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**The Albion
20 Albion Street
London**

Planning Condition 6 Report

12 November 2021

For

Wedgemore Albion Street Limited

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SUMMARY

It is proposed to demolish the existing building and construct a new four storey mixed use building including residential dwellings, and an A4 drinking establishment at ground and basement levels at The Albion, 20 Albion Street in London.

A planning condition sets external noise requirements for noise due to music and speech from the commercial premises, requiring a background noise survey and an assessment of noise transmission to external areas.

A noise survey has previously been undertaken by **auricl**, details of which can be found within the Noise Survey Report (R/NS/1/211006) which is included in Appendix C and determines the background noise levels that are representative of the nearest noise sensitive properties.

Subsequently, an assessment has been undertaken to predict noise emissions associated with the commercial use at a location 1m from the nearest noise sensitive façades.

Results of the assessment show that the predicted noise levels at 1m from the nearest noise sensitive façades are less than the lowest measured $L_{90, 5 \text{ min}}$ in the specified 1/3 octave bands during all proposed hours of business, and therefore it is predicted that the planning condition requirements should be achieved.

1.0 Introduction

It is proposed to demolish the existing building and construct a new four storey mixed use building including residential dwellings, and an A4 drinking establishment at ground and basement level at The Albion, 20 Albion Street in London.

A planning condition sets external noise requirements for noise due to music and speech from the commercial premises, requiring a background noise survey and an assessment of noise transmission to external areas.

A noise survey has been undertaken, details of which can be found within the Noise Survey Report included in Appendix C.

This report presents an acoustic assessment of the proposals to address the planning condition requirements.

2.0 Description of Site and Proposals

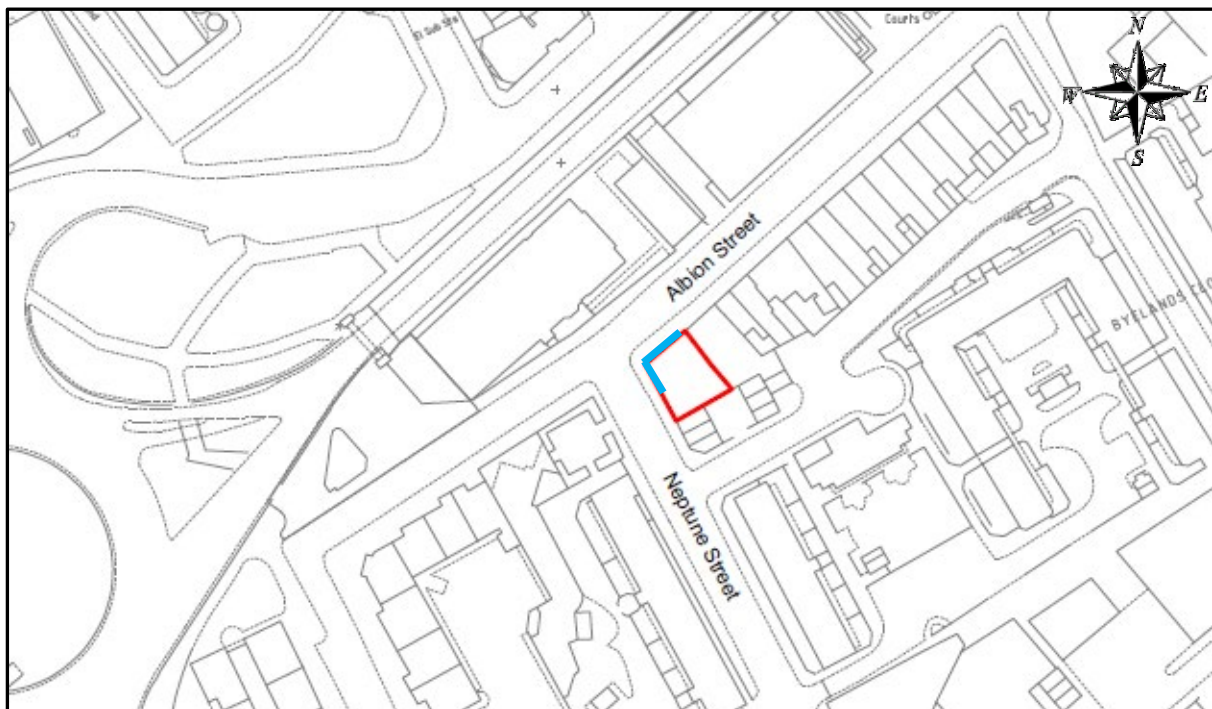
The proposed development site is located at The Albion, 20 Albion Street in London, in a mixed commercial and residential area with residential housing forming much of the surrounding area and a retail parade along Albion Street. The Rotherhithe tunnel lies to the north of the site.

