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ST MARY'S GOMERSAL NOISE ASSESSMENT

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1. INTRODUCTION

This report provides an assessment of the noise impact from mechanical plant and external sports areas associated with the new St Mary's Primary School, Gomersal.

Details of the scheme are based on design information available at RIBA Stage 3. Some development of the scheme and plant selections may take place, but the noise criteria and impacts set out in this report will continue to be considered.

1.1 Assessment Criteria

Kirklees Council published guidance Noise Design Advice¹ gives advice on plant noise limits for new developments:

"Developers should carry out an assessment in accordance with BS4142 to determine the rating level of the new development. It is recommended that during normal daytime hours (0700 to 2300 hours), the BS4142 rating level, measured over 1 hour, should be 5dB below the background (L_{A90}). During the night-time period (2300 to 0700 hours), the BS4142 rating level, measured over 5 minutes should be 5dB below the background (L_{A90}). The assessment should be carried out at the site boundary or at the nearest noise sensitive premises, depending on the circumstances."

This is consistent with planning conditions relating to plant noise for recent similar developments in the area.

2. NOISE SURVEY

Noise levels were measured at the existing school site by Ramboll in October 2025. The results of this noise survey are summarised below, and full details are given in the appendix. Noise levels were measured on 22nd and 28th October at several positions within the school site, with noise monitors running continuously between 28th and 30th October at the northern and western ends of the site, close to the nearest houses to the site. The key results of this noise survey are summarised below.

Road traffic is the primary source of noise affecting the site, primarily from Spen Lane, Oxford Road and the distant M62, with intermittent traffic on Shirley Avenue.



Figure 1 – Measured typical site noise levels from Ramboll noise survey, October 2025

¹ <https://www.kirklees.gov.uk/beta/planning-applications/pdf/noise-design-advice.pdf>, May 2007

3. PLANT NOISE

3.1 BS4142: 2014

The basis of BS4142:2014 +A1:2019 (BS4142) is a comparison between the background noise level in the vicinity of residential receptors and the rating level of the noise source under consideration. The relevant parameters are as follows:

- i. Background Level, $L_{A90,T}$: defined in the Standard as the 'A' weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T, and quoted to the nearest whole number of decibels;
- ii. Specific Level, $L_{Aeq,T}$: the equivalent continuous 'A' weighted sound pressure level at the assessment location, it is the specific sound source under consideration, over a given time interval, T; and
- iii. Rating Level, $L_{Ar,T}$: the specific sound level plus any adjustment made for the characteristic features of the noise.

Potential impacts are predicted from the difference between the representative background level at a noise sensitive receptor and the rating level from the noise source considered.

- i. Typically, the greater this difference, the greater the magnitude of the impact;
- ii. A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- iii. A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and
- iv. 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.

In determining the significance of the impact, BS4142 requires a consideration of the context of the assessment i.e. the nature of the existing acoustic environment and the new noise source, and the sensitivity of the affected receptors.

Noise Characteristics and Penalties

BS4142 applies different penalties for noise sources that have an acoustic feature. These penalties are applied to the plant noise level where such features increase attention to the noise, such as tonality and intermittent operation (kicking in and out). BS4142 gives a guide to the level of penalty that should be applied.

3.2 Noise Limits for External Plant

Background noise levels have been measured during the day and night at a position on the school site near to the houses on Shirley Avenue and the houses to the west of the site (Figure 1). These measurement positions are considered representative of the nearest residential properties. The measured levels and corresponding plant noise limits are summarised below.

Location	Period	Measured typical background noise level	Corresponding plant noise Rating Level limit
Nearest residential properties surrounding the school site	Day (07:00-19:00)	38dB LA90	33dB(A)
	Evening (19:00-23:00)	38dB LA90	33dB(A)
	Night (23:00-07:00)	33dB LA90	28dB(A)

Table 1 – Proposed plant noise limits (based on typical levels from noise loggers)

At this stage plant selections have not been finalised. In general, low noise plant and acoustic attenuation on fans and air handling units will be required to achieve these limits. Some screening around external condensers and air source heat pumps may be required. Reduced operation of plant or further attenuation at night will be required. Noise mitigation for plant will be determined as plant selections and layouts are developed.

