



ACOUSTIC
CONSULTANTS LTD

Noise Impact Assessment

**9 The Parade
Neath**

Reference: 11621/JA

Client

Farmers Inn Ltd

Document Control

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The report has been prepared in good faith, with all reasonable skill and care, based on information provided or available at the time of its preparation and within the scope of work agreement with the Client. We disclaim any responsibility to the Client and others in respect of any matters outside the scope of the above. The report is provided for the sole use of the named Client and is confidential to them and their professional advisors. No responsibility is accepted to other parties.

The report limits itself to addressing solely on the noise, acoustic, and vibration aspects as included in this report. We provide advice only in relation to noise, vibration and acoustics. It is recommended that appropriate expert advice is sought on all the ramifications (e.g. CDM, structural, condensation, fire, legal, etc.) associated with any proposals in this report or as advised and concerning the appointment. It should be noted that noise predictions are based on the current information as we understand it and, on the performances noted in this report. Any modification to these parameters can alter the predicted level. All predictions are in any event subject to a degree of tolerance of normally plus or minus three decibels. If this tolerance is not acceptable, then it would be necessary to consider further measures.

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1. Introduction

Farmers Inn Ltd appointed Acoustic Consultants Limited to undertake a noise impact assessment for the proposed bar at 9 The Parade, Neath, SA11 1RB.

This assessment will provide details of a noise survey undertaken at the site and surrounding sensitive receivers, the noise measurements obtained, and a noise modelling exercise and assessment in terms of impact at the nearby sensitive receivers (NSRs).

The survey methodology was issued to the Local Authority and agreed upon prior to undertaking the site survey and is further detailed in the main text of the report.

The assessment has been undertaken in accordance with Planning Policy Wales (PPW), Technical Advice Note 11 (TAN11), the IOA Good Practice Guide on The Control of Noise from Pubs and Clubs, and BS8233 as requested by the EHO case officer.

The report has been reviewed and approved by a full Member of the Institute of Acoustics (MIOA) with fifteen years of experience within the field.

2. The Site & Proposals

2.1. The Site

The application site is located at a former bank (Grade II listed) on The Parade in Neath, SA11 1RB (further referenced to as 'the site'). The existing use in the immediate vicinity comprises several established, licensed premises that have external patron areas, along with the permissions to play live and amplified music.

The NSRs in the immediate vicinity of the site are short stay accommodation, namely The Castel Hotel and Bluebell Hotel.

One location of fixed residential use has been identified at 16 to 18 The Parade through the Planning Portal. This residential space is in the attic of the building, as noted in the granted Planning Application P2004/0845. The next nearest fixed residential location has been sourced on Queen Street Back Road, all of which are indicated in the following figures.

The following figure provides an indication of uses identified around the site. The site is highlighted in red, short-stay accommodation is highlighted in yellow, and other non-sensitive uses are highlighted in blue.

It is our understanding that the hotel use of rooms above the Ambassador music venue are disused at the time of assessment. This has been identified via the operator's website, along with on-site visual inspection. We will, however, still assess these floors to the EHO's request.

Figure 1: Site Location & Surrounding Uses

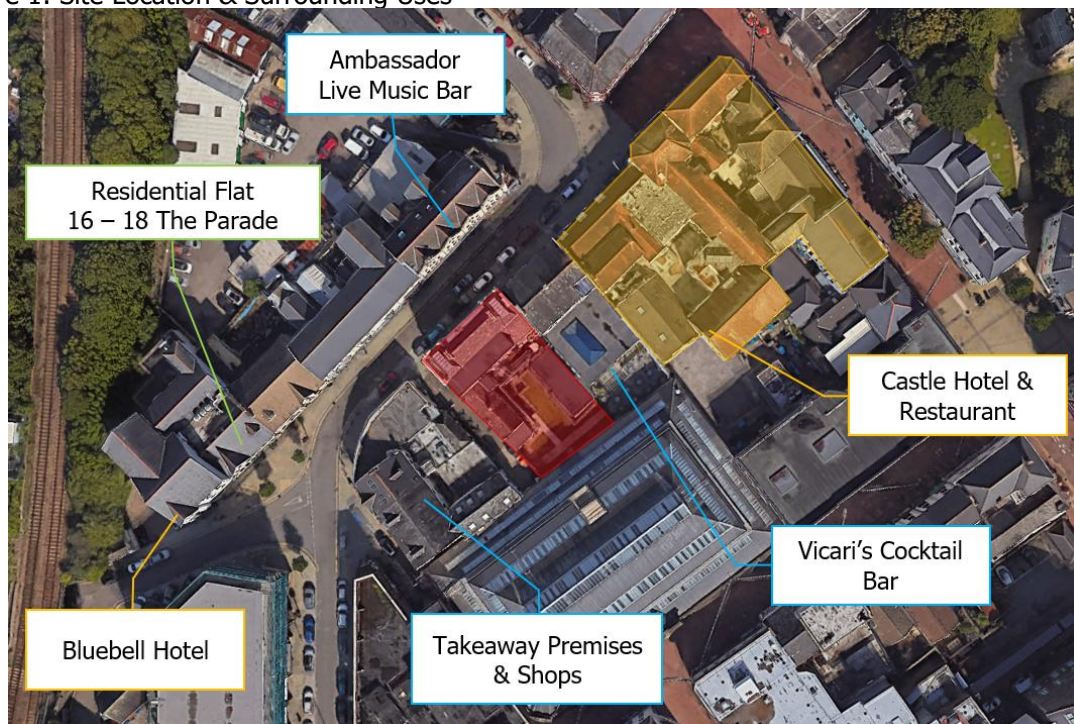
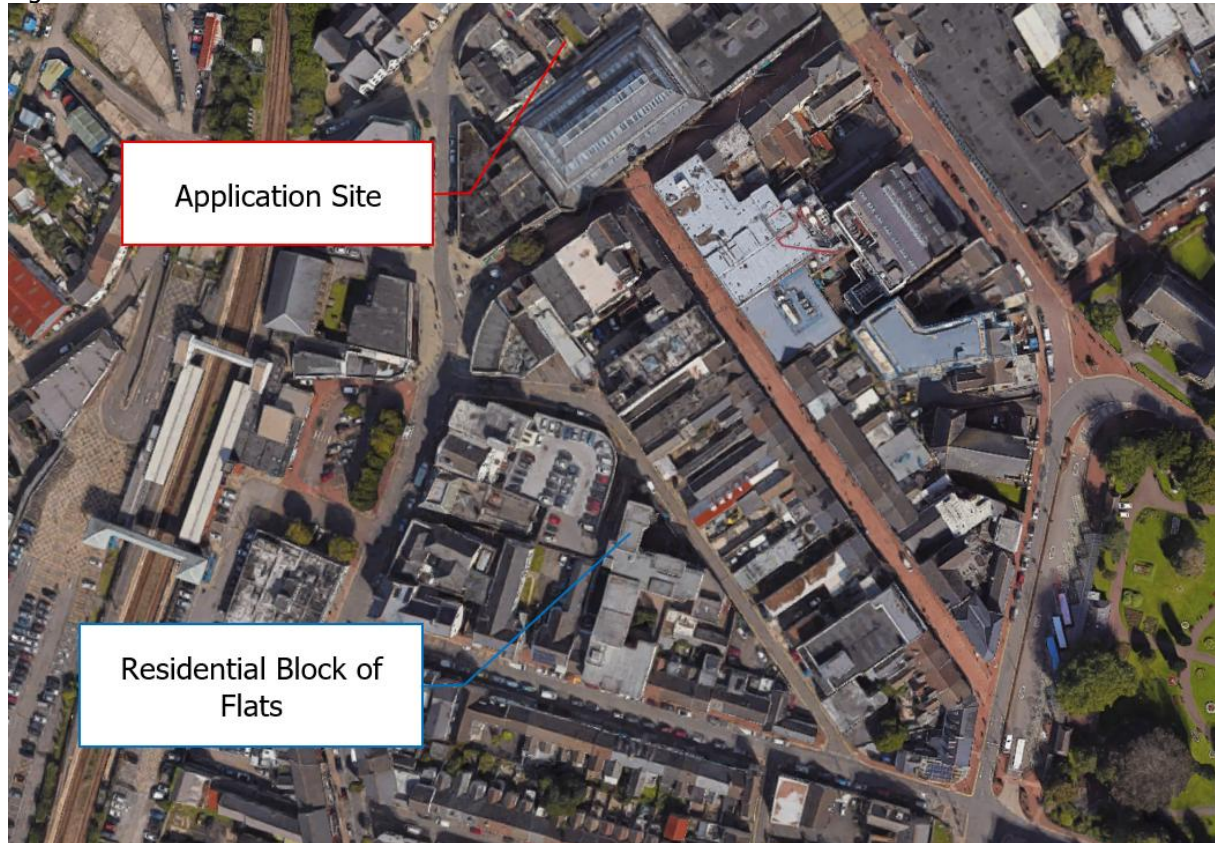


Figure 2: Site Location and Residential Block of Flats



2.2. Proposals

The main use of the building is intended for a restaurant as opposed to a nightclub.

Proposals at the site include for the following noise related elements:

- Typical use will include background restaurant-levels of music
- Music played inside the building only
- Rear external use for patrons and dining
- External use is proposed to cease no later than 23.00 hours every night
- Opening times within the building could extend until 02.00 hours

Given the proposed opening times could potentially extend until 02.00 hours, the assessment will consider a worst-case scenario of music noise impact at the NSRs.

This will be further detailed in the assessment and be controlled via a music noise limiter.

Operational use as detailed above will be limited to the ground floor of the building only, with back of house office and staff rooms located on the first floor of the building.

The proposed site layouts for ground and first floors are provided below. From review, it is considered the rear garden could have a capacity of 65 patrons.