It is proposed to demolish the existing building and construct a new four storey mixed use building including residential dwellings, and an A4 drinking establishment at ground and basement levels.

The nearest noise sensitive properties to the commercial premises are considered to be the proposed development dwellings at first floor level overlooking Albion Street and Neptune Street to the front of the site.

Figure 2.1 shows the site extent in **red**, and the nearest noise sensitive façades highlighted in **blue**.

Figure 2.1 Existing Site Extent and Surroundings



3.0 Assessment Criteria

Planning condition 6 for the proposals states the following:

“a) Prior to commencement of above grade works, a scheme of sound insulation shall be submitted to the local planning authority for approval. The proposed scheme shall be designed to ensure that the L_{Fmax} sound from amplified and non-amplified music and speech shall not exceed the lowest $L_{90, 5min}$ at 1m from the facade of any residential premises at all third octave bands between 63Hz and 8kHz.

The scheme of sound insulation shall be constructed and installed in accordance with the approval given and shall be permanently maintained thereafter.

b) Following completion of the development and prior to the commencement of use of the commercial premises a validation test shall be carried out. The results shall be submitted to the LPA for approval in writing.

Reason

To ensure that the occupiers and users of the proposed development do not suffer a loss of amenity by reason of noise nuisance and other excess noise from activities associated with non-residential premises in accordance with the National Planning Policy Framework 2012, Strategic Policy 13 ‘High environmental standards’ of the Core Strategy (2011) and saved Policy 3.2 Protection of Amenity of the Southwark Plan (2007).”

We will therefore base our assessment on the above criteria.

4.0 External Noise Levels

An environmental noise survey has previously been undertaken at the site. Full details of the noise survey can be found within the report (R/NS/1/211006) which is included in Appendix C.

Measurement position 1 is considered to be representative of background noise levels at the nearest noise sensitive windows identified in Figure 2.1.

The lowest measured $L_{90, 5min}$ background noise levels at measurement position 1 during operational hours of the proposed ground floor premises (10:00-23:00 Monday-Saturday, 10:00-22:00 Sundays & Bank Holidays) are presented across the 1/3 octave band frequency spectrum between 63Hz and 8kHz in Table 4.1.

Table 4.1 Lowest Measured $L_{90, 5min}$ Background Noise Levels in 1/3 Octaves

Measurement Position	Lowest $L_{90, 5min}$ at 1/3 Octave Band Frequency (Hz)											$L_{A90, 5min}$ (dB)
	63	80	100	125	160	200	250	315	400	500	630	
1	38	36	35	33	34	33	32	31	30	29	29	38
	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	
	29	29	27	25	22	19	15	11	9	6	2	

In accordance with planning condition 6, these noise levels are therefore the 1/3 octave band limits for music and speech from the commercial premises when measured at a position 1m outside of the window of any of the nearest noise sensitive dwellings at first floor level above the proposed commercial space.

5.0 Noise Assessment – Façade Transmission

5.1 Basis of Assessment

As discussed above, it is proposed to demolish the existing building and construct a new four storey mixed use building including residential dwellings, and an A4 drinking establishment at ground and basement levels.

The proposed ground and basement level premises could play amplified music and speech internally, with operational hours of the proposed space as follows:

- Monday–Saturday, 10:00-23:00
- Sundays & Bank Holidays, 10:00-22:00

It can therefore be seen that the site will operate during daytime/evening periods only.

The assessment calculations are based on a commercial premises façade build-up consisting of:

- Brick/block cavity external wall construction with an independent internal lining (e.g. independent insulated frame with double layered acoustic plasterboard lining)
- Deep airspace double glazing e.g. 10mm glass/200mm cavity/6mm glass achieving R_w 49 dB
- Lobbied or Acoustic doors to achieve R_w 55 dB

Product specifications will be refined during the design to ensure that façade elements meet minimum requirements.

