Our ref: NIA/9187/20/9207/v1/Parsons House

16th July 2020

JGO Consultancy Limited
c/o Mr. Mark Ellis
PADD Limited
Calls Wharf
The Calls
Leeds
LS2 7JU

Sent by email only: mark.ellis@padd.co.uk

Dear Sirs

NOISE IMPACT ASSESSMENT FOR PROPOSED CHANGE OF USE FROM OFFICES (B1 USE) TO APARTMENTS (C3 USE) AT PARSONS HOUSE, PARSONS ROAD, WASHINGTON, NE37 1EZ

SUNDERLAND CITY COUNCIL PLANNING APPLICATION REFERENCE 20/00755/PCJ

1.00 INTRODUCTION

1.01 Environmental Noise Solutions has been commissioned by JGO Consultancy Limited Consultants to carry out a noise impact assessment for the proposed change of use from offices (B1 Use) to apartments (C3 Use) at Parsons House, Parsons Road, Washington, NE37 1EZ (hereafter referred to as the subject site).

1.02 Prior approval for the proposed change of use is required under the Town and Country Planning (General Permitted Development) (England) (Amendment) Order 2016. Under this legislation, a condition allowing the local planning authority to consider noise impacts on the intended occupants of the development **from premises in commercial use** is included in the extended right.

1.03 The objectives of the noise impact assessment were therefore to:

- Determine the ambient noise climate at the subject site during representative periods of the daytime and night time.
- Assess the potential impact of the ambient noise climate (specifically noise associated with any neighbouring commercial premises) on the intended occupiers of the apartments.
- Provide recommendations for a scheme of sound attenuation works, as necessary, to ensure that the future occupants of the proposed residential development do not experience any unacceptable loss of amenity due to noise.

1.04 This report details the methodology and results of the assessment. It has been prepared to accompany Planning Application ref: 20/00755/PCJ submitted to Sunderland City Council.

1.05 This report has been prepared for JGO Consultancy Limited Consultants for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties making reference to the report should consult JGO Consultancy Limited Consultants and ENS as to the extent to which the findings may be appropriate for their use.

1.06 A glossary of acoustic terms used in the main body of the text is contained in Appendix 1.

Continued from page 1

2.00 SUBJECT SITE SETTING AND PROPOSED RESIDENTIAL DEVELOPMENT

2.01 The subject site is located on the north-western fringe of Washington and is bound by (see Appendix 2):

- The A182 Washington Highway to the west, with Armstrong Industrial estate beyond
- Parsons Road to the east, with a vacant depot and a vacant car showroom beyond
- Swallow House (offices) to the north
- The A182/A1290 roundabout to the south

2.02 The ambient noise climate is characterised (dominated) by road traffic to the west on the A182 Washington Highway. No significant noise was noted from any existing commercial premises in the vicinity.

2.03 With reference to the vacant depot (formerly Visage) to the east, it is noted that the site is provided with dock-levellers, meaning that any loading is carried out internally. Further, the loading bays are set back circa 100 metres from the subject site. On the basis of the above, no significant noise is anticipated from the depot.

2.04 Likewise, although the car showroom to the south-east was vacant at the time of the survey, these uses do not generate significant noise.

2.05 With reference to the B2/B8 warehouse (Velocity 194) at Armstrong Industrial Estate (Planning Permission ref: 18/01023/FUL), it is noted that noise from the development is restricted by condition to 48 dB $L_{Ar\ (1\ hour)}$ during the daytime and 41 dB $L_{Ar\ (1\ hour)}$ during the night time at the nearest noise sensitive receptors. For reference, the nearest existing receptors to the development are located circa 200 metres to the south, whilst the subject site is set back circa 250 metres from the development.

2.06 The proposed residential development consists of the conversion of the 1st to 4th floors (former offices) to 32 residential dwelling flats. The ground floor will remain as office space.

3.00 BASELINE NOISE SURVEY

3.01 In order to establish the ambient noise levels at the subject site, a baseline noise survey was carried out on Wednesday 8th July 2020 through to Thursday 9th July 2020.

3.02 For the purpose of the assessment, the following noise monitoring positions were adopted (the approximate location of the noise monitoring positions is contained in Appendix 2 for reference):

- MP1 was located on the northern façade of the building at 4th floor level
- MP1A located on the northern façade of the building at 1st floor level

- MP2 was located on the eastern façade of the building at 4th floor level
- MP2A was located on the eastern façade of the building at 1st floor level

- MP3 was located on the southern façade of the building at 4th floor level
- MP3A was located on the eastern façade of the building at 1st floor level

- MP4 was located on the western façade of the building at 4th floor level
- MP4A was located on the eastern façade of the building at 1st floor level

3.03 Noise measurements were undertaken at 1 metre from the existing building façade using two Bruel & Kjaer 2250 Type 1 integrating sound level meters. The measurement system calibration was verified immediately before the commencement of the measurement sessions and again at the end, using a Bruel & Kjaer Type 4231 calibrator. No drift in calibration level was noted. Weather conditions throughout the survey were appropriate for monitoring.