Figure 3: Proposed Ground Floor

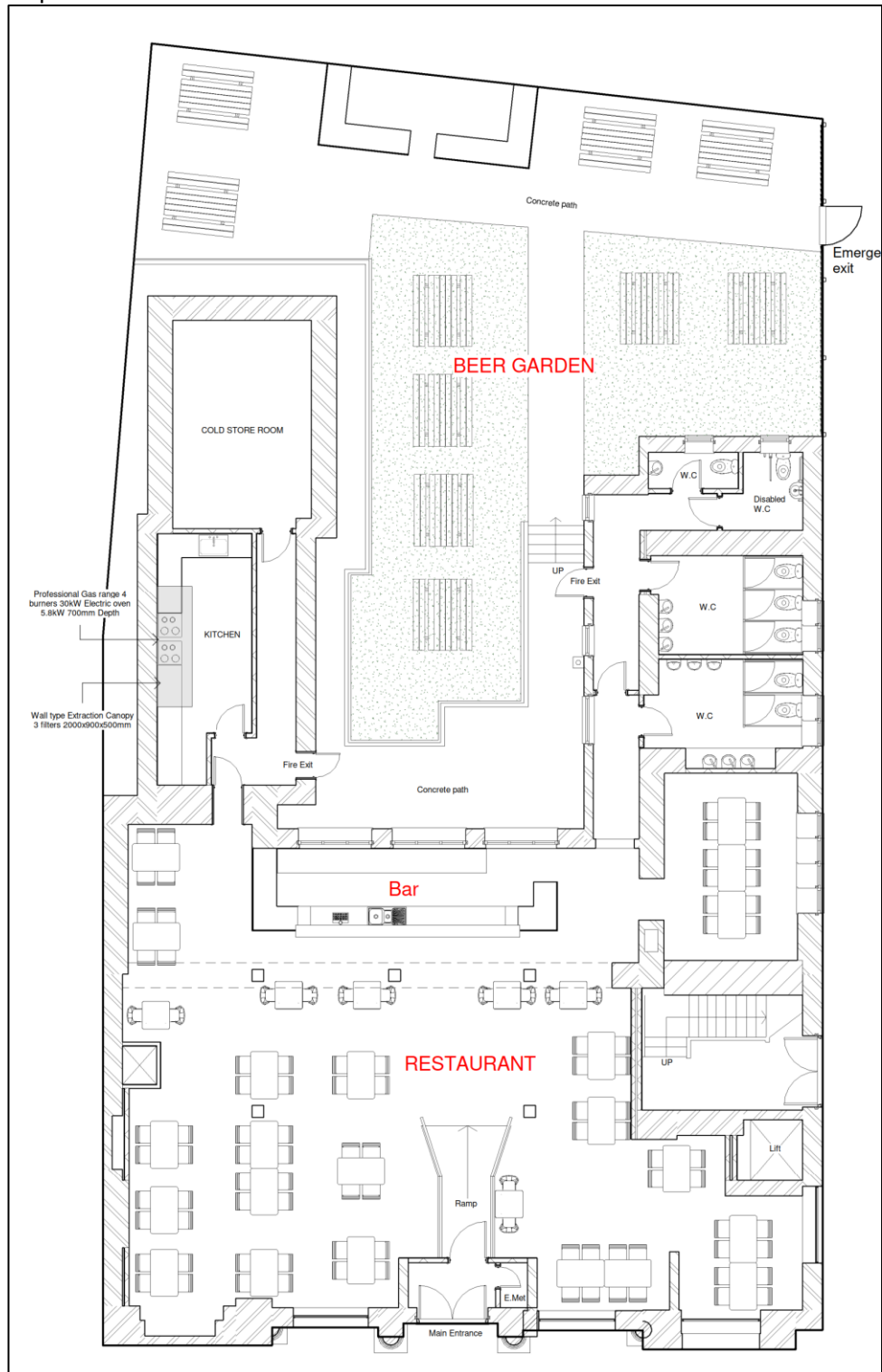


Figure 4: Proposed First-floor Layout

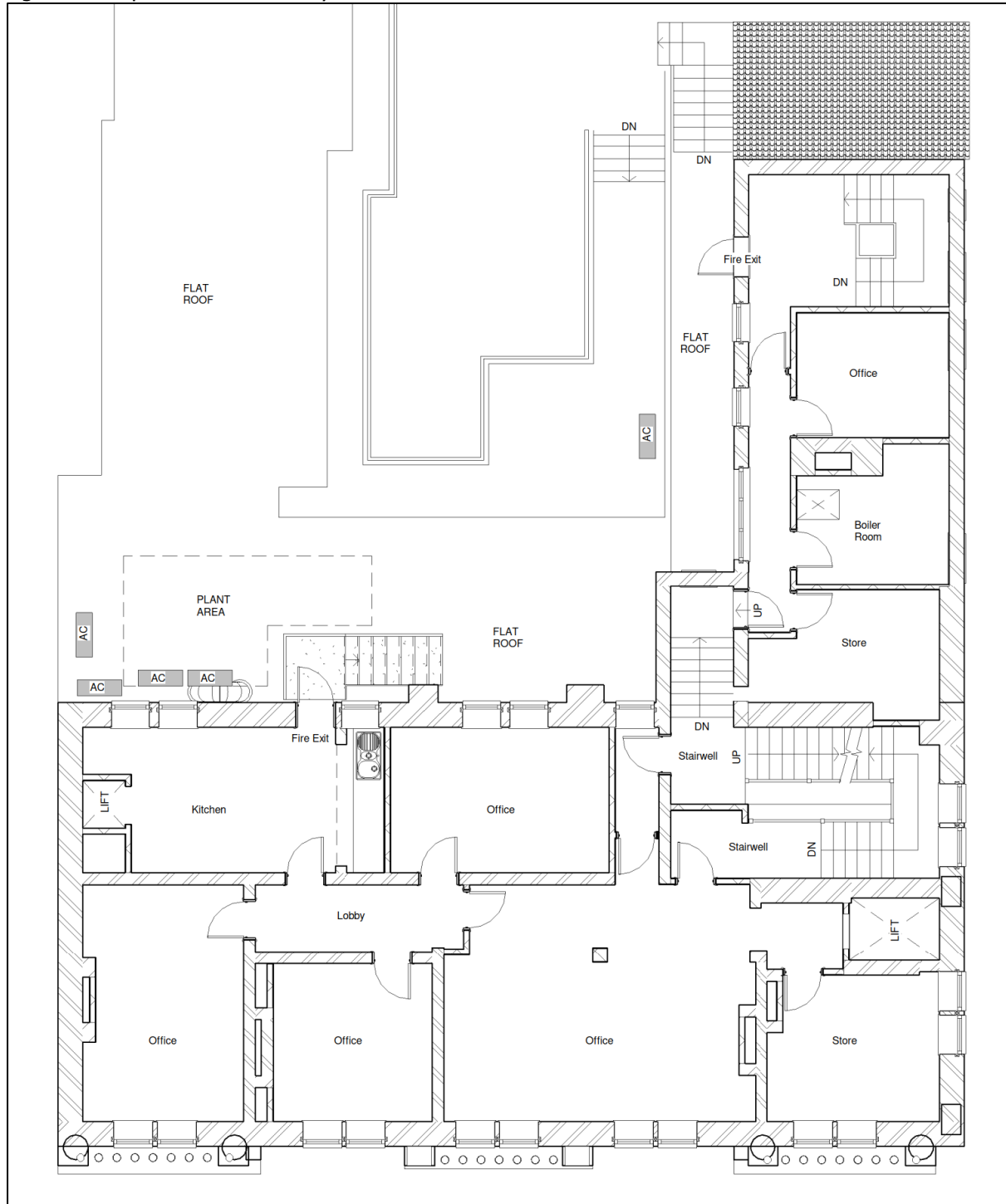
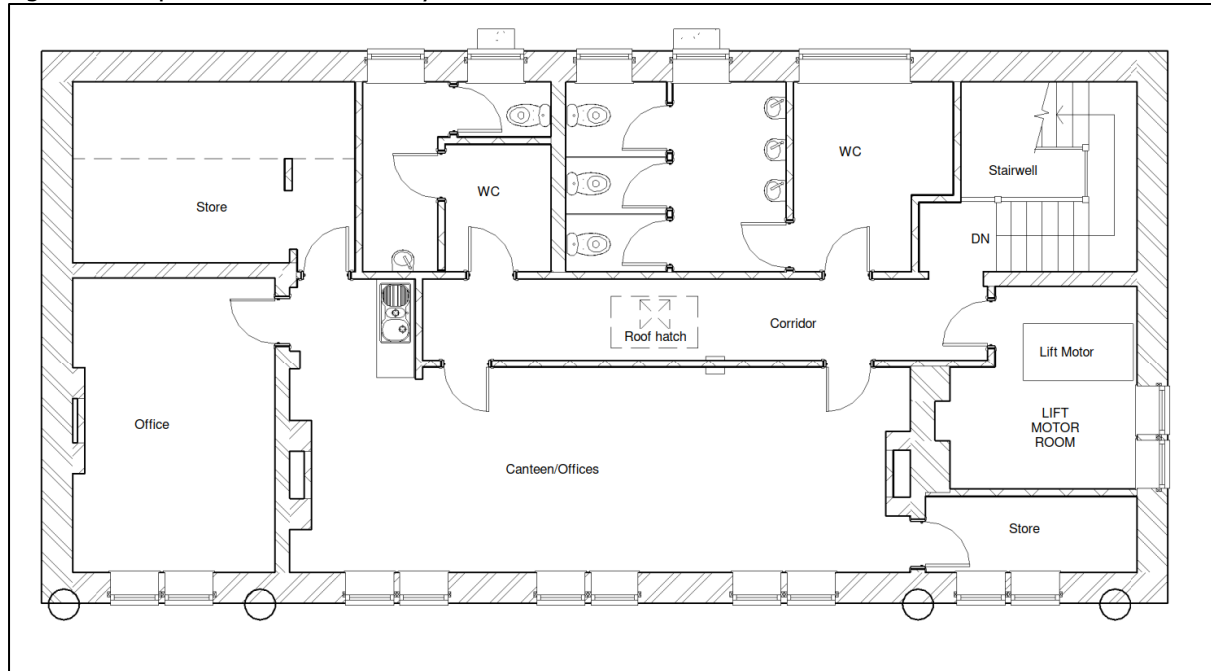


Figure 5: Proposed Second-floor Layout



3. Local Authority Comments

A survey and assessment methodology was issued to the LPA and EHO providing detailed information of how Acoustic Consultants Limited proposed to survey the existing ambient noise levels at the site and noted NSRs, along with a proposed assessment methodology.