The calculations consider all dimensions as taken from the latest drawings for the development.

Music noise within the commercial premises will need to be actively limited via the in-house sound system in order to achieve the planning condition requirements. This shall be enforced via the tenancy agreement with typical wording included in Appendix B.

The maximum (L_{max}) reverberant internal noise level due to music and speech that is considered in this assessment is shown in the following calculations and presented in the tenancy agreement wording (in Appendix B) as a limit to be satisfied by any commercial tenant.

We have considered the above in the calculations that follow.

5.2 Façade Noise Transmission Predictions

We have undertaken calculations to predict the noise transmission through the façade of the ground floor commercial use in accordance with the methodology specified in BS EN 12354: 2000 *“Building acoustics – Estimation of acoustic performance of buildings from the performance of elements – Part 4. Transmission of indoor sound to the outside”*.

Our calculations are based on the maximum permissible noise levels due to music and speech, the predicted sound reduction performance of the building envelope, and the transmission path to the nearest noise sensitive properties.

The façade noise transmission calculations are summarised in Tables 5.2 and 5.3.

It can be seen from Tables 5.2 and 5.3 that the predicted noise levels at the nearest noise sensitive windows do not exceed the noise limits within any 1/3 octave band, therefore the planning condition 6 requirements should be achieved.

Table 5.2 Noise Transmission Calculations – Residential façades overlooking Albion Street

The Albion		auricl acoustic consulting																						
BS 12354-4 Calculation - Indoor to Outdoor Sound		Level (dB) at 1/3 Octave Band Frequency (Hz)																						
Commercial façades on Albion Street - NSR on Albion Street		dBA	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5	3.15k	4k	5k	6.3k	8k
Internal Music - Maximum Sound Pressure Level, Lmax		91	70	68	76	74	75	80	79	78	81	81	80	85	84	83	81	78	75	73	70	67	65	62
Diffusivity Term, Cd			-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
Composite Sound Reduction of External Façade			-29	-29	-38	-38	-38	-44	-44	-44	-48	-48	-48	-52	-52	-52	-53	-53	-53	-56	-56	-56	-57	-57
Segment Correction			-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
Area Correction			+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19
Distance Attenuation			-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11
Barrier Attenuation of Building Envelope			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Directivity term, Dc			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sound pressure level 1m from window		37	38	36	34	32	34	33	31	30	30	29	29	29	29	27	25	22	18	15	11	9	5	2
Commercial façades on Neptune Street - NSR on Albion Street		dBA	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5	3.15k	4k	5k	6.3k	8k
Internal Music - Maximum Sound Pressure Level, Lmax		91	70	68	76	74	75	80	79	78	81	81	80	85	84	83	81	78	75	73	70	67	65	62
Diffusivity Term, Cd			-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
Composite Sound Reduction of External Façade			-29	-29	-39	-39	-39	-44	-44	-44	-48	-48	-48	-52	-52	-52	-53	-53	-53	-54	-54	-54	-55	-55
Segment Correction			-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
Area Correction			+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19
Distance Attenuation			-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15
Barrier Attenuation of Building Envelope			-8	-8	-9	-9	-9	-12	-12	-12	-14	-14	-14	-16	-16	-16	-19	-19	-19	-22	-22	-22	-24	-24
Directivity term, Dc			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sound pressure level 1m from window		18	25	23	21	19	20	17	15	14	11	11	10	9	8	7	2	0	0	0	0	0	0	0
Total sound pressure level 1m from residential windows on Albion Street		38	38	36	35	33	34	33	32	31	30	29	29	29	29	27	25	22	19	15	11	9	6	2
Noise Limit		38	38	36	35	33	34	33	32	31	30	29	29	29	29	27	25	22	19	15	11	9	6	2
Difference		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: values are rounded to the nearest whole decibel

Table 5.3 Noise Transmission Calculations – Residential façades overlooking Neptune Street

