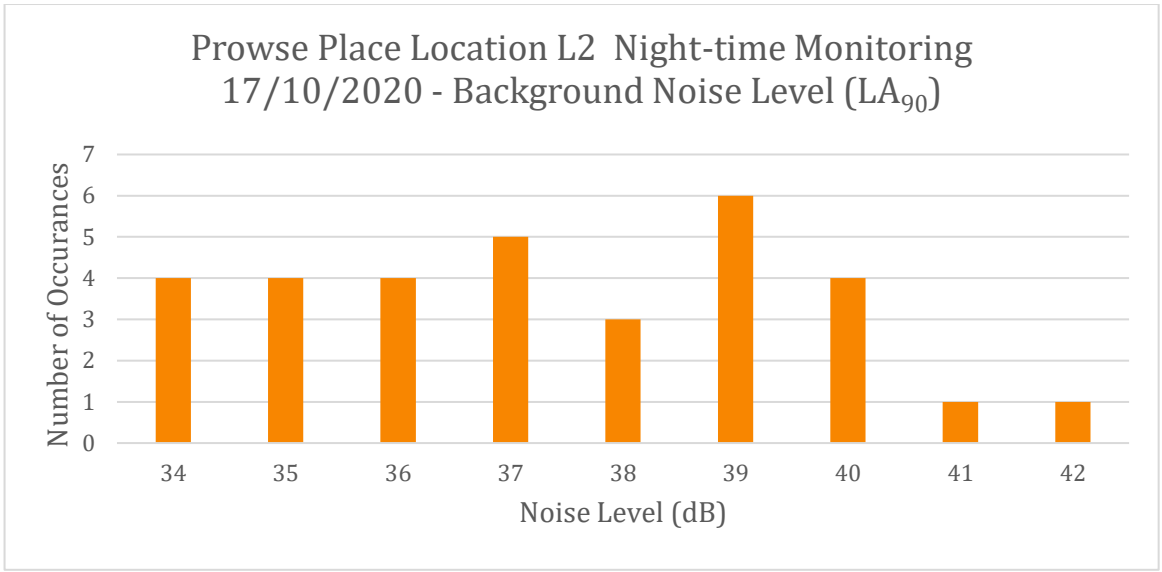

Prowse Place Location L2 Daytime Noise Monitoring
15/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
2
4
6
8
10
12
14
42
43
44
45
46
47
48
49
50
51
52
53
Noise Level (dB)

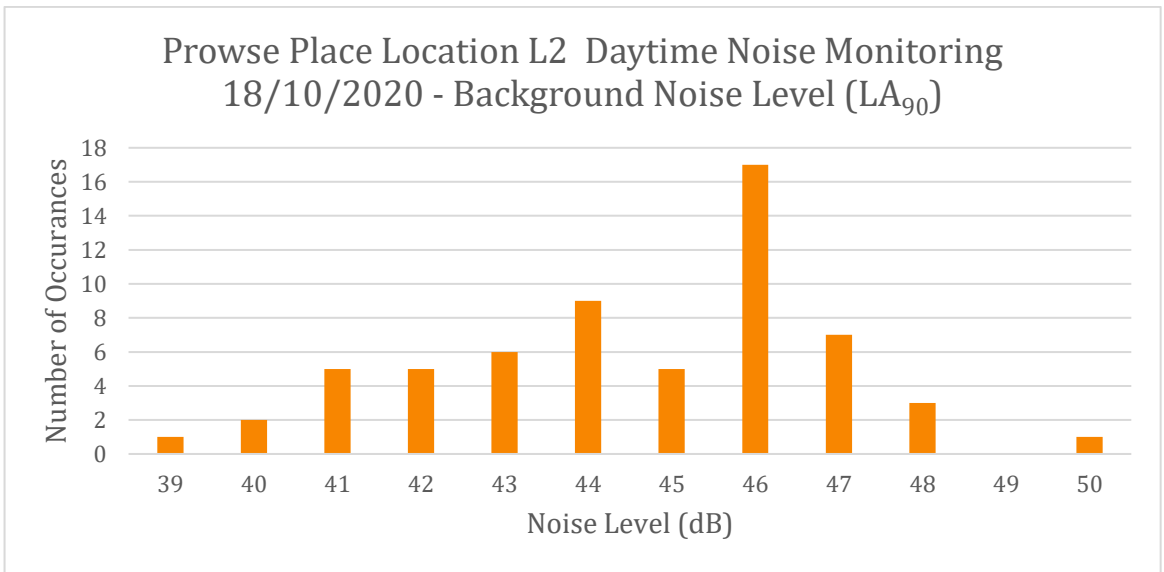

Prowse Place Location L2 Night-time Monitoring
15/10/2020 - Background Noise Level (LA90)
Number of Occurances
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
Noise Level (dB)