This was issued to the relevant parties on 5th September 2025, via email, with a methodology document, reference 11621/LN/Methodology.

We received comments and responses from the EHO and LPA in relation to the proposed methodology. The relevant comments prior to our survey being undertaken are as follows:

"Claire – I think we can conclude this by putting planning condition(s) together regarding the points raised by acoustic consultant:

- 1) About the noise limiter to be installed in the internal area – I have already stated and they agreed to ensure noise complies with BS8233 levels so this is their design criteria. (*)*
- 2) External area to be vacated and not in use after XX:XX hours and specify days in line with their planning application (however need to ensure this is aligned or doesn't double up with their licence ?)*
- 3) Noise management plan to be submitted considering all measures agreed from their submissions, and approved by the local authority prior to operations.*

In addition, please be advised that there are noise sensitive receptors in proximity of the application site – most notably the residential occupiers of the Ambassador Hotel opposite and Castle Hotel adjacent – as well as existing residential flats above adjacent ground floor commercial buildings."

(*)The number 1 point is in reference to the following comment received from the EHO, email dated 15th September 2025:

"Noise criteria apply to non-sensitive receptors as per BS8233:2014 Table 6 'typical noise criteria in non-domestic buildings' and this criteria will need to be apply in the consultant's methodology – they need to agree to this. Noise break out calculations from proposal to sensitive and non-domestic receptors will need to be undertaken as part of methodology."

From the same email, the EHO has also commented the following in relation to the assessment methodology we issued to them. The assessment methodology is detailed in following sections of the report:

"Proposed assessment methodology acceptable."

Our agreed assessment methodology is copied in below, with further details on each assessment method in the following sections.

"To undertake noise modelling of the proposals, we will utilise measured noise data from our in-house ACL library to conduct the assessment of the impact.

In terms of amplified music, we will utilise guidance and criteria derived from the Good Practice Guide on the Control of Noise from Pubs and Clubs.

In terms of the garden use, we will assess this based on the proposed capacity of patrons and a change in noise level assessment in terms of the Institute of Environmental Management and Assessment. We have used this approach in numerous projects and council districts successfully; it should be noted that an assessment to BS4142 is not appropriate in terms of patron noise such as this as it is out of the scope of the guidance. A change in noise level assessment is the most appropriate method.

Fixed plant noise will be assessed in accordance with BS4142:2014.

Where required, we will provide noise control measures to reduce the impact of the noted noise sources, as far as feasible, to an acceptable level."

4. Planning and Noise

4.1. Planning Policy Wales (PPW)

Planning Policy Wales (PPW) Edition 12 dated February 2024 sets out the land use planning policies of the Welsh Government. Section 1 states:

1.1 Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs¹, MTANs² and policy clarification letters comprise national planning policy.

The most relevant statements for noise affecting a residential use are provided in Section 6.7 and summarised below:

"6.7.1 Clean air and an appropriate soundscape, contribute to a positive experience of place as well as being necessary for public health, amenity and well-being. They are indicators of local environmental quality and integral qualities of place which should be protected through preventative or proactive action through the planning system. Conversely, air, noise and light pollution can have negative effects on people, biodiversity and the resilience of ecosystems and should be reduced as far as possible."

6.7.4 The planning system should maximise its contribution to achieving the well-being goals, and in particular a healthier Wales, by aiming to reduce average population exposure to air and noise pollution alongside action to tackle high pollution hotspots. In doing so, it should consider the long-term effects of current and predicted levels of air and noise pollution on individuals, society and the environment and identify and pursue any opportunities to reduce, or at least, minimise population exposure to air and noise pollution, and improve soundscapes, where it is practical and feasible to do so.

6.7.5 In taking forward these broad objectives the key planning policy principle is to consider the effects which proposed developments may have on air or soundscape quality and the effects which existing air or soundscape quality may have on proposed developments. Air Quality and soundscape influence choice of location and distribution of development and it will be important to consider the relationship of proposed development to existing development and its surrounding area and its potential to exacerbate or create poor air quality or inappropriate soundscapes. The agent of change principle says that a business or person responsible for introducing a change is responsible for managing that change. In practice, for example, this means a developer would have to ensure that solutions to address air quality or noise from nearby pre-existing infrastructure, businesses or venues can be found and implemented as part of ensuring development is acceptable.

6.7.6 In proposing new development, planning authorities and developers must, therefore:

- address any implication arising as a result of its association with, or location within, air quality management areas, noise action planning priority areas or areas where there are sensitive receptors;*
- not create areas of poor air quality or inappropriate soundscape; and*
- seek to incorporate measures which reduce overall exposure to air and noise pollution and create appropriate soundscapes.*

6.7.7 To assist decision making it will be important that the most appropriate level of information is provided and it may be necessary for a technical air quality and noise assessment to be undertaken by a suitably qualified and competent person on behalf of the developer."

6.7.8 Good design, for example setting back buildings from roads to avoid canyon effects and using best practice in terms of acoustic design to ensure the appropriate and intended acoustic environment of completed developments should be incorporated at an early consideration in the design and planning process. Other mitigation measures must be capable of being effectively implemented for their intended purpose, and could include those related to:

- traffic management and road safety;*
- ensuring progress towards a shift to low or zero emissions means of road transport, such as electrical charging points;*
- supporting low or zero emissions public transport;*
- providing active travel infrastructure; and*
- incorporating green infrastructure, where it can improve air quality by removing air pollution and aiding its dispersal, reduce real or perceived noise levels by absorbing and scattering noise and introducing natural sounds to soften man-made noise, provide areas of relative tranquillity, and reduce exposure by putting a buffer between sources of pollution and receptors.*

6.7.14 Proposed development should be designed wherever possible to prevent adverse effects to amenity, health and the environment but as a minimum to limit or constrain any effects that do occur. In circumstances where impacts are unacceptable, for example where adequate mitigation is unlikely to be sufficient to safeguard local amenity in terms of air quality and the acoustic environment it will be appropriate to refuse permission.

6.7.19 The health imperative of good air quality and appropriate soundscapes in contributing to the overall character and quality of places and the health and well-being of people and wildlife should be fully recognised. It will not be appropriate to locate sensitive uses, such as hospitals, schools, care homes and housing adjacent to busy roads or other transport routes, where there are no connectivity benefits to be gained and where health and amenity impacts associated with increased exposure of people to pollution will be unacceptable. Whilst some uses may be appropriate with

the aid of good design air quality and soundscape considerations can be overriding factors, especially for sensitive uses, if they cannot be adequately mitigated and impacts minimised.

6.7.20 Where sensitive developments need to be located close to existing transportation infrastructure for sustainable movement and access they should be designed, as far as practicable, to limit harmful substances and noise levels within and around those developments both now and in the future. This may include employing the principles of good acoustic design and the inclusion of active travel or travel management measures as part of development proposals. Such development, however, should preferably be located away from existing sources of significant noise, which may include aircraft noise or roads, particularly new roads or those with programmed route improvements.

6.7.21 Regard should be paid to current air quality and noise levels and the quality of the existing soundscape and account taken of any relevant local air quality action plan, noise action plan and/ or local or regional air quality strategy as part of development strategies and proposals in development plans and before determining planning applications.

6.7.24 The potential impacts of noise pollution arising from existing development, be this commercial, industrial, transport related or cultural venues (such as music venues, theatres or arts centres), must be fully considered to ensure the effects on new development can be adequately controlled to safeguard amenity and any necessary measures and controls should be incorporated as part of the proposed new development. This will help to prevent the risk of restrictions or possible closure of existing premises or adverse impacts on transport infrastructure due to noise and other complaints from occupiers of new developments. It will be important that the most appropriate level of information is provided and assessment undertaken.

PPW does not provide any quantifiable criteria and directs you to the Technical Advice Notes (TAN 11).

4.2. Technical Advice Note (Wales) - Noise

The relevant planning criteria for proposed residential development is in Technical Advice Note (Wales) 11 entitled "Noise" which was published in October 1997. The introduction states:

"This note provides advice on how the planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business. It outlines some of the main considerations which local planning authorities should take into account in drawing-up development plan policies and when determining planning applications for development which will either generate noise or be exposed to existing noise sources".

Section B18 of TAN11 references noise from commercial premises such as the proposed but, as with PPW, does not provide any quantifiable criteria.

"B18. Commercial developments such as fast food restaurants, discos, night clubs and public houses pose particular difficulties, not least because associated activities are often at their peak in the evening and late at night. Local planning authorities will wish to bear in mind not only the noise that is generated within the premises but also the attendant problems of noise that may be made by customers in the vicinity. Disturbance that can be caused by traffic and associated car parking should not be underestimated."

In terms of fixed plant or kitchen ventilation, TAN11 directs the reader to British Standard 4142:2014+A1+2019.

5. Assessment Criteria

The below identifies criteria and guidance deemed relevant to the proposals which has been agreed upon with the EHO as noted above.

In terms of proposed music at the site, the proposals are for background music only, and the expected level of impact is low, especially in consideration of the existing levels of amplified music from live venues and established bars in the area. However, to undertake a robust assessment, and based on comments from the EHO, the assessment will consider the IOA Good Practice Guide as detailed below.

5.1. **Site Music: IOA Good Practice Guide on The Control of Noise from Pubs & Clubs**

Planning Policy Wales provides no definitive criteria for noise from music. The most relevant guidance is the Institute of Acoustics document "Good Practice Guide on the Control of Noise from Pubs and Clubs" was published in March 2003. This IOA guidelines addresses amplified music and the more relevant extracts are as follows:

"2. SCOPE

This document provides guidance for the assessment and control of noise affecting noise-sensitive properties, from the public and private use of public houses, clubs, hotels, discotheques, restaurants, cafes, community or village halls and other similar premises. The main noise sources considered are music; singing; public address (PA) systems; children's play areas; beer gardens; people in general; car parks and access roads; deliveries; collections; materials handling; plant and machinery; and skittle alleys. Noise arising from live sporting events held at such premises is not covered by this document.