The Albion		auricl acoustic consulting																						
BS 12354-4 Calculation - Indoor to Outdoor Sound		Level (dB) at 1/3 Octave Band Frequency (Hz)																						
Commercial façades on Albion Street - NSR on Neptune Street		dBA	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5	3.15k	4k	5k	6.3k	8k
Internal Music - Maximum Sound Pressure Level, Lmax		91	70	68	76	74	75	80	79	78	81	81	80	85	84	83	81	78	75	73	70	67	65	62
Diffusivity Term, Cd			-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
Composite Sound Reduction of External Façade			-29	-29	-39	-39	-39	-44	-44	-44	-48	-48	-48	-52	-52	-52	-53	-53	-53	-54	-54	-54	-55	-55
Segment Correction			-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
Area Correction			+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19
Distance Attenuation			-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15
Barrier Attenuation of Building Envelope			-8	-8	-9	-9	-9	-12	-12	-12	-14	-14	-14	-16	-16	-16	-19	-19	-19	-22	-22	-22	-24	-24
Directivity term, Dc			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sound pressure level 1m from window		18	25	23	21	19	20	17	15	14	11	11	10	9	8	7	2	0	0	0	0	0	0	0
Commercial façades on Neptune Street - NSR on Neptune Street		dBA	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5	3.15k	4k	5k	6.3k	8k
Internal Music - Maximum Sound Pressure Level, Lmax		91	70	68	76	74	75	80	79	78	81	81	80	85	84	83	81	78	75	73	70	67	65	62
Diffusivity Term, Cd			-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
Composite Sound Reduction of External Façade			-29	-29	-38	-38	-38	-44	-44	-44	-48	-48	-48	-52	-52	-52	-53	-53	-53	-56	-56	-56	-57	-57
Segment Correction			-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
Area Correction			+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19	+19
Distance Attenuation			-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11
Barrier Attenuation of Building Envelope			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Directivity term, Dc			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sound pressure level 1m from window		37	38	36	34	32	34	33	31	30	30	29	29	29	29	27	25	22	18	15	11	9	5	2
Total sound pressure level 1m from residential windows on Neptune Street		38	38	36	35	33	34	33	32	31	30	29	29	29	29	27	25	22	19	15	11	9	6	2
Noise Limit		38	38	36	35	33	34	33	32	31	30	29	29	29	29	27	25	22	19	15	11	9	6	2
Difference		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: values are rounded to the nearest whole decibel

Appendix A – Acoustic Terminology

Parameter	Description
Decibel (dB)	A logarithmic scale representing the sound pressure or power level relative to the threshold of hearing (20×10^{-6} Pascals).
Sound Pressure Level (L_p)	The sound pressure level is the sound pressure fluctuation caused by vibrating objects relative to the threshold of hearing.
A-weighting (L_A or dBA)	The sound level in dB with a filter applied to increase certain frequencies and decrease others to correspond with the average human response to sound.
$L_{Aeq,T}$	<p>The A-weighted equivalent continuous noise level over the time period T (typically T= 16 hours for daytime periods, T = 8 hours for night-time periods).</p> <p>This is the sound level that is equivalent to the average energy of noise recorded over a given period.</p>
L_{A90} (15 min)	The noise level exceeded for 90% of the time (also referred to as the background noise level), measured over a 15 minute period

Appendix B – Typical Tenancy Agreement Wording

1.0 General

Noise due to the commercial Tenant’s internal activities shall be designed with measures installed and maintained such that:

- a) it does not cause constitute a noise nuisance
 and
- b) it achieves any Local Authority planning/Environmental Health/Building Control requirements
 and
- c) noise break-out to the first-floor residential façades does not cause the existing background noise levels to be elevated.

2.0 Noise due to Internal Activity

Typical Tenant noise is expected to include activity noise, and noise due amplified music within the Tenant’s demise.

Noise break-out from the commercial demise to external areas shall be limited so as to comply with the requirements of the Local Authority.

So as to comply with the general requirements given in Section 1.0, it is suggested that the Tenant limits noise levels in their demise to those shown in Table 1.