Continued from page 2

3.04 Measurements consisted of A–weighted broadband parameters, together with linear octave band L_{eq} levels. Table 3.1 contains a summary of the measurement data for each measurement session, at each measurement position, rounded to the nearest decibel. As external measurements were made at 1 metre from the existing building façade, a –3 decibel façade enhancement correction has been applied to the measured levels in order to establish the free field levels.

Table 3.1 – Summary of Noise Measurement Data

Position	Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{A10} (dB)	L_{A1} (dB)	Comment
MP1	08/07/20	1221–1231	59	50	62	66	Dominated by road traffic on A182
MP1	08/07/20	1424–1454	60	51	63	66	
MP1	08/07/20	1533–1603	58	50	61	65	
Daytime ambient noise level circa 59 dB $L_{Aeq, T}$							
MP1A	08/07/20	1055–1105	55	49	58	62	Dominated by road traffic on A182
Daytime ambient noise level circa 55 dB $L_{Aeq, T}$							
MP2	08/07/20	1225–1235	60	55	63	65	Dominated by road traffic on A182
MP2	08/07/20	1418–1448	60	56	63	66	
MP2	08/07/20	1528–1558	61	56	64	67	
MP2	08/07/20	1612–2300	59	51	63	66	
MP2	09/07/20	0700–1001	60	54	63	67	
MP2	08/07/20	2300–0700	52	38	55	63	Dominated by road traffic on A182
Daytime and night time ambient noise level 60 dB $L_{Aeq\ (0700\text{-}2300)}$ and 52 dB $L_{Aeq\ (2300\text{-}0700)}$ respectively							
MP2A	08/07/20	1054–1104	58	53	61	63	Dominated by road traffic on A182
Daytime ambient noise level circa 58 dB $L_{Aeq, T}$							
MP3	08/07/20	1211–1221	63	59	65	68	Dominated by road traffic on A182
MP3	08/07/20	1342–1412	64	59	67	70	
MP3	08/07/20	1454–1524	64	60	67	70	
Daytime ambient noise level circa 64 dB $L_{Aeq, T}$							
MP3A	08/07/20	1109–1119	61	57	63	66	Dominated by road traffic on A182
Daytime ambient noise level circa 61 dB $L_{Aeq, T}$							
MP4	08/07/20	1240–1250	65	53	68	71	Dominated by road traffic on A182
MP4	08/07/20	1345–1415	63	54	66	69	
MP4	08/07/20	1500–1530	65	57	69	71	
MP4	08/07/20	1611–2300	64	44	68	72	
MP4	09/07/20	0700–1003	65	56	69	72	
MP4	08/07/20	2300–0700	57	33	61	68	Dominated by road traffic on A182
Daytime and night time ambient noise level 65 dB $L_{Aeq\ (0700\text{-}2300)}$ and 57 dB $L_{Aeq\ (2300\text{-}0700)}$ respectively							
MP4A	08/07/20	1115–1125	59	48	62	65	Dominated by road traffic on A182
Daytime ambient noise level circa 59 dB $L_{Aeq, T}$							

3.05 The daytime and night time ambient noise levels across the subject site are wholly due to road traffic on the A182 Washington Highway, with no other significant noise sources noted. Noise levels were highest at MP4 (directly overlooking the A182) and decreased with reduced line-of-sight to the road. Noise levels on all elevations were higher at 4th floor level, due to increased line-of-sight to the road network.

3.06 As stated, no significant noise is anticipated from either the vacant distribution depot (which uses dock-levellers) or the vacant car showroom.

3.07 Noise associated with the B2/B8 warehouse at Armstrong Industrial Estate is restricted by planning condition to **48 dB $L_{Ar\ (1\ hour)}$** during the daytime and **41 dB $L_{Ar\ (1\ hour)}$** during the night time at the nearest noise sensitive receptors (which are situated closer to the development than the subject site). Such levels are significantly (at least 16 decibels) below the existing road traffic noise levels on the western elevation of the subject site.

3.08 In order to establish the sound reduction performance of the existing glazing, simultaneous noise measurements were made internally and externally on the 4th floor of the western façade overlooking the A182 Washington Highway. Ambient noise levels were measured at circa 65 dB $L_{Aeq\ (1302\text{-}1317)}$ externally and circa 33 dB $L_{Aeq\ (1302\text{-}1317)}$ internally. This indicates a sound reduction of circa **32 decibels** from the existing glazing.