The purpose of this Guide is to assist local authority officers and venue management and their staff in the prevention of noise disturbance and in the investigation and resolution of noise complaints. It is also intended to assist with the planning and licensing of proposed or existing premises.

The original intention was to include objective noise criteria in this document, or in a separate but related document, that could have been used to assess and control noise from all the main sources of noise that can be present at pubs, clubs and similar premises. However, it has not been possible to subject the new criteria that have been developed and proposed by the working party to a satisfactory validation process.

It is hoped that future research will lead to the publication of criteria that have been fully validated in terms of human response and have been subject to trials which confirm their practicability in terms of measurement, enforcement and use within the planning process. Until such criteria are developed, it is recommended that local authorities and others should devise and apply policies having regard to this guide

and taking into account local circumstances and existing licensing and planning policies.

Music, singing and speech, both amplified and non-amplified, are common sources of noise disturbance arising from the premises listed in 2.1 above. As far as these sources are concerned, the purpose of developing the objective noise criteria mentioned in 2.3, should be to attempt to ensure that:

In the absence of the objective criteria mentioned in 2.3, what is "regular" should be determined on a local basis to reflect local expectations and should be incorporated by local authorities in the planning and enforcement policies (see Section 4); and

For premises where entertainment takes place less frequently, music and associated sources should not be audible inside noise-sensitive property between 23.00 and 07.00 hours. For other times, appropriate criteria need to be developed which balance the rights of those seeking and providing entertainment with those who may be disturbed by the noise.

For the purposes of this document, noise may be considered not audible or inaudible when it is at a low enough level such that it is not recognisable as emanating from the source in question and it does not alter the perception of the ambient noise environment that would prevail in the absence of the source in question. A more simplistic explanation of the term "inaudible" is given in Appendix "B".

The determination of "nuisance" is not within the scope of this Guide, however, the Guide may be useful in forming a view on the likelihood that a "nuisance" has occurred, is occurring or could occur.

The Guide should not be used to determine or enforce noise standards for occasional music events of the type covered by the Code of Practice on Environmental Noise control at Concerts [1]."

It is the bass element (low frequencies 250 Hertz and below) from amplified music since that can often be of concern. This element is difficult to objectively quantify, but the subjective effect is expected to be negligible if the equivalent noise level from the music is ten decibels lower than the background sound level (without music), at the low frequency mid-octave bands.

If the music equivalent noise level is between 5 and 10 decibels lower than baseline noise levels, then the music may be audible ($L_{Aeq,T}$ depending on the baseline noise source). If the music equivalent noise level is equal to the baseline noise level, then the sounds are expected to be clearly audible.

5.2. External Patron Noise

There is no definitive guidance on noise impact for noise from patrons. We would consider it appropriate to form a comparison of the change in noise levels due to the proposed use over the existing baseline noise climate.

In this regard, we would assess the impact in accordance with the 'change in noise level guidance' of the Institute of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Noise Impact Assessment' Version 1.2, published in November 2014.

This document categorises the significance of a change in noise level and is summarised as follows:

Table 1: IEMA impact from the change in sound levels (Table 7-14 of the guidance)

Long-term Impact Classification	Short-term Impact Classification	Sound Level Change L_{pAeqT} (positive or negative) T = 16hr day or 8hr night
Negligible	Negligible	≥ 0 dB and < 1 dB
	Minor	≥ 1 dB and < 3 dB
Minor	Moderate	≥ 3 dB and < 5 dB
Moderate	Major	≥ 5 dB and < 10 dB
Major		≥ 10 dB

Where the impact is 'minor' or 'negligible' we would consider this to correspond to an acceptable and low impact.

5.3. Fixed Plant & Extract / Ventilation

Where the site is to incorporate fixed plant installations, the noise emission of such units is to be assessed in accordance with British Standard 4142:2014+A1:2019.

5.3.1. Initial Assessment

The initial estimate principle is that of establishing the 'difference' between the 'rating level' and the 'background sound level'. The 'rating level' is the 'specific sound level' of the source over a period of one hour during the day (07:00 to 23:00 hours) and over a period of 15 minutes during the night (23:00 to 07:00 hours). Clause 9 entitled 'Rating Level' states:

"Certain acoustic 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, add a character correction to the specific sound level to obtain the rating level."

An acoustic character correction should be added to the 'specific sound level' if it exhibits any tonality, impulsivity, other specific characteristics and/or intermittency at the assessment location. The value of the character correction varies, dependent on the prominence of the character of the sound source at the assessment location.

In Clause 11 of the Standard, entitled 'Assessment of the Impacts', it states:

"Obtain an initial estimate of the impact of the specific sound by subtracting the measured background sound level (see Clause 8) from the rating level (see Clause 9), and consider the following.

- *Typically, the greater this difference, the greater the magnitude of the impact.*
- *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.*
- *A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.*
- *The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context."*

It should be noted that the numerical outcome only represents the initial estimate of impact, as stated in the first paragraph of Clause 11, and that contextual matters should be considered before determining what the potential impact is.

5.3.2. **Context**

In all instances the context needs to be considered when determining the overall impact. In terms of context BS 4142:2014+A1:2019 states: *"Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration, including the following.*

- 1) *Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night. Where residual sound levels are very high, the residual sound might itself result in adverse impacts or significant adverse impacts, and the margin by which the rating level exceeds the background might simply be an indication of the extent to which the specific sound source is likely to make those impacts worse.*
- 2) *The character and level of the residual sound compared to the character and level of the specific sound. Consider whether it would be beneficial to compare the frequency spectrum and temporal variation of the specific sound with that of the ambient or residual sound, to assess the degree to which the specific sound source is likely to be distinguishable and will represent an incongruous*

sound by comparison to the acoustic environment that would occur in the absence of the specific sound. Any sound parameters, sampling periods and averaging time periods used to undertake character comparisons should reflect the way in which sound of an industrial and/or commercial nature is likely to be perceived and how people react to it.

NOTE 3 Consideration ought to be given to evidence on human response to sound and, in particular, industrial and/or commercial sound where it is available. A number of studies are listed in the "Effects on humans of industrial and commercial sound" portion of the "Further reading" list in the Bibliography.

- 3) *The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions, such as:*
- i) façade insulation treatment;*
 - ii) ventilation and/or cooling that will reduce the need to have windows open so as to provide rapid or purge ventilation; and*
 - iii) acoustic screening."*

In terms of good internal acoustic conditions, the most relevant criteria and methodology is provided in BS8233:2014. This is in accordance with a March 2020 Technical published by the ANC Working Group, which provided comments and guidance to clear any ambiguity in BS4142:2014+A1:2019.

6. Noise Monitoring

Two elements of noise monitoring have been completed at the site, as agreed upon with the EHO. Fully attended noise monitoring was undertaken around the site during evening and night-time hours on 10th October 2025. A partially attended long-term baseline survey was also installed on 10th October, running through until 13th October 2025.

The following sections detail the noise survey and equipment used.

6.1. Monitoring Equipment

Sound Pressure Levels were measured using a Class 1 sound level meter with a half-inch condenser microphone, using the 'fast' setting. The equipment is checked regularly using a Quality System meeting the requirements of British Standard EN ISO/IEC 17025:2017 "General requirements for the competence of testing and calibration laboratories"; in accordance with British Standard EN 10012:2003 "Measurement management systems. Requirements for measurement processes and measuring equipment"; and traceable to the National Standards.

This equipment was checked and calibrated as noted below and the certificates are available for inspection.

Table 2: Monitoring equipment

Equipment Description	Serial Number	Date of Calibration	Calibration Certification Number
SLM, Sonitus, EM2030	00756	28/07/2025	1512953-1
Pre-Amp, Sonitus	59642	28/07/2025	1512953-1
Microphone, Sonitus, 378B02	309501	28/07/2025	1512953-1
SLM, NTI, XL2	A2A-11041-E0	14/07/2025	1512782-1
Pre-Amp, NTI, MA220	1822	14/07/2025	1512782-1
Microphone, NTI, MC230	9583	14/07/2025	1512782-1
Calibrator, Larson Davis, CAL200	18273	27/02/2025	1511387-2

The measuring systems were checked for calibration before and after the measurements and no significant drifts were detected.

6.2. Weather Conditions

Below are the reported weather conditions over the duration of the survey. Weather conditions at the survey locations are not expected to have had an adverse effect on the collected data.

Table 3: Weather conditions during the survey period (multiple online sources)

Date	Wind Speed (m/s)	Prevailing Wind Direction	Temperature (°C)	Precipitation Time (hrs)	Cloud cover (%)
10/10/2025	≤4	N	11 - 15	0	50
11/10/2025	2 – 3	N	5 – 14	0	--
12/10/2025	2 – 3	E	5 – 14	0	--
13/10/2025	2 – 3	E	5 – 16	0	--

6.3. Monitoring Procedure

The noise survey consisted of the following elements. Please note the following letter references, are appropriate to the monitoring location markup that follows.