Table 1. Suggested Noise Limits in Demise

Parameter	Maximum Sound Pressure Level (dB ref 2 x 10 ⁻⁵ Pa) @ 1/3 Octave Band Centre Frequency (Hz)											L _{Amax} (dB)
	63	80	100	125	160	200	250	315	400	500	630	
L _{Fmax}	70	68	76	74	75	80	79	78	81	81	80	91
	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	
	85	84	83	81	78	75	73	70	67	65	62	

The noise limits should be achieved at any typical listening position within the demise at least 1.5m from any acoustically reflective surface.

Should the Tenant wish to operate at greater noise levels than those shown in Table 1, additional sound insulation measures would be necessary as part of the Tenant’s fit-out. As a minimum, this would be expected to include secondary glazing, lobbied acoustic doors and internal wall, column and ceiling linings throughout.

Any additional measures shall be proposed by the Tenant to the Landlord. The design proposal shall include, as appropriate, calculations and manufacturer’s sound insulation test results for any proprietary systems.

The commercial building envelope construction can be assumed to provide the sound reduction indices given in Table 2, in the absence of any additional measures in the commercial demise.

Table 2. Sound Reduction Indices for Building Envelope Construction

Sound Reduction Index (dB) @ 1/3 Octave Band Centre Frequency (Hz)										
63	80	100	125	160	200	250	315	400	500	630
29	29	38	38	38	44	44	44	48	48	48
800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k
52	52	52	53	53	53	56	56	56	57	57

Additionally, measures may be required in order to minimise the transfer of structure-borne sound e.g. resilient mounting of loudspeakers in the commercial demise.

4.0 Submission of Proposals

The Tenant’s proposals to control noise to within the specified limits shall be submitted to the Landlord and shall include:

- Description of likely activities within the Tenant’s demise
- Predicted operational noise levels within the Tenant’s demise
- Predicted operational noise break-out levels within and outside the nearest residential units
- Details of any additional sound insulation measures and/or sound limitation devices

Appendix C – Noise Survey Report

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**The Albion
20 Albion Street
London**

Noise Survey Report

6 October 2021

For

Wedgemore Albion Street Limited

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SUMMARY

It is proposed to demolish the existing building and construct a new four storey mixed use building including residential dwellings, at The Albion, 20 Albion Street in London.

Planning conditions 6-9 for the development require acoustic input therefore a noise survey has been carried out at the site to determine existing ambient noise levels affecting the facades of the development and background noise levels representative of the nearest noise sensitive properties.

The methodology and results of the survey have been presented, of which will inform future assessments in relation to the planning conditions.

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1.0 Introduction

It is proposed to demolish the existing building and construct a new four storey mixed use building including residential dwellings, at The Albion, 20 Albion Street in London.

Planning conditions 6-9 for the development require acoustic input therefore a noise survey has been carried out at the site to determine existing ambient noise levels affecting the facades of the development and background noise levels representative of the nearest noise sensitive properties.

An explanation of the acoustic terminology used in this report is given in Appendix A.

2.0 Description of Site and Surroundings

The proposed development site is located at The Albion, 20 Albion Street in London, in a mixed commercial and residential area with residential housing forming much of the surrounding area and a retail parade along Albion Street. The Rotherhithe tunnel lies to the north of the site.

The nearest existing noise sensitive properties are considered to be the residential dwellings at first floor level to the north-east of the site on Albion Street. The proposed development dwellings will also be considered to be noise sensitive.

Figure 2.1 indicates the approximate existing site extent in **red**.