4.00 NOISE IMPACT ASSESSMENT

4.01 In relation to noise at the subject site, Paragraph O.2. of the Town and Country Planning (General Permitted Development) (England) (Amendment) Order 2016 states:

> *(1) Development under Class O is permitted subject to the condition that before beginning the development, the developer must apply to the local planning authority for a determination as to whether the prior approval of the authority will be required as to—*
>
> *(d) impacts of noise from **commercial premises** on the intended occupiers of the development,*

4.02 As evidenced in Section 3.00, no significant noise from neighbouring commercial premises was noted during the course of the noise survey, with road traffic to the west on the A182 Washington Highway dominant throughout the subject site.

4.03 On this basis, no specific mitigation measures are required at the subject site to control external noise from commercial premises.

4.04 Notwithstanding this, the existing glazing achieves circa 32 dB sound reduction. On the basis of external noise levels measured at MP4 (the worst-case façade overlooking A182 Washington Highway and dominated by road traffic), this equates to internal ambient noise levels of **≤ 33 dB $L_{Aeq\ (0700\text{-}2300)}$** and **≤ 25 dB $L_{Aeq\ (2300\text{-}0700)}$**.

4.05 Therefore, although it is not mandatory to consider road traffic ingress, it should be noted that such levels represent ‘good’ resting and sleeping conditions in accordance with British Standard 8233:2014 ‘Guidance on Sound Insulation and Noise Reduction for Buildings’ (BS 8233).

Continued from page 4

5.00 CONCLUSIONS

5.01 A noise impact assessment has been undertaken for a proposed change of use from offices (B1 Use) to apartments (C3 Use) at Parsons House, Parsons Road, Washington, NE37 1EZ.

5.02 Daytime and night time ambient noise levels across the subject site are characterised (dominated) by road traffic to the west on the A182 Washington Highway and localised road traffic on Parsons Road. No significant noise from any neighbouring commercial premises was noted during the course of the survey.

5.03 On the basis of the above, no specific mitigation measures are required to control external noise at the subject site (which is wholly due to road traffic).

5.04 Notwithstanding this, a good standard of residential amenity will be achieved at the subject with the existing glazing.

I trust the foregoing is sufficient for your needs. Should you have any queries regarding the above, please do not hesitate to contact me.

Yours sincerely

Richard Whitaker BSc (Hons)
MIOA, Diploma in Acoustics and Noise Control
Environmental Noise Solutions Limited

cc File

Appendix 1
Glossary of Acoustic Terms

Sound Pressure Level (L_p)

The basic unit of sound measurement is the sound pressure level. As the pressures to which the human ear responds can range from 20 µPa to 200 Pa, a linear measurement of sound levels would involve many orders of magnitude. Consequently, the pressures are converted to a logarithmic scale and expressed in decibels (dB) as follows:

$$L_p = 20 \log_{10}(p/p_0)$$

Where L_p = sound pressure level in dB; p = rms sound pressure in Pa; and p_0 = reference sound pressure (20 µPa).

A-weighting Network

A frequency filtering system in a sound level meter, which approximates under defined conditions the frequency response of the human ear. The A-weighted sound pressure level, expressed in dB(A), has been shown to correlate well with subjective response to noise.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq, T}$

The value of the A-weighted sound pressure level in decibels of continuous steady sound that within a specified time interval, T, has the same mean-square sound pressure as a sound that varies with time. $L_{Aeq, 16h}$ (07:00 to 23:00 hours) and $L_{Aeq, 8h}$ (23:00 to 07:00 hours) are used to qualify daytime and night time noise levels.

$L_{A10, T}$

The A-weighted sound pressure level in decibels exceeded for 10% of the measurement period, T. $L_{A10, 18h}$ is the arithmetic mean of the 18 hourly values from 06:00 to 24:00 hours.

$L_{A90, T}$

The A-weighted sound pressure level of the residual noise in decibels exceeded 90% of a given time interval, T. L_{A90} is typically taken as representative of background noise.

$L_{AF\ max}$

The maximum A-weighted noise level recorded during the measurement period. The subscript 'F' denotes fast time weighting, slow time weighting 'S' is also used.

Sound Exposure Level (SEL or L_{AE})

The energy produced by a discrete noise event averaged over one second, no matter how long the event actually took. This allows for comparison between different noise events which occur over different lengths of time.

Weighted Sound Reduction Index (R_W)

Single number quantity which characterises the airborne sound insulation properties of a material or building element over a defined range of frequencies (R_W is used to characterise the insulation of a material or product that has been measured in a laboratory).

Appendix 2
Site Location Plan / Noise Monitoring Positions