a. MLA – Long-term Monitoring

1x partially attended, long-term fixed survey location within the rear garden of the site (this is representative of the rear façade of Castel Hotel)

b. MLB – Short-term, Attended Monitoring

1x fully attended, supplementary survey at the front of Castel Hotel

c. MLC – Short-term, Attended Monitoring

1x fully attended, supplementary survey at the front of Bluebell Hotel

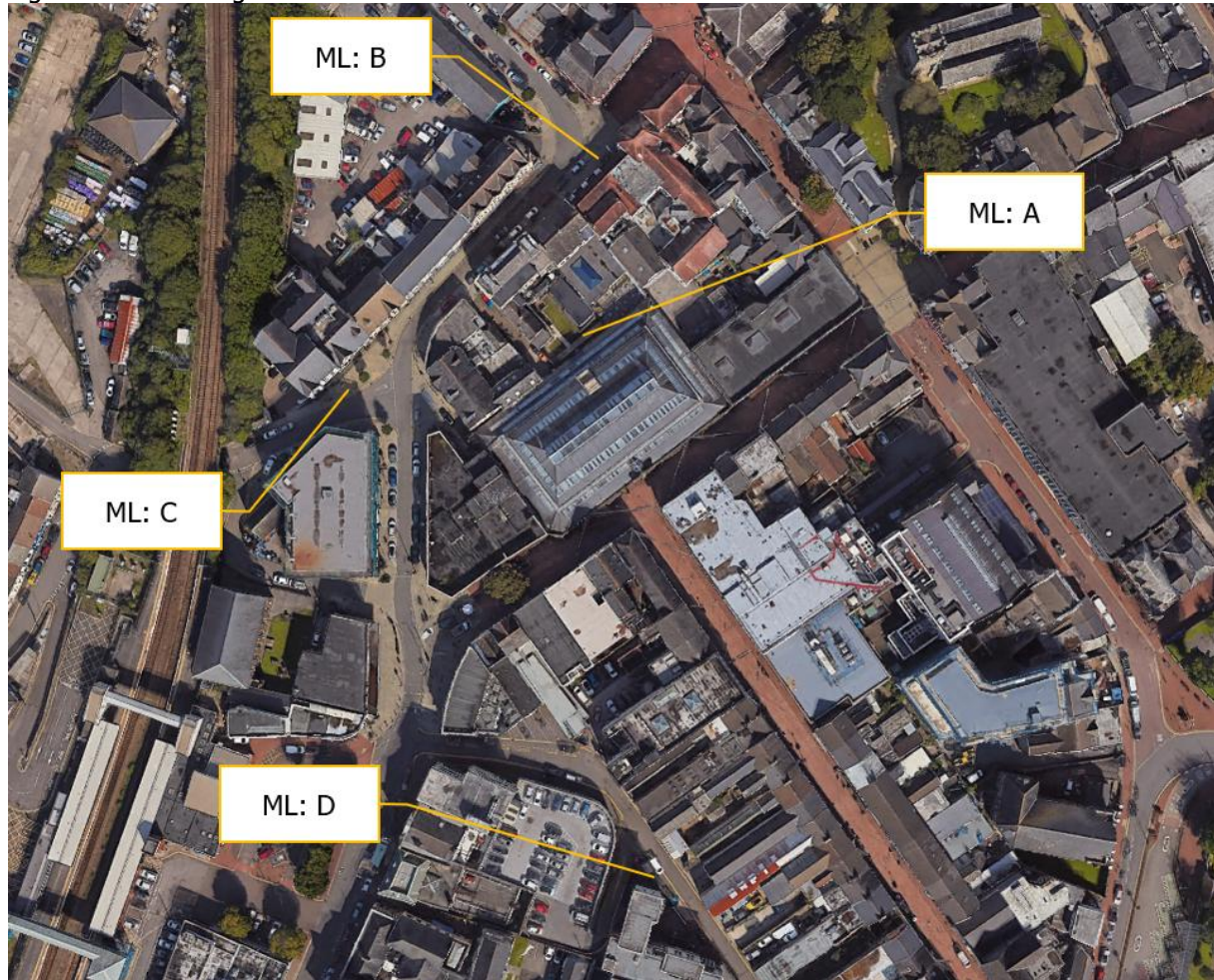
d. MLD – Short-term, Attended Monitoring

1x fully attended, supplementary survey at the residential dwelling block on Queen Street Back Road

The monitoring location at ML: A was installed in a free-field position and set to obtain 15-minute repeat periods.

The fully attended monitoring locations ML: B to ML: D, were all undertaken in a free-field positions,

Figure 6: Monitoring Locations



Location A represents the rear façade of The Castle Hotel.

Location B represents the front of The Castle Hotel and Ambassador Bar (although disused as hotel, we include it due to the request from the EHO).

Location C represents 16 – 18 The Parade and the Bluebell Hotel.

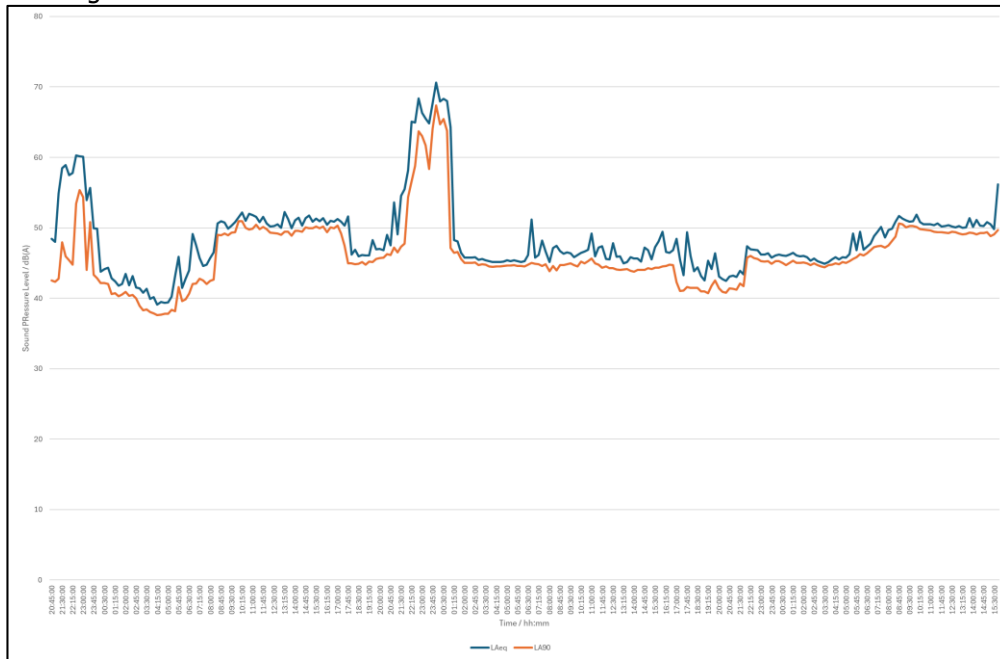
Location D represents the block of residential flats.

6.4. Measured Noise Levels

6.4.1. Baseline, ML: A

The measured levels over the monitoring period at the baseline location are provided below.

Chart 1: Existing Baseline Noise Levels at ML:A



The chart above clearly indicates increased noise levels of existing use from nearby licensed premises. These locations have been noted from the site survey to incorporate live music; of which the proposals at the application site do not include for.

The increase in existing noise levels due to live music and patron noise is dominant between 21:00 hours and 01:30 hours on the Saturday night. In addition to this the chart also displays clear noise levels due to existing fixed plant around the application site. This is understood to be from the rear of The Castle Hotel.

The table below provides a summary of the measured baseline noise levels.

Table 4: Summarised Baseline Noise Levels from ML: A for Plant Noise Limits

Time Period	LAeq (15 minutes) dB		LA90 (15 minutes) dB	
	Range	Typical	Range	Modal
Daytime (07:00 – 23:00)	42 – 68	53	41 – 64	49
Night-time (23:00 – 07:00)	39 – 71	58	38 – 67	45

The comparative equivalent noise level baseline for patron noise at the rear of The Castle Hotel is 68 dB LAeq,T. This was obtained between 21:00 hour and 00:00 hours on the Saturday of the survey and is due to patrons within the cocktail bar and surrounding venues.

6.4.2. Attended Locations

The octave band baseline sound levels obtained at the fully attended locations, ML:B to ML: D, are provided in the table below.

Table 5: Attended Baseline, $L_{eq,15\text{minute}}$ measured data at NSRs

ML	Time (hours)	Measured $L_{eq(15\text{minutes})}$ (dB) per Octave Band (Hz)								dBA
		63	125	250	500	1k	2k	4k	8k	
B	22:00	68	63	61	61	62	57	49	42	65
	23:08	75	70	66	65	64	62	56	51	69
C	21:39	67	60	58	58	58	53	46	44	61
	22:48	66	61	57	57	57	53	44	37	61
D	21:00	65	63	57	56	54	55	48	45	60
	22:25	63	56	53	52	52	48	41	36	56

6.4.3. Attended Location Notes

From the attended survey undertaken, we provide the following information and notes from each monitoring location.

MLB:

Significant levels of existing noise from established premises which increased as the time got later during the survey. Noise sources are from patrons outside bars and the hotel bar. Live music from within the cocktail bar and a live band from Ambassador's bar.

MLC:

Much the same as MLB at slightly lower noise levels. However, subjectively not too much difference.

MLD:

Plant noise from nearby food takeaway premises is audible. Glass bottles being emptied from a licensed premises bin. In addition to this, pedestrian noise is frequent and at a high level, along with road traffic and taxi noise.

7. Noise Modelling

To determine noise levels across the proposed site, noise modelling has been undertaken using computer modelling package Cadna:A by DataKustik. The modelling software calculates sound levels based on the inputted sound emission values, source and receiver locations, and distance, barrier, and ground attenuation. Calculations are undertaken using the General Method of Calculation from ISO 9613.

Two models have been made to determine the level of impact from the internal music, and separately the external patron noise.

7.1. External Patron Noise

To undertake the following assessment, we have utilised previously measured data from a similar scheme where we have measured external patron noise. This allows us to ensure that the data presented is of patron noise only, with no extraneous factors effecting the assessment.

Attended noise monitoring was undertaken at a site in Cheltenham on the 2nd of July 2021 between the hours of 21:20 and 22:15. The noise measurements presented below were of patrons using an external garden area for a bar. The measurements were taken at 5 metres from the garden with 65 patrons in the garden.

Table 6: Measured Patron Noise

Time (hh:mm)	Duration (mm:ss)	L _{Aeq(T)} dB	Distance (m)
22:08	01:47	69	20

7.2. Modelling Parameters

7.2.1. Internal Music Noise Model

The parameters within the Cadna:A model are as follows and are considered reasonable considerations.

- The building heights on and around the site are based on Google Street View imagery, provided drawings and on-site observations.
- The order of reflections is 3, and all buildings are considered reflective.
- The typography of the site is flat.
- The ground across the site is considered as hard and reflective ($G = 0$).
- Building elements have been modelled as vertical area sources with the respective internal noise levels and sound reduction indices detailed in Sections above.
- The model considers all windows and doors to be closed in terms of the proposed background music.
- Noise impacting upon building façades is detailed as the maximum level per façade.

- An octave band music noise level assessment has been obtained with a receiver positioned at the worst-case location from the noise map.

7.2.2. External Patron Noise Model

The parameters within the Cadna:A model are as follows and are considered reasonable considerations.

