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NOISE IMPACT STATEMENT

LAND WEST OF ALLINGTON BUSINESS CENTRE, EASTLEIGH SO50 7DE

FOR

MR S LOVERIDGE



ISSUE STATUS: FINAL
DATE OF ISSUE: 13/06/2024
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1. INTRODUCTION

Following a request from the Client, Sound Licensing completed a façade noise impact assessment (Ref: 2 LAND W/O ALLINGTON BUSINESS CENTRE.NIA) for the proposed construction of 10 No. mobile homes for residential use (C3 Usage) at Land West of Allington Business Centre, Eastleigh SO50 7DE.

The Local Authority have provided comments regarding the noise impact assessment stating their concerns regarding noise from the nearby industrial area.

In response to the council concerns, Sound Licensing have completed the following noise impact statement for the purposes of explaining the reasoning behind the methodology used within our initial report and, where appropriate, have provided additional information.

2. COUNCIL COMMENTS AND RESPONSES

“An unattended noise survey was carried out on site from 31/10 to 7/11/2023, average noise levels for day and night are reported along with maximum noise levels. The reported levels appear high in our view given the location and compared to more urban settings. Reported daytime levels are toward the level at which there is an increased risk of an adverse noise impact. Comments in the report suggest that the elevated noise levels at night may be due to activities currently occurring on the site itself.”

The reported noise levels were worst case and included noise from all sources on-site/nearby commercial/train/aircraft, a suitable and secure accessible comparable measurement position which could have minimised noise from the site itself was not apparent at the time of the survey.

“While aircraft and rail activities contribute to the noise measured, the impact from the adjacent commercial uses is not quantified. Such quantification should be in line with BS4142, which has not occurred.”

The overall noise impact from the adjacent commercial uses are not individually quantified, however the overall impact is included within the reported noise levels. A BS4142 noise assessment of all the adjacent commercial properties falls outside the scope of the report and whilst it may technically be feasible it may involve complex negotiations with each business and incur considerably more costs.

The noise impact assessment has provided detailed information regarding the nearby commercial premises including the opening hours and details of activities where possible. The measured noise levels have been analysed and the impact on the 16-hour L_{Aeq} has been discussed within the report.

Due to the locations of the industrial areas and the variety of activities and opening hours of each business, noise mitigation at the boundary of the proposed site would be the most effective method of attenuating the noise to a reasonable level. This has been addressed within the noise impact assessment, providing details of a close boarded fence that would provide a minimum insertion loss of 10dB by breaking the line of site between the commercial and proposed residential uses.

“The impact of noise arising from the application site, as it is currently occupied, would appear also to have added to the measured noise levels. However, this has not been quantified.”

The report states that existing noise from the site comprised of noise from daily activities and pets kept on the site. The daily activities witnessed at the site are considered to be normal activities for a residential property, such as use of external amenity space and vehicle movements leaving the site.

“The assessment does not appear to consider the Agent of Change principle, and how this would be applied to this development.”

The Agent of Change principle falls outside the scope of this report and would involve a detailed analysis of each neighbouring business to determine whether there are any suitable mitigation measures for each business.

As previously stated, the most effective method of attenuating noise levels from the existing commercial activities would be to attenuate the noise at the proposed residential site using noise barriers and appropriate mechanical ventilation.

“Assessment of internal noise standards (at one plot only) shows these can be met with windows closed only. No consideration to providing alternative ventilation to allow for open windows is included. Such assessment should also take into account Agent of Change considerations when determining suitable alternative ventilation to opening windows.”

The assessment was completed at a secure, representative location at the closest boundary to the existing commercial area and would therefore be the most effected plot by any commercial noise.

No ventilation details were available at the time of writing the report, however, suitable mechanical ventilation, with additional mitigation if required, is available and can be specified to suit this individual development.

It is noted that the noise levels with appropriate mechanical ventilation would meet the British Standard and WHO guidelines. With the use of open windows/doors, the premises may not meet the required internal noise levels; however, this would be the choice of the occupant.

“Assessment of external noise indicates that a reasonable standard (rather than a good standard) can be achieved (plot unspecified) if a 2m high close boarded fence is erected on the boundary. This assessment does not appear to take account of the relative source, barrier, and receptor positions and how the barrier attenuation quoted will vary across the proposed development site.”