Heating will be provided using one or more air source heat pumps located on the roof of the building. Based on typical selections the noise limits during the day and early morning (when the system may be operating to bring the building up to temperature) are expected to be achievable with mitigation in the form of screening from the roof parapet are careful unit selection.

4. PLAYGROUND AND MUGA NOISE

The new school layout (Figure 2) will not significantly affect the location, and therefore noise impact, of the majority of general playground and sports areas. Similarly vehicle parking will be in similar areas to existing and no change in noise impact on surrounding residents is expected.

The school field currently at the south of the site will extend slightly further north in the form of the Soft PE area and therefore slightly closer to the houses west of the site, however its hours and type of use will be similar to existing uses and the noise impact upon these properties during the school day is unlikely to be significantly affected.

The new facilities will not be floodlit and are not intended to be used out of hours. There may be some community use of the MUGA but this is expected to be limited to use during the school holidays, broadly within typical school hours. Use of the MUGA is generally limited to football, basketball and tennis and for use by children. It is not expected that any further mitigation is required based on the proposed hours and type of usage.

Given the context of the area, being an existing school site, there is not expected to be a significant impact upon surrounding residents from the proposals.



Figure 2 – Proposed site layout

APPENDIX 1 - RAMBOLL NOISE SURVEY

Date of survey: Manned measurements 22nd & 28th October 2025.

Personnel: James Kerr (Ramboll)

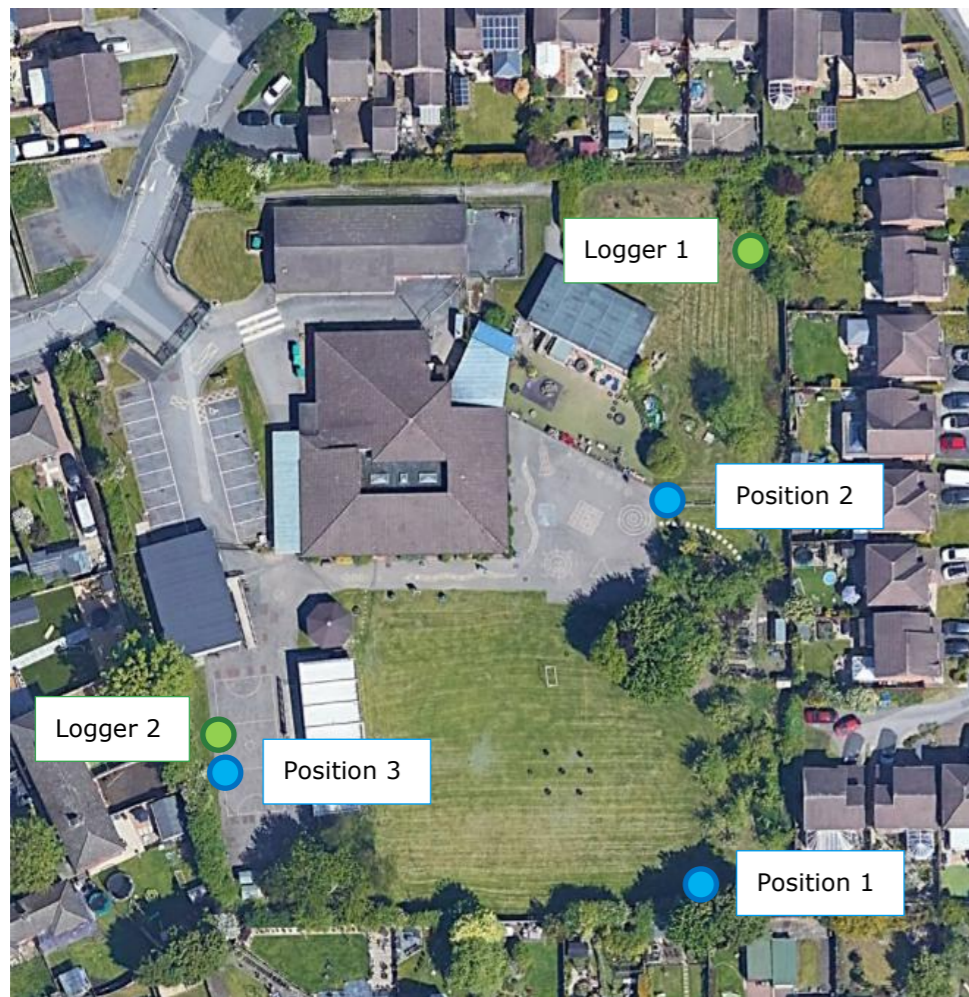
Equipment: Manned measurements: Sound level meter: Nor140 #1404236, Calibrator: Nor1251 #32190.