- The building heights on and around the site are based on Google Street View imagery, provided drawings and on-site observations.
- The order of reflections is 3, and all buildings are considered reflective.
- The typography of the site is flat
- The ground across the site is considered as hard and reflective ($G = 0$).
- Patrons have been input as an area source at a height of 1.5m.
- Noise impacting upon building façades is detailed as the maximum level per façade
- Patron noise has been calibrated to the noted levels above, as measured at 20m

7.3. Building Envelope

The building construction of 9 The Parade has been modelled with the following considerations and sound reduction indices.

7.3.1. External Walls

The wall construction is considered as dense blockwork. This is based on our site visit observations and satellite imagery. If the following is not correct, we should be informed as the modelling may require reassessment.

The external walls are modelled as dense blockwork with a minimum mass of 480 kg/m². This construction is expected to achieve the following sound reduction indices.

Table 7: Considered SRI of External Walls

SRI (dB) per Octave Band (Hz)								R _w
63	125	250	500	1k	2k	4k	8k	
37	42	45	49	54	57	57	57	53

7.3.2. Glazing & Main Entrance Door

The building is Grade II listed. Therefore, we have undertaken a modelling prediction based on a worst-case scenario of the existing glazing being constructed with 6mm, single pane glass across the whole of the noise generating building.

This is to provide an assessment under the worst-case modelling of glazing to demonstrate that no enhancement of the windows is required.

Table 8: Considered SRI of Existing Glazing

SRI (dB) per Octave Band (Hz)								R _w
63	125	250	500	1k	2k	4k	8k	
17	22	24	26	31	26	26	26	28

7.3.3. External and Fire Escape Doors

Any external door that leads from the building, that is not the main glazed front entrance, should have a surface mass of at least 25 kg/m². These doors should achieve the following sound reduction indices as a minimum.

Table 9: Minimum required sound insulation performance of external and fire escape doors

Element	SRI (dB) per Octave Band (Hz)								R _w
	63	125	250	500	1k	2k	4k	8k	
Fire Escape & External Doors	15	20	25	21	22	32	32	32	25

7.3.4. Ventilation

Any ventilation system should be designed to ensure that internal noise levels do not impact the noise egress assessment that follows.

Based on the proposed levels of music in the building being low, this is not expected to be of a significant issue to the assessment. As the building is Grade II listed, any ventilation requirements deemed necessary by the architect and design team could be followed up for assessment.

7.4. Noise Control Measures

7.4.1. Lobby Doors

Based on the proposed levels of music within the building, and the initial modelling results, lobby doors are not required.

Please note that, if any future proposals include for an increase in music noise levels, this element may need reassessing.

7.4.2. Closed Windows & Doors

The assessment is based on all openings, doors and windows, to be closed at all times, other than for access and emergency.

The doors should be closed at all times except for emergency use or access. It is advised that all doors are fitted with self-closing arm-leavers.

The doors must be well fitted, and all gaps between the doors and frames / floor must be closed with perimeter seals, such as batwing and drop seals.

All gaps between the frames and walls / door openings must be well sealed with a dense, non-setting mastic, (NOT EXPANDING FOAM).

7.4.3. Music Noise Limiter

The proposals for indoor music are for background levels of music only. There are no proposals for external music in the rear garden.

The modelling is based on the following maximum music noise levels within the building. These are based on a previous project that ACL undertook a fully attended survey for, of a busy restaurant and bar with background music.

Please note, the music noise levels can be quieter than the below details if the client wishes. The following provides the maximum noise levels of music per frequency band that has been considered in the noise model, and from similar site use.

Table 10: Maximum MNLs per Octave Band

Maximum Music Noise Levels (dB) per Octave Band (Hz)								dB(A)
63	125	250	500	1k	2k	4k	8k	
69	76	75	77	75	72	70	70	80

7.5. Modelling Results

7.5.1. Predicted Music Noise Levels

The table below details the predicted propagation of noise as a result of background music at the venue.

Table 11: Predicted Music Noise Spectrum at NSRs

Location	Sound Pressure Level (dB) per Frequency Band (Hz)								dBA
	63	125	250	500	1k	2k	4k	8k	
Castle Hotel Rear	10	10	3	2	0	0	0	0	4
Castle Hotel Front	24	28	25	25	19	21	18	16	22
Ambassador Bar & Hotel	33	35	32	32	25	26	20	19	32
Bluebell Hotel	22	24	21	22	15	16	9	5	21
Residential Flats	0	0	0	0	0	0	0	0	0

The noise modelling demonstrates that background music is expected to be inaudible at the fixed residential flats. This is due to distance, shielding, and the level of music within the building.

The following noise map provides these predictions.

Figure 7: Music Noise Propagation Map, $L_{Aeq,T}$ 4m grid height



7.5.2. Predicted Noise Levels of External Patrons

The noise modelling predictions indicate the following levels due to 65 patrons in the rear garden. The noise map of this model is provided further below.

Table 12: Predicted External Patron Noise at NSRs

Location	Predicted Equivalent Level, dB $L_{Aeq,T}$
Castle Hotel Rear	52 dB
Castle Hotel Front	46 dB
Ambassador Bar & Hotel	45 dB
16 – 18 The Parade	45 dB
Bluebell Hotel	48 dB
Residential Flats	33 dB

Figure 8: Noise Map of External Patron Noise, $L_{Aeq,T}$ (4m Grid Height)



8. Background Music Noise Assessment

8.1. IOA Noise from Pubs & Clubs Assessment

The following charts provide a comparison of the measured existing baseline noise levels at each noted location against the predicted music noise levels.