Figure 2.1 Site Extent and Surroundings



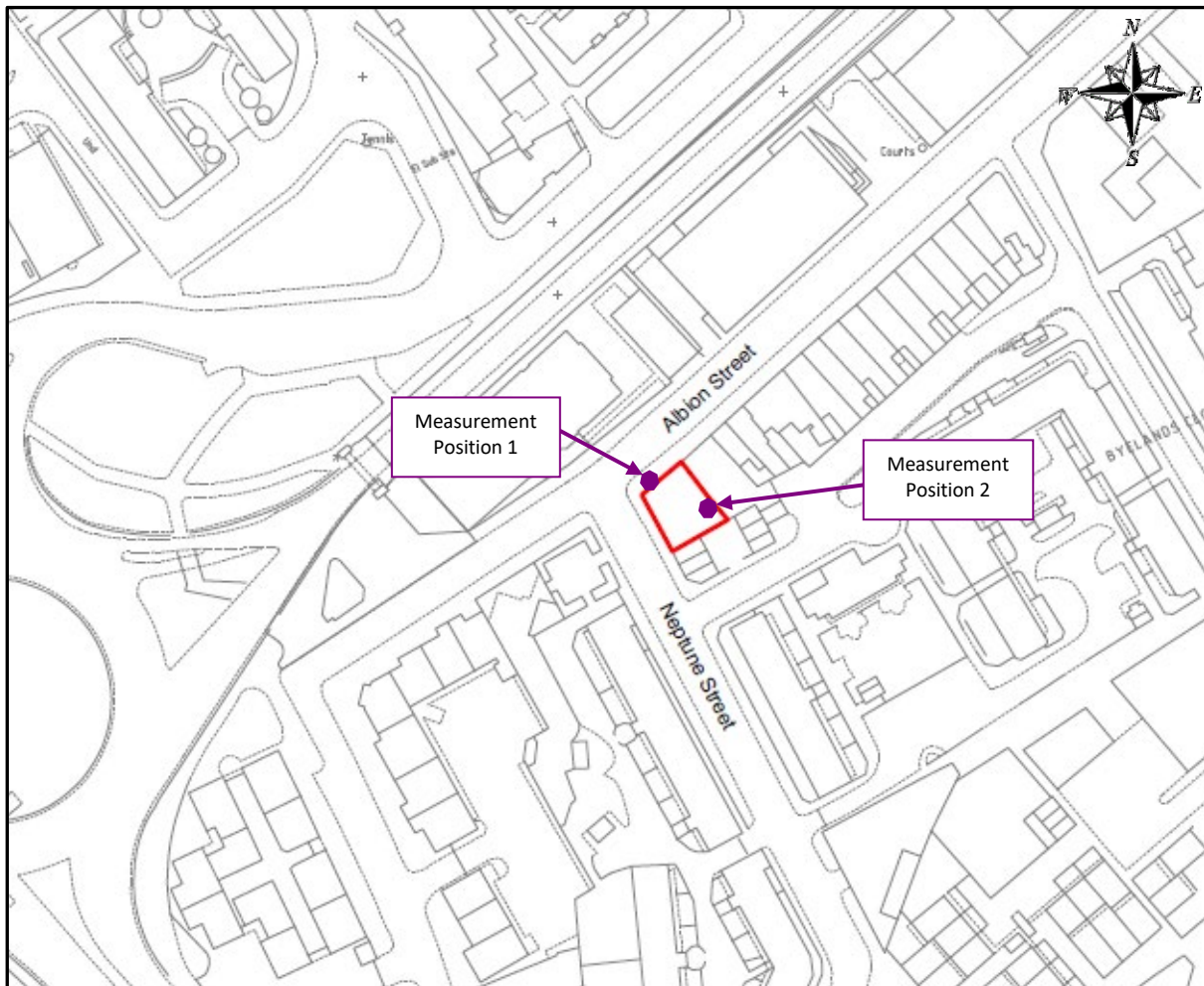
3.0 Noise Survey

3.1 Methodology

An unmanned environmental noise survey was undertaken at two measurement positions at the proposed development site over between Friday 17 September 2021 and Friday 24 September 2021.

The approximate measurement positions are shown in Figure 3.1.

Figure 3.1 Site Plan Indicating Approximate Location of Measurement Positions



Measurement position 1 was located on a pole overlooking Albion Street at the front (north-west) of the existing building, protruding from a second-floor window. This measurement position is considered to be representative of the nearest noise sensitive windows along Albion Street, while also being representative of environmental noise levels affecting the proposed development façades that will overlook Albion Street.

Measurement position 2 was located on a pole overlooking the rear (south-east) of the existing building and Risdon Street, protruding from a second-floor window. The measurement position is considered to be representative of the nearest noise sensitive windows overlooking the rear and Risdon Street, while also being representative of environmental noise levels affecting the proposed development façades that will overlook Risdon Street.

The equipment used for the noise survey is summarised in Table 3.1.

