

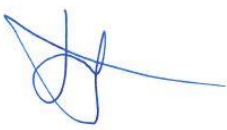


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Quality Management

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Introduction

- 1.1 The Acoustics Team at the Brighton office of RPS Planning and Environment (RPS) has been appointed by Reading Borough Council School Services to provide an acoustics assessment to support a planning application for the annexation of an adjacent recreation ground for use as a play area for The Heights Primary School located at 82 Gosbrook Road, Caversham, Berkshire.
- 1.2 Planning permission was granted in 2018 for the extension of an existing planning approval for a temporary school building for a further two years and the construction of a further two storey, six classroom modular block unit at the school.
- 1.3 The technical content of this assessment has been provided by RPS personnel, all of whom are corporate (MIOA) or non-corporate, associate members (AMIOA) of the IoA (the UK's professional body for those working in acoustics, noise and vibration). This memo has been peer reviewed within the RPS team to ensure that the wealth of experience within the team is reflected in the assessment. The assessment has been undertaken with integrity, objectivity and honesty in accordance with the Code of Conduct of the Institute of Acoustics.

Guidance

- 1.4 The World Health Organisation (WHO) published guidance on the desirable levels of environmental noise in 2000. The Guidelines for Community Noise (GCN) [1] states that for daytime levels, it is considered that:

“To protect the majority of people from being seriously annoyed during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55 dB L_{Aeq} on balconies, terraces, and outdoor living areas. To protect the majority of people from being moderately annoyed during the daytime, the outdoor sound level should not exceed 50 dB L_{Aeq} . Where it is practical and feasible, the lower outdoor sound level should be considered the maximum desirable sound level for new development.”

- 1.5 It is considered that whilst there is no specific current guidance on noise effects from play areas, the daytime threshold levels as given in the GCN are robust for the purpose of this assessment. In determining the potential noise effects resulting from the annexed play area, it is important to consider the character of the existing noise environment and the frequency and duration of noise occurrence.

Baseline Sound Environment

- 1.6 The baseline sound environment has been determined from surveys undertaken in 2014 and revalidated in 2018. The survey methodology and results are presented in RPS report JAE10329-REPT-00-R1, dated 28th March 2018. A summary of the baseline sound levels that have been assumed for the purpose of this assessment are presented in Table 1.1 below.
- 1.7 It is considered that the baseline sound levels presented below are representative of the existing noise environment when The Heights Primary School is not operational, at the nearest noise sensitive receptors (NSRs), considered to be dwellings to the east and south on Gosbrook Road.

Table 1.1 Summary of Baseline Noise Monitoring Data

Location	Period	Noise Survey Metric (dB)	
		$L_{Aeq,8hr}$	L_{Amax}
LT_1 (2014)	08:00 – 16:00 (weekday)	54	90

Assessment

Noise Modelling

- 1.8 Noise levels from the use of the annexed play area have been predicted using noise modelling software, SoundPLAN v8.0. The annexed play area has been input into the model as an area source at a height of 1 m above local ground height. The sound power level of the play area has

been calibrated from sound power data given within the SoundPLAN Emissions Library for similar play area and sports facilities. A sound power level of 87 dB with a centre frequency of 500 Hz has been assumed. External noise levels have been predicted at positions considered representative of the façades of the nearest identified NSRs. The layout of the site as shown within the 3D noise model, as well as the location of NSRs is shown in Figure 1.1 below.