Chart 2: Front of Castle Hotel

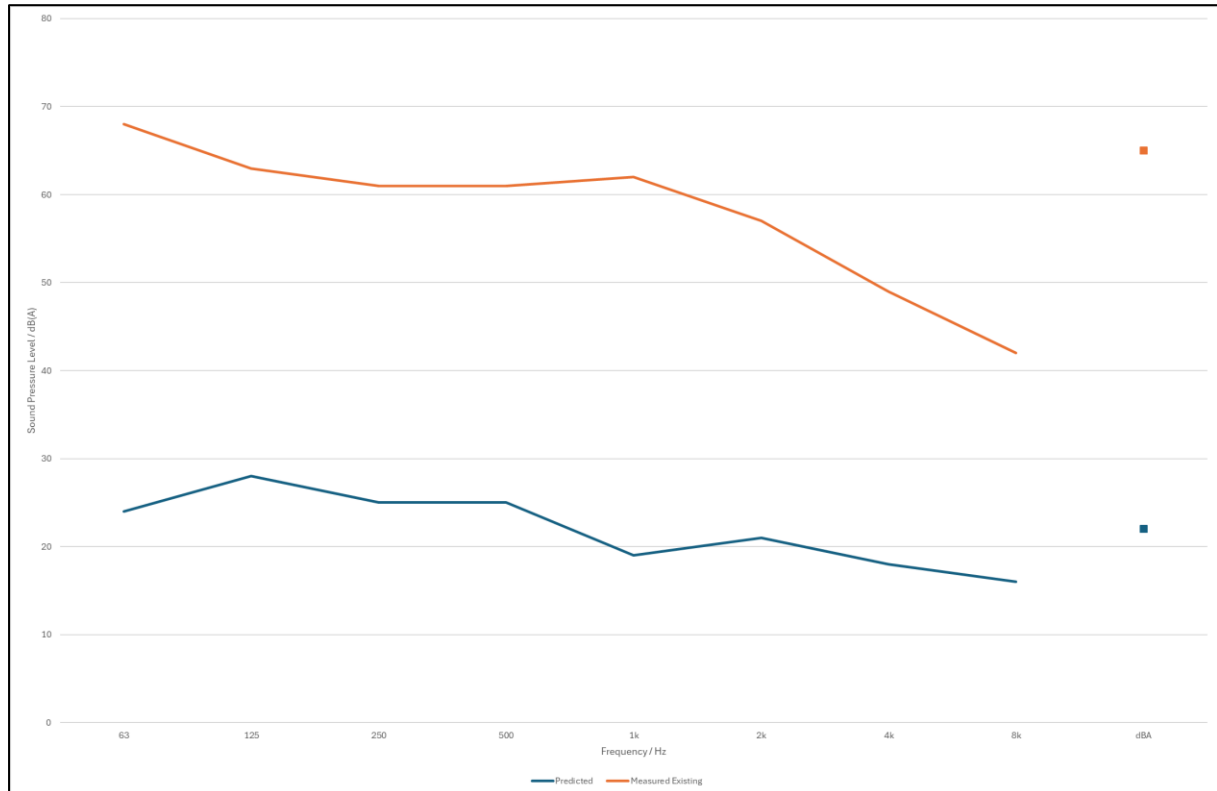


Chart 3: Ambassador Bar and Hotel

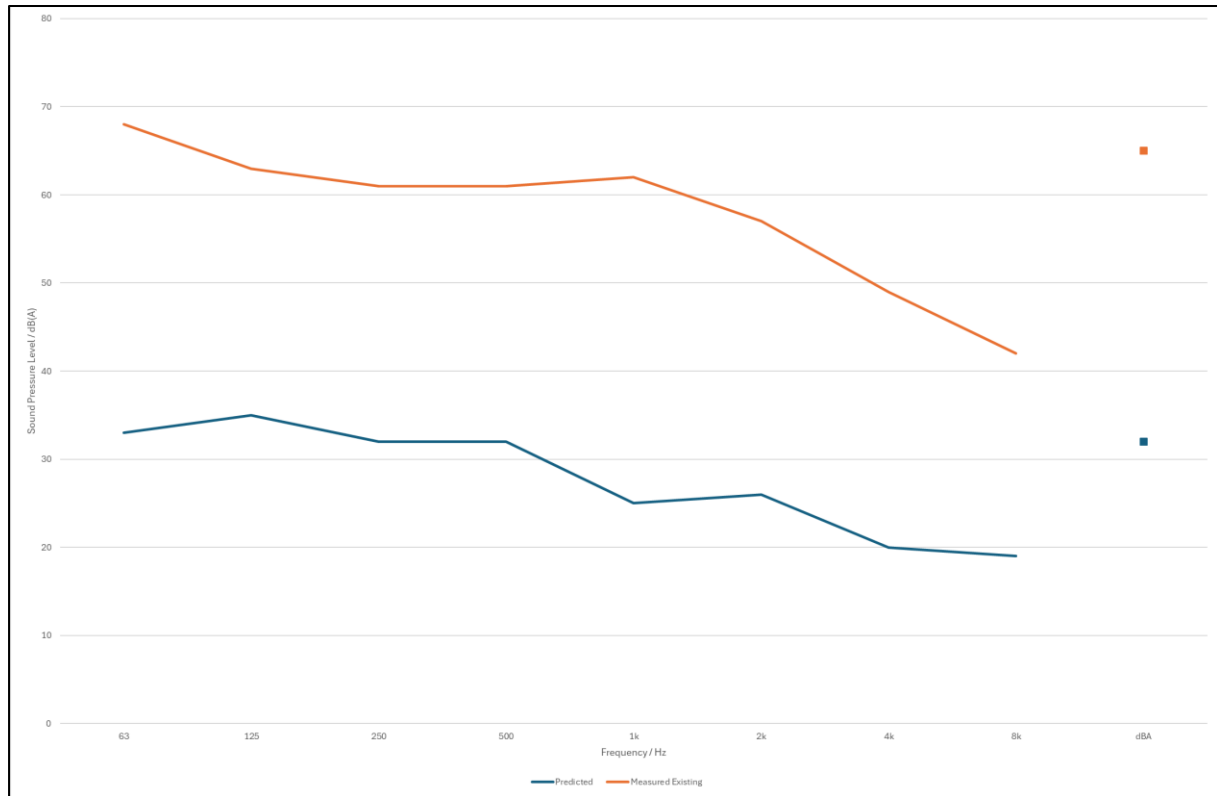


Chart 4: Bluebell Hotel

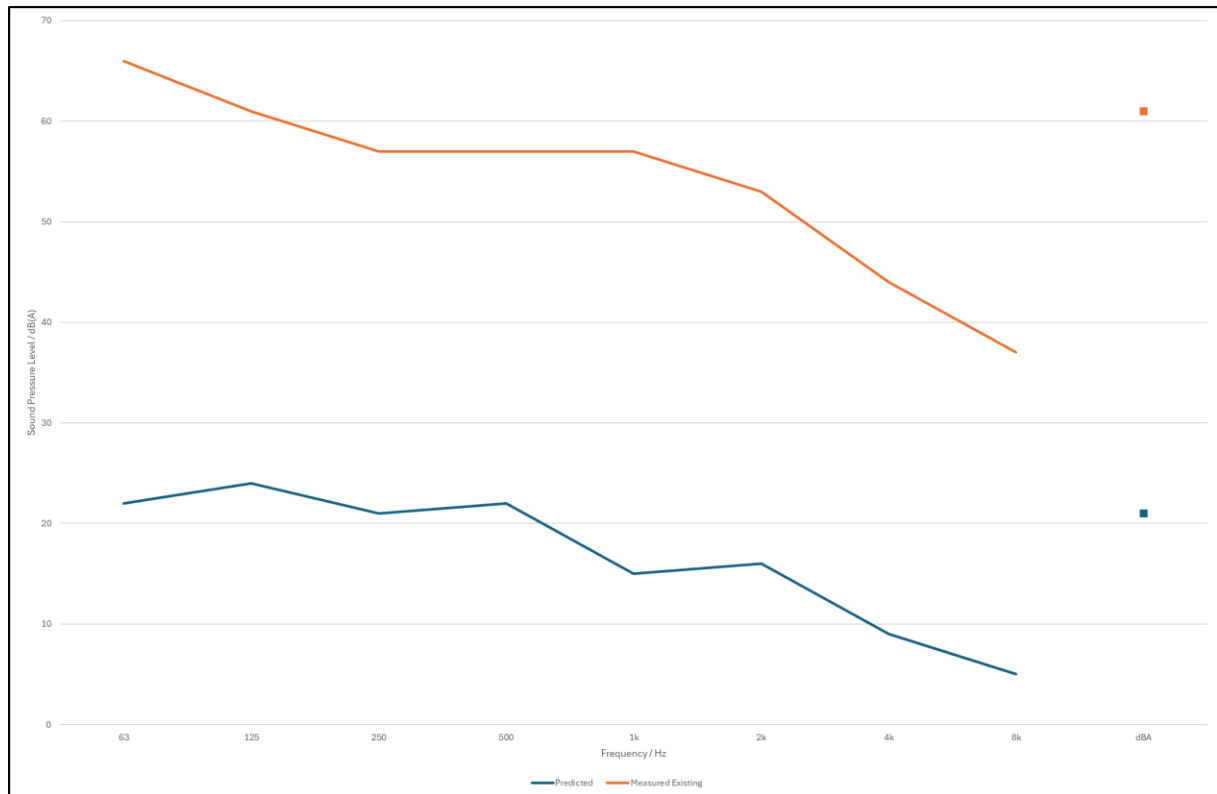
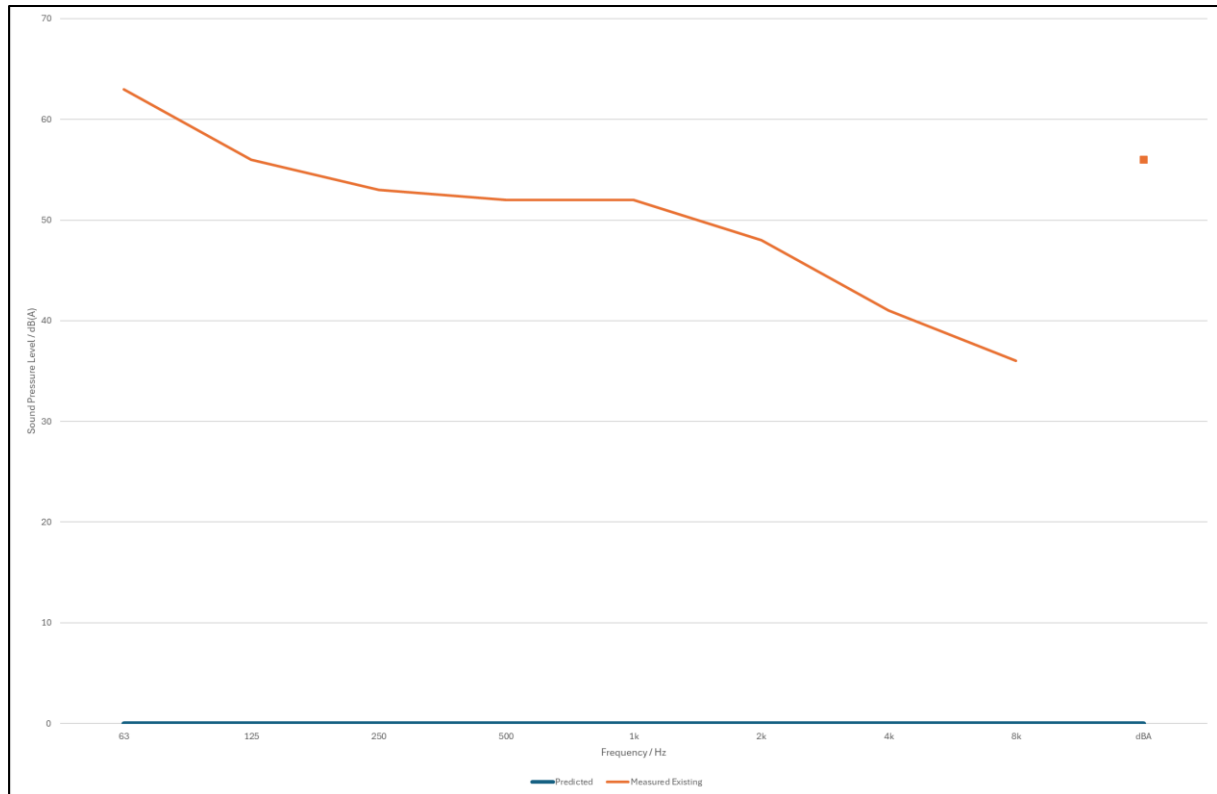


Chart 5: Fixed Residential Flats



At all assessment locations the music noise levels from the application site are comfortably below the existing baseline noise climate and are considered acceptable.

Proposals are for background music only, and this is significantly lower than the levels of existing music noise in the area.

Existing venue noise stops at approximately 00:30 on the Friday, and at 01:30 on the Saturday of the baseline noise survey.

Background music noise levels in a restaurant setting are not expected to have an impact on the wider environment.

8.2. BS 8233 Assessment

As noted by the EHO, a BS8233 assessment was also requested. This is provided below, and is assessed to an indoor night-time requirement of no greater than 30 dB $L_{Aeq,T}$. The typical time base for a BS8233 assessment is over 8-hours. The following undertakes the assessment over a more stringent 15-minute period. This is considered more robust and appropriate.

The assessment considers that natural ventilation at each NSR is utilised through an open window. The WHO provide guidance on a partially open window providing a level difference of 15 dB. This is applied to the assessment below.

Table 13: Predicted Music Noise Levels against BS8233

Location	Predicted MNL dBA	Open Window Correction	Indoor Level due to Music	Within Criteria?
Castle Hotel Rear	4	-15 dB	0 dB	YES
Castle Hotel Front	22	-15 dB	7 dB	YES
Ambassador Bar & Hotel	32	-15 dB	17 dB	YES
Bluebell Hotel	21	-15 dB	6 dB	YES
Residential Flats	0	-15 dB	0 dB	YES

All locations are expected to be comfortably within BS8233 criteria.

8.3. Patron Noise Assessment

A change in noise level assessment is provided below in terms of the impact of patrons using the rear garden.

8.3.1. Worst Expected Use

The assessment provides the worst-case scenarios, in consideration of the existing uses around the application site, i.e., the existing external use of the cocktail bar and other licensed premises that have live music playing.

Please note that the following is a logarithmic assessment, and not an arithmetic change in noise levels.