Table 3.1 Description of Equipment used for Noise Survey

Measurement Position	Item	Make & Model	Serial Number
1 (17/08/21 - 21/08/21)	Type 1 automated logging sound level meter	01dB FUSION	11388
	Type 1 ½" microphone	GRAS 40CE	259634
2 (21/08/21 - 24/08/21)	Calibrator	01dB CAL21	34375252

The noise monitoring equipment was calibrated before and after the noise survey period. No significant change was found. Laboratory equipment calibration certificates can be provided upon request.

Due to the nature of the noise survey, i.e. unmanned, we are unable to comment on the exact weather conditions throughout the entire noise survey period, however at the beginning and end of each survey period there was noted to be dry conditions with partial cloud coverage and only light wind. These conditions are considered appropriate for undertaking environmental noise measurements.

3.2 Noise Survey Results

The results of the environmental noise measurements at each position are presented in graphical form in Appendix B.

Short periods of noise from groundworks on the site to the north on Albion Street were noted to have taken place during the morning of Tuesday 21 September 2021, which can also be seen in the anomalously elevated noise levels in the time-history graph for measurement position 1. This is considered to be atypical of the future noise climate at the site and we have therefore omitted this period from our analysis. The survey does not appear to have been significantly affected by groundworks noise during any other period.

Both measurement positions were located approximately 1m from the façade of the building, therefore measurements have been corrected for the façade reflection effect in accordance with the guidance in BS 8233: 2014.

A summary of the L_{Aeq} and L_{Amax} noise levels affecting the façades of the proposed development, and the typical lowest $L_{A90, 15min}$ background noise levels representative of nearest noise sensitive properties, are presented in Table 3.2.

Table 3.2 Summary of Noise Survey Results

Measurement Position	Measured Noise Level (dB)		
	Parameter	Daytime T = 16 hours (07:00 – 23:00)	Night-time T = 8 hours (23:00 – 07:00 hours)
1	L _{Aeq, T}	56	51
	L _{Amax, 10th Highest}	-	70
	Typical Lowest L _{A90, 15 min}	44	37
2	L _{Aeq, T}	49	43
	L _{Amax, 10th Highest}	-	59
	Typical Lowest L _{A90, 15 min}	37	30

The lowest measured L_{90, 5 min} background noise level at each position, during operational hours of the proposed ground floor premises (10:00-23:00 Monday-Saturday, 10:00-22:00 Sundays & Bank Holidays) are presented across the 1/3 octave band frequency spectrum between 63Hz and 8kHz in Table 3.3.

Table 3.3 Lowest Measured L_{90, 5 min} Background Noise Levels in 1/3 Octaves

Measurement Position	Lowest L _{90, 5 min} at 1/3 Octave Band Frequency (Hz)											L _{A90, 5min} (dB)
	63	80	100	125	160	200	250	315	400	500	630	
1	38	36	35	33	34	33	32	31	30	29	29	38
	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	
	29	29	27	25	22	19	15	11	9	6	2	
2	63	80	100	125	160	200	250	315	400	500	630	35
	36	35	35	31	30	31	30	26	27	25	26	
	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	
	26	26	24	21	19	15	12	10	7	4	2	

During our site visits, the ambient daytime noise climate at the site mostly consisted of road traffic noise on surrounding roads to the north and west with only occasional traffic on Albion Street. Some contribution was also noted from the two children’s play areas to the south-east and to the west of the site.

The measured noise levels are considered to be reasonable, taking into account the measurement positions and nearby dominant noise sources.