Noise logger 1: Sound level meter: Nor140 #1404236, Calibrator: Nor1251 #32190.

Noise logger 2: Sound level meter: 01dB Fusion #15265, Calibrator: Cirrus CR:515 #102107.

Weather conditions: 22nd October – Dry, overcast, 13°C, wind lower than 5m/s.
28th October – Dry, sunny, 7-15°C, wind generally around 5m/s with gusts >5m/s.

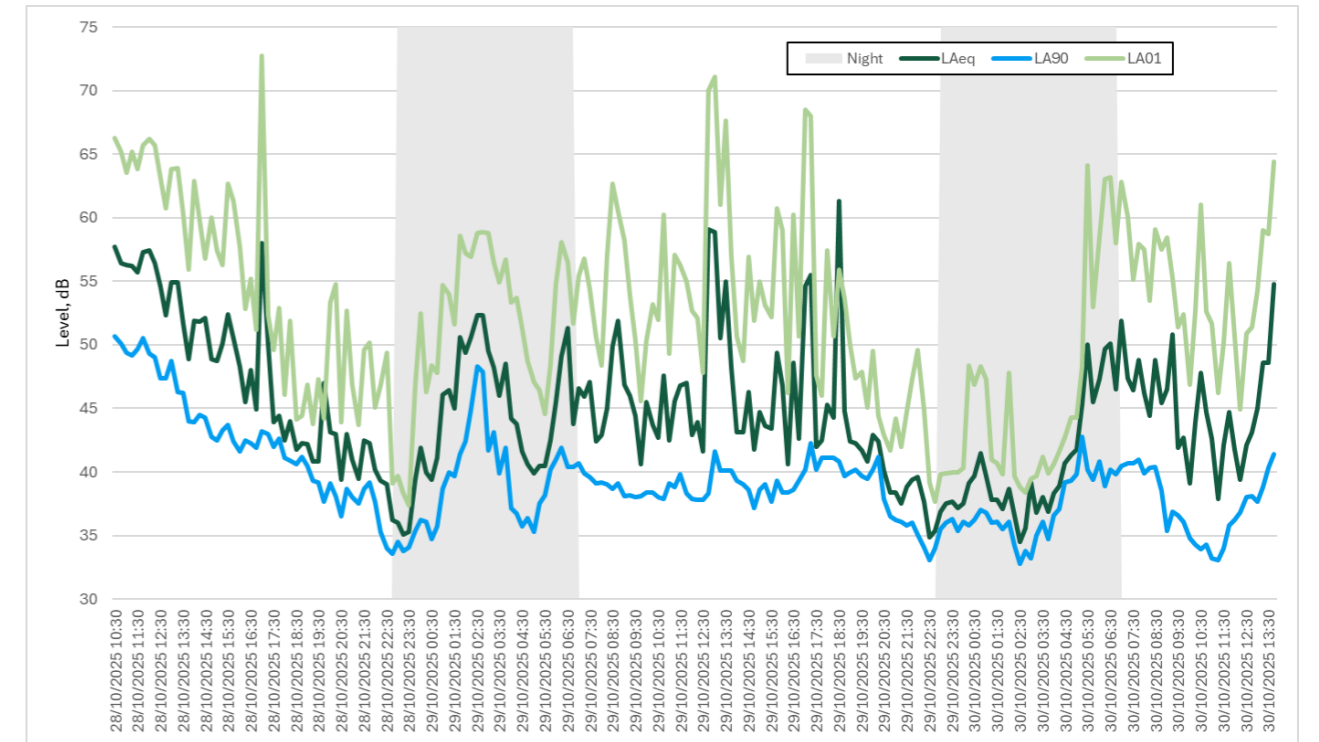
Measurement Positions:



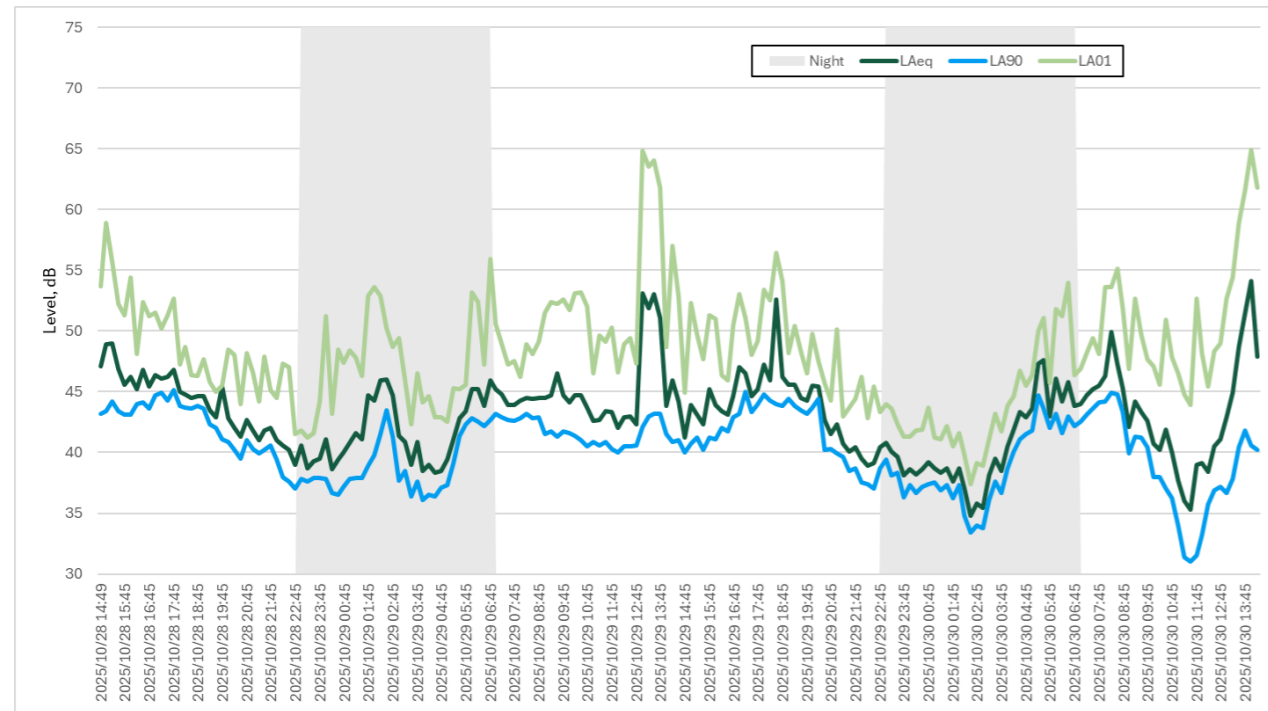
Measured Levels:

Position	Start Time	Duration	LAeq	LA90
Position 1	2025/10/22 10:27	0:15:0	45.6	42.8
	2025/10/22 14:29	0:15:0	48.5	41.3
	2025/10/28 14:01	0:15:0	49.4	45.5
Position 2	2025/10/30 14:33	0:15:0	42.4	38.7
	2025/10/22 11:11	0:15:0	42	38.7
	2025/10/22 14:47	0:1:22	44.9	40.6
Position 3	2025/10/22 14:52	0:6:24	41.9	38.1
	2025/10/22 13:05	0:10:4	42	36.5
	2025/10/22 13:57	0:7:18	43.5	40.8
	2025/10/22 14:11	0:13:4	51.4	42.9

Noise Logger 1:



Noise Logger 2:



Note that for both loggers, wind speeds were high (>5m/s) during the daytime on 28 October and overnight until the evening of 29th October. Data during this period is presented for information only.