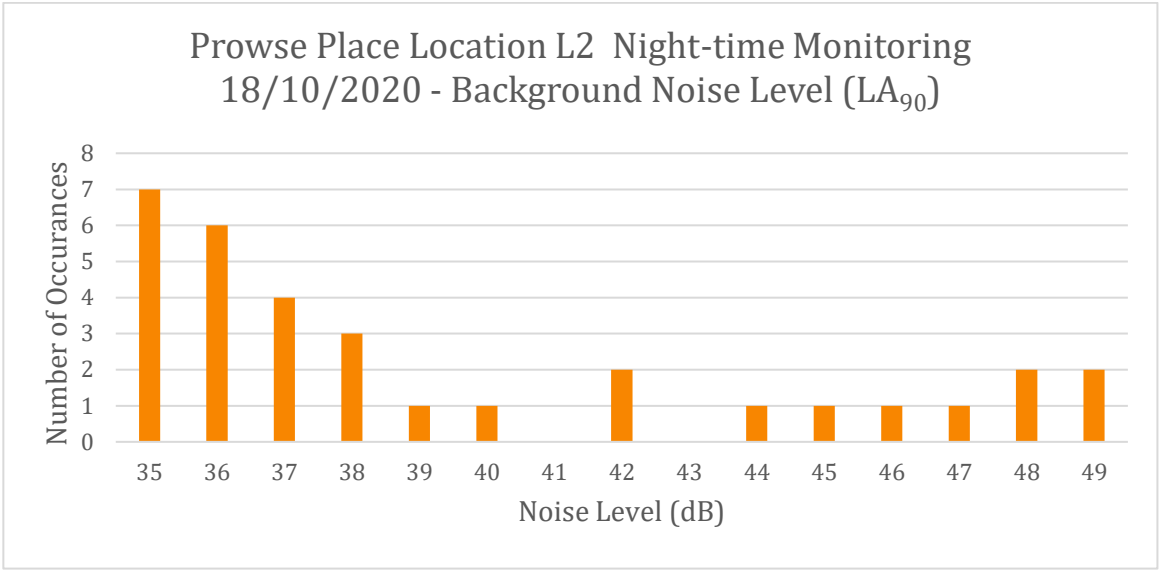

Prowse Place Location L2 Daytime Noise Monitoring
16/10/2020 - Background Noise Level (LA90)
Number of Occurances
14
12
10
8
6
4
2
0
43 44 45 46 47 48 49 50 51 52 53 54 55 56
Noise Level (dB)


Prowse Place Location L2 Night-time Monitoring
16/10/2020 - Background Noise Level (LA90)
Number of Occurances
6
5
4
3
2
1
0
34 35 36 37 38 39 40 41 42 43 44
Noise Level (dB)


Prowse Place Location L2 Daytime Noise Monitoring
17/10/2020 - Background Noise Level (LA90)
Number of Occurances
25
20
15
10
5
0
40
41
42
43
44
45
46
47
48
49
Noise Level (dB)


Prowse Place Location L2 Night-time Monitoring
17/10/2020 - Background Noise Level (LA90)
Number of Occurances
7
6
5
4
3
2
1
0
34
35
36
37
38
39
40
41
42
Noise Level (dB)


Prowse Place Location L2 Daytime Noise Monitoring
18/10/2020 - Background Noise Level (LA90)
Number of Occurances
18
16
14
12
10
8
6
4
2
0
39
40
41
42
43
44
45
46
47
48
49
50
Noise Level (dB)


Prowse Place Location L2 Night-time Monitoring
18/10/2020 - Background Noise Level (LA90)
Number of Occurances
0
1
2
3
4
5
6
7
8
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
Noise Level (dB)

Birmingham
0121 794 8390

London
020 7293 0217

Manchester
0161 974 3208

Oxford
01865 389 440

Reading
0118 206 2945

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