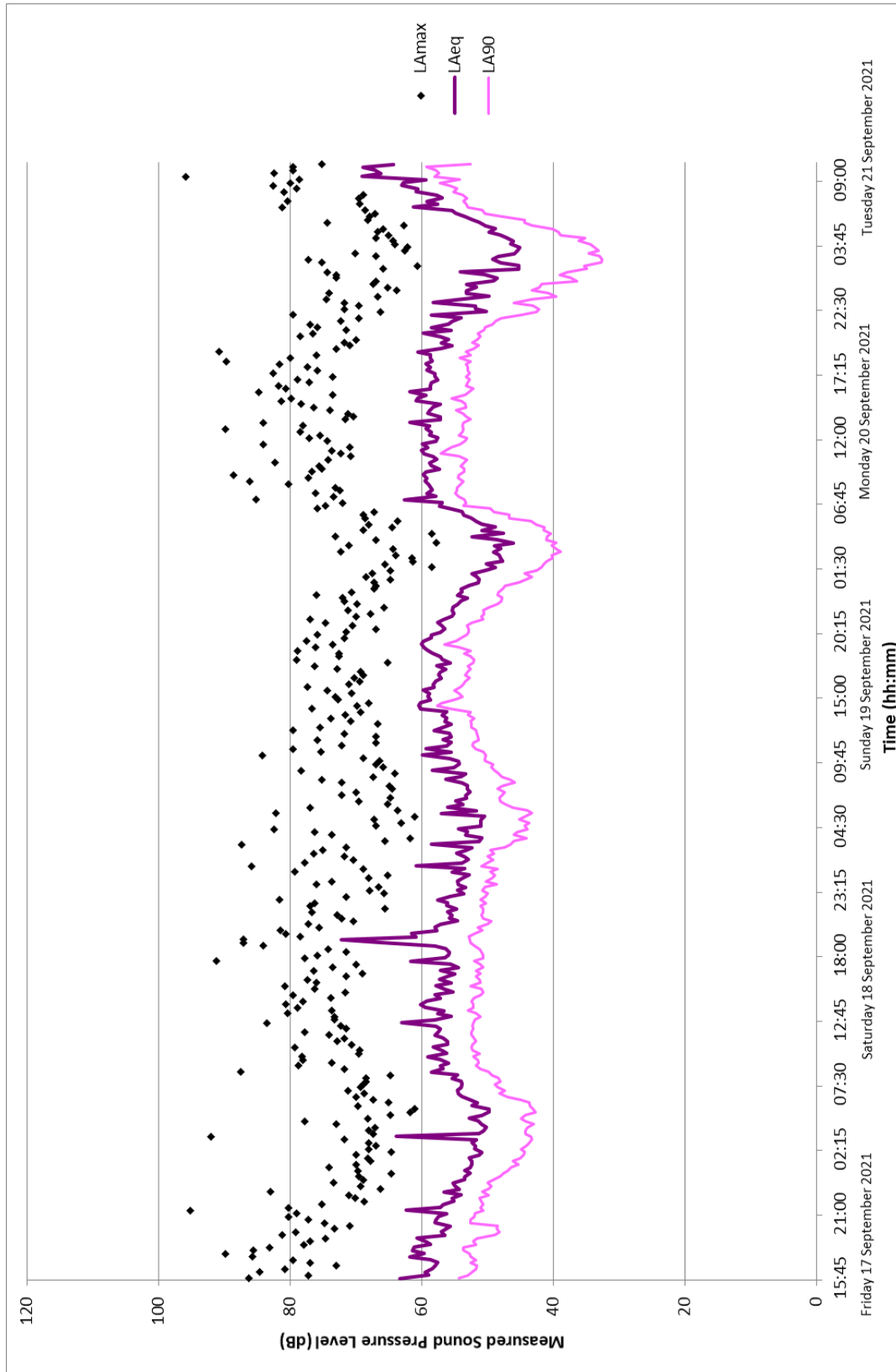
The measurement results will inform future assessments in relation to the planning conditions for the development.

Appendix A – Acoustic Terminology

Parameter	Description
Decibel (dB)	A logarithmic scale representing the sound pressure or power level relative to the threshold of hearing (20×10^{-6} Pascals).
Sound Pressure Level (L_p)	The sound pressure level is the sound pressure fluctuation caused by vibrating objects relative to the threshold of hearing.
A-weighting (L_A or dBA)	The sound level in dB with a filter applied to increase certain frequencies and decrease others to correspond with the average human response to sound.
$L_{Aeq,T}$	The A-weighted equivalent continuous noise level over the time period T This is the sound level that is equivalent to the average energy of noise recorded over a given period.
L_{Amax}	The A-weighted maximum noise level during a measurement period or a noise event.
L_{A90} (15 min)	The noise level exceeded for 90% of the time (also referred to as the background noise level), measured over a 15-minute period

Appendix B – Time History Graphs

Measurement Position 1



Measurement Position 2