The proposed barrier around the boundary of the site works on the principle that direct line of sight will be lost to the adjacent commercial area from the entire site and this would result in a conservative reduction of 10dB in overall noise levels. Any break in line of site will result in a minimum reduction of 10dB and therefore provide a sufficient noise level reduction from the existing commercial area across the entire site.

Due to the location of the proposed site, near to a commercial area, rail line and flight path, it is considered that not exceeding the “upper guideline value of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments” for external amenity spaces as stated in BS8233:2014 would be appropriate. It is also noted that BS8233:2014 7.7.3.2 states that when these guideline values are not achievable “development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.”

It appears that there are no noise related policies provided in the Eastleigh Borough Council’s Local Plan (2022) related to Gypsies, Travellers and Travelling Showpeople as outlined in the Planning Policy for Traveller Sites (HM Stationary Office 2023). Therefore, it is considered that the noise policy for a standard residential premises of BS8233:2014 should be adopted for this assessment.

3. DISCUSSION & CONCLUSION

Following a request from the Client, Sound Licensing completed a façade noise impact assessment (Ref: 2 LAND W/O ALLINGTON BUSINESS CENTRE.NIA) for the proposed construction of 10 No. mobile homes for residential use (C3 Usage) at Land West of Allington Business Centre, Eastleigh SO50 7DE. The resultant noise levels were used to specify glazing requirements & minimum construction SRIs to ensure that suitable noise levels are achieved within the proposed residential premises in line with Local Authority planning policy & BS 8233:2014/WHO noise guidelines.

The façade noise impact assessment provided detailed information of the noise sources/activities in the vicinity of the proposed residential site. The insulation sound reduction requirements for the structure of the proposed residential construction, across all plots, were informed by the night-time noise levels, during which there were no aircraft and only a small number of train movements. Analysis of the measured noise data at the time in which the train movements occurred indicates that there was no significant influence on the noise levels experienced at the site. The nearby commercial premises were also not in operation during the night-time hours. It can therefore be confidently inferred that the dominant noise source at the site was noise from on-site activities.

The measured ambient levels during the daytime are only 4dB greater than those measured during the night-time period. With additional noisy activities ongoing on site during the day, it is likely that the noise levels produced by the other noise sources in the area are having a lower impact than the on-site activities.

The Local Authority have provided comments regarding the noise impact assessment stating their concerns regarding noise from the nearby industrial area.

Sound Licensing have addressed the council’s concerns in this noise impact explaining the reasoning behind the methodology used within our initial report and, where appropriate, have provided additional information.

APPENDIX A – ACOUSTIC TERMINOLOGY

Parameter	Description
Acoustic environment	Sound from all sound sources as modified by the environment
Ambient sound	Totally encompassing sound in a given situation at a given time, usually composed of sound from many sources near and far.
Ambient sound level, $L_a = L_{Aeq,T}$	Equivalent continuous A-weighted sound pressure level of the totally encompassing sound in a given situation at a given time, usually from many sources near and far, at the assessment location over a given time interval, T
Background sound level, LA_{90}, T	A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T, measured using time weighting F and quoted to the nearest whole number of decibels
Decibel (dB)	A logarithmic scale representing the sound pressure or power level relative to the threshold of hearing (20×10^{-6} Pascals).
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
Facade level	Sound pressure level 1 m in front of the facade NOTE Facade level measurements of L_pA are typically 1 dB to 2 dB higher than corresponding free-field measurements because of the reflection from the facade.
Free-field level	Sound pressure level away from reflecting surfaces NOTE 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.
L_{Amax}	Maximum noise level (dB)
Measurement time interval, T_m	Total time over which measurements are taken
Noise criteria	Numerical indices used to define design goals in a given space.
Noise rating (NR)	Graphical method for rating a noise by comparing the noise spectrum with a family of noise rating curves.
Reference time interval, T_r	Specified interval over which the specific sound level is determined
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. NOTE The weighted sound reduction index is used to characterize the insulation of a material or product that has been measured in a laboratory

References:

- British Standard 8233:2014 'Guidance on Sound Insulation and noise reduction for buildings'
- World Health Organisation 2009 'WHO Guidelines for Community Noise'
- National Planning Policy Framework 2023 – Controller of HM Stationery Office
- Noise Planning Statement for England 2010 - Controller of HM Stationery
- Planning Practice Guidance 2019 – Controller of HM Stationery
- Planning Policy for Traveller Sites 2023 – Controller of HM Stationary Office
- Eastleigh Borough Local Plan 2022 – Easleigh Borough Council