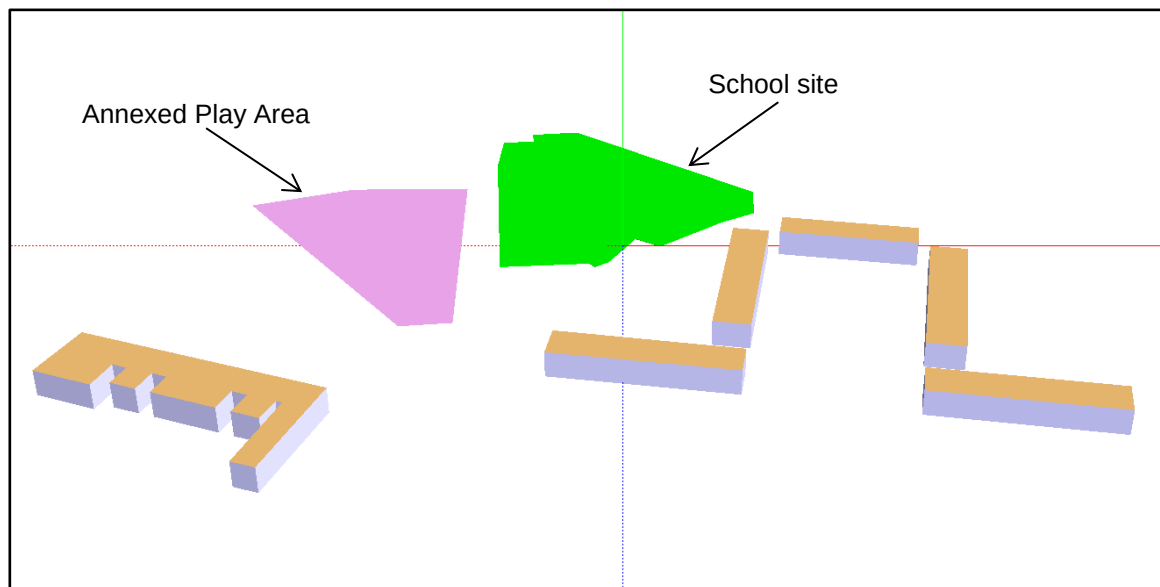


Figure 1.1 Layout of Site as shown within Noise Model

Noise Impact of Annexed Recreation Ground on Surrounding Area

General Noise Effects

- 1.9 It is understood that there have previously been complaints from local residents relating to noise from the adjacent playing field and park area. The current proposal would see the temporary annexation of a section of playing field to the west of the school site. This area would be used by pupils during break times and, as such, noise from this section of the recreation ground would likely increase during these periods.
- 1.10 It is understood that the proposed annexed play area would be for use during school hours only, reducing the area of available recreation ground for public use. This would result in reduced activity in this area outside of school hours.
- 1.11 A noise level of 49 dB from the annexed play area is predicted at the worst affected NSR, identified as the 2nd floor of the western façade of the dwellings to the east on Gosbrook Road. This is 1 dB lower than the threshold level given in the WHO GCN at which moderate annoyance for the majority of people would occur.
- 1.12 Predicted noise levels are 5 dB lower than measured background sound levels when the school is not operational. The logarithmic sum of the predicted noise level and the measured background sound level at the worst affected NSR is 55 dB $L_{Aeq,T}$. This is 1 dB greater than the existing background sound level during the day. As a rule of thumb, the minimum clearly perceptible change in noise level occurs at around +3 dB. It is therefore considered that noise

arising from the annexed play area is unlikely to be perceptible above the existing background sound level.

- 1.13 The site is located adjacent to another primary school, St Anne's Catholic Primary, and the two schools share break times. Whilst on site in March 2018, it was observed that the existing sound environment during break times was dominated by noise from the adjacent St Anne's Catholic Primary School.
- 1.14 Whilst the relocation of the annexed play area and the additional pupils, as a result of the school extension, has the potential to result in higher than existing noise levels during break periods, due to the relatively short period of time over which this would occur (assuming a cumulative total of 1.5 hrs during the normal school day) and the relatively low predicted levels it is not considered that noise from pupils during break times are likely to result in an adverse effect at the nearest NSRs.

Instantaneous Noise Events

- 1.15 Due to the nature of noise arising from the children's play and sports area, it is difficult to determine an accurate L_{max} level representative of the proposed play area. As such, in determining whether instantaneous noise events are likely to result in an adverse impact at the identified NSRs, the nature of the existing noise environment has been considered.
- 1.16 As can be seen in Table 1.1, measured L_{Amax} levels of 90 dB were recorded between the hours of 08:00 and 16:00 during the weekday. It is considered that the main sources of these instantaneous noise events are road vehicle pass-bys, children playing within the adjacent St Anne's Catholic Primary School and users of the public recreation ground.
- 1.17 It is considered that, as identified NSRs are currently already exposed to high instantaneous noise levels and that the proposed annexation of the recreation ground will not change the existing character of the noise environment, any instantaneous noise events arising from the proposed annexed play area are unlikely to result in an adverse effect at NSRs.

Summary and Conclusions

- 1.18 The Acoustics Team at the Brighton office of RPS Planning and Environment (RPS) has been appointed by Reading Borough Council School Services to provide an acoustics assessment to support a planning application for the annexation of adjacent recreation ground for use as a play area for The Heights Primary School, 82 Gosbrook Road, Caversham, Berkshire.
- 1.19 In the absence of any specific guidance on play areas, WHO GCN threshold has been considered in the determination of impacts on identified NSRs.
- 1.20 The noise assessment has considered baseline survey data presented in RPS report JAE10329-REPT-00-R1, dated 28th March 2018.
- 1.21 Noise levels from the use of the proposed annexed play area have been predicted using source terms from the SoundPLAN Emissions Library for similar play area and sports facilities.

- 1.22 Predictions have shown that noise arising from the annexed play area would be 1 dB below WHO GCN threshold levels at which moderate annoyance for the majority of people would occur, and 5 dB below existing baseline sound levels. It is considered that due to the relatively low predicted noise levels, and the relatively short period of time over which noise is likely to occur, it is unlikely that noise arising from the annexed play area would result in an adverse effect at identified NSRs.
- 1.23 It has been determined that due to the character of the existing noise environment, instantaneous noise events arising from the annexed play are unlikely to result in an adverse effect at identified NSRs.
- 1.24 On the basis of the above, it is considered that noise should not be a material concern with respect to the determination of planning permission for the proposed site.

References

- 1 Berglund, B. et al. Guidelines for Community Noise. World Health Organisation. 2000.