Table 14: Change in Noise Level Assessment – Worst Expected Use

Location	Time Period	Existing $L_{Aeq,T}$	Proposed Patron $L_{Aeq,T}$	Cumulative $L_{Aeq,T}$	Change	Long-term Classification
Castle Hotel Rear	21:00 – 00:00	68 dB	52 dB	68 dB	0 dB	Negligible
Castle Hotel Front	22:00 – 22:30	63 dB	46 dB	63 dB	0 dB	Negligible
Ambassador Bar & Hotel	22:00 – 22:30	63 dB	45 dB	63 dB	0 dB	Negligible
16 – 18 The Parade	21:39 – 22:48	61 dB	45 dB	61 dB	0 dB	Negligible
Bluebell Hotel	21:39 – 22:48	61 dB	48 dB	61 dB	0 dB	Negligible
Residential Flats	22:25 – 22:40	56 dB	33 dB	56 dB	0 dB	Negligible

8.3.2. Worst-case Scenario

To provide a further worst-case assessment, in the event the garden area was full at capacity on a Sunday evening, the change in noise level assessment at the fixed residential uses could result in a change in noise levels as follows:

Table 15: Change in Noise Level Assessment – Worst Case Scenario

Location	Time Period	Existing $L_{Aeq,T}$	Proposed Patron $L_{Aeq,T}$	Cumulative $L_{Aeq,T}$	Change	Long-term Classification
16 – 18 The Parade	Sunday Evening	45 dB	45 dB	48 dB	+3 dB	Minor
Residential Flats			33 dB	45 dB	0 dB	Negligible

The above demonstrates a negligible change at the block of flats on Queen Street Back Road, and a minor change at 16 – 18 the Parade.

A minor change is not considered unacceptable in terms of noise, as the predicted noise level falls within BS8233 guidelines, as requested by the EHO, along with the WHO guidelines for the onset of annoyance inside and outside the dwellings.

With the level difference of an open window for natural ventilation applied to the façade level, the noise level inside the properties could be up to 35 dB $L_{Aeq,T}$.

This falls within the daytime BS8233 criteria of indoor ambient noise level requirements as stipulated by the EHO.

In addition to this, the use of the garden area on Sunday and weekday evenings can be limited via a noise management plan, which follows.

9. Noise Management Plan

Based on the findings of the noise modelling and assessments provided above, the following outlines noise elements that can be implemented within a noise management plan by our client.

1. Use of music within the building is limited to the maximum octave band noise levels provided above (with the use of background music levels considered).
2. Use of music in the external garden area is not proposed as we understand, therefore should not be included at the site unless further assessment is undertaken to limit the levels if feasible.
3. Windows and external doors are kept closed unless in the case of emergency.
4. Use of the rear garden ceases no later than the following times:
 - a. Friday and Saturday – 23:00 hours
 - b. Sunday to Thursday – 22:00 hours
5. Anti-social behaviour is out of the scope of a noise impact assessment. Therefore, if such incidents occur in the rear garden, site management would need to be in place to control this.
6. Emptying of glass bottles into waste or recycling bins to be undertaken in daytime hours, and not at closing time to avoid causing annoyance at sensitive periods.

10. Plant Noise Limits

At the time of writing there are no proposed schedules of fixed external plant to assess. This is due to the early stage of the scheme.

In lieu of this information, the following section provides plant noise limits that must be achieved at all nearby sensitive receivers.

It is expected that that kitchen extract will be turned off at a time before night-time hours of BS4142 assessment methodology begin (prior to 23:00 hours).

We would advise that operational noise from the proposed plant at the development does not exceed a maximum cumulative 'free-field' Rating Sound Level as follows, when measured at the nearest noise sensitive receivers.

Table 16: Plant noise limits, determined at all NSRs (free-field level)

Time Period	Background Sound Level	Cumulative Rating Sound Level Limit
Daytime (07:00-23:00)	49 dB $L_{A90,1 \text{ hour}}$	49 dB $L_{Ar,1 \text{ hour}}$
Night-time (23:00-07:00)	45 dB $L_{A90,15 \text{ minutes}}$	45 dB $L_{Ar,15 \text{ minutes}}$

The rating sound level should account for any reasonable character corrections, i.e., tonality, intermittency, impulsivity, and other sound characteristics from site operations. Noise control measures in the form of, but not limited to, enclosures, barriers, attenuators, or quieter plant, may be required.

11. Summary and Conclusions

Farmers Inn Ltd appointed Acoustic Consultants Limited to undertake a noise impact assessment for the proposed bar at 9 The Parade, Neath, SA11 1RB.

This assessment will provide details of a noise survey undertaken at the site and surrounding sensitive receivers, the noise measurements obtained, and a noise modelling exercise and assessment in terms of impact at the nearby sensitive receivers (NSRs).

The survey methodology was issued to the Local Authority and agreed upon prior to undertaking the site survey and is further detailed in the main text of the report.

Noise modelling has been carried out based on measured library noise data of similar uses that are proposed at the application site.

The proposals are for a background level of music within the building only. A noise limiter should be installed to ensure this is maintained at the site for day-to-day use. Maximum limits across the octave band frequency spectrum are provided in the report.

Modelling of patron noise has been undertaken with the garden area at full capacity.

A noise management plan is provided in outline for our client to implement into a full site management plan.

Plant noise limits are also provided. These are the cumulative levels of fixed plant noise associated with the site.

The noise assessments provided indicate that proposals as modelled and detailed above are comfortably acceptable to the EHO's requirements, along with other relevant guidance and criteria adopted for the purposes of the assessment.

Therefore, it is considered the proposals can achieve the aims of TAN11 and PPW.

12. Appendix 1 – Glossary of Acoustic Terminology

A-weighted sound pressure p_A – value of overall sound pressure, measured in pascals (Pa), after the electrical signal derived from a microphone has been passed through an A-weighting network.

A-weighted sound pressure level, L_{pA} – quantity of A-weighted sound pressure given by the following formula in decibels (dBA)

$$L_{pA} = 10 \log_{10} (p_A/p_0)^2$$

where:

p_A is the A-weighted sound pressure in pascals (Pa);
 p_0 is the reference sound pressure (20 μ Pa)

Background sound level, $L_{A90,T}$ – A-weighted sound pressure level that is exceeded by the residual sound assessment location for 90% of a given time interval, T, measured using weighting F and quoted to the nearest whole number of decibels

Break-in - noise transmission into a structure from outside.

Decibel (dB) – The decibel is the unit used to quantify sound pressure levels. The human ear has an approximately logarithmic response to acoustic pressure over a very large dynamic range (typically 20 micro-Pascals to 100 Pascals). Therefore, a logarithmic scale is used to describe sound pressure levels and also sound intensity and power levels. The logarithms are taken to base 10. Hence an increase of 10 dB in sound pressure level is equivalent to an increase by a factor of 10 in the sound pressure level (measured in Pascals). Subjectively, this increase would correspond to a doubling of the perceived loudness of sound.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$ – value of the A-weighted sound pressure level in decibels of continuous steady sound that, within a specified time interval, $T = t_2 - t_1$, has the same mean-squared sound pressure as a sound that varies with time, and is given by the following equation:

$$L_{Aeq,T} = 10 \lg_{10} \left\{ (1/T) \int_{t_1}^{t_2} [p_A(t)^2/p_0^2] dt \right\} \quad (1)$$

where:

p_0 is the reference sound pressure (20 μ Pa); and

$p_A(t)$ is the instantaneous A-weighted sound pressure (Pa) at time t

NOTE The equivalent continuous A-weighted sound pressure level is quoted to the nearest whole number of decibels.

Facade level – sound pressure level 1 m in front of the façade. Facade level measurements of L_{pA} are typically 1 dB to 3 dB higher than corresponding free-field measurements because of the reflection from the facade.

Free-field level – sound pressure level away from reflecting surfaces. Measurements made 1.2 m to 1.5 m above the ground and at least 3.5 m away from other reflecting surfaces are usually regarded as free-field. To minimize the effect of reflections the measuring position has to be at least 3.5 m to the side of the reflecting surface (i.e. not 3.5 m from the reflecting surface in the direction of the source).

Octave and Third Octave Bands – The human ear is sensitive to sound over a range of frequencies between approximately 20 Hz to 20 kHz and is generally more sensitive to medium and high frequencies than to low frequencies within the range. There are many methods of describing the frequency content of a noise. The most common methods split the frequency range into defined bands, in which the mid-frequency is used as the band descriptor and in the case of octave bands is double that of the band lower. For example, two adjacent octave bands are 250 Hz and 500 Hz. Third octave bands provide a fine resolution by dividing each octave band into three bands. For example, third octave bands would be 160 Hz, 250 Hz, 315 Hz for the same 250 Hz octave band.

Sound pressure level – Sound pressure level is stated on many of the charts. It is the amplitude of the acoustic pressure fluctuations in a sound wave, fundamentally measured in Pascals (Pa), typically from 20 micro-Pascals to 100 Pascals, but commonly simplified onto the decibel scale.

Sound reduction index, R – laboratory measure of the sound insulating properties of a material or building element in a stated frequency band.

Specific sound level, $L_s = L_{Aeq,Tr}$ – equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T_r .

Structure-borne noise – audible noise caused by the vibration of elements of a structure, the source of which is within a building or structure with common elements.

Rating level, $L_{Ar,Tr}$ – Specific sound level plus any adjustment for the characteristic features of the sound.

Reverberation Time, T – The reverberation time is defined as the time taken for a noise level in an enclosed space to decay by 60 dB from a steady level once the noise source has stopped. It is measured in seconds. Often a 60 dB decay cannot be measured so the reverberation time is measured over a lesser range and corrected back to the time for a 60 dB drop assuming a constant decay rate. Common parameters are T20 (time taken for a 20 dB decay multiplied by three) and T30 (time taken for a 30 dB decay multiplied by two).

Vibration Dose Value, VDV – measure of the total vibration experienced over a specified period of time.

Estimated Vibration Dose Value, $eVDV$ – estimation of the total vibration experienced over a specified period of time. This is usually based on the number of events and shortened measurement data.

Weighted sound reduction index, R_w – Single-number quantity which characterizes the airborne sound insulating properties of a material or building element over a range of frequencies. The weighted sound reduction index is used to characterize the insulation of a material or product that has been measured in a laboratory (see BS EN ISO 717-1).



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