

Report No. 0621.1 rev 2
July 2026

**PROPOSED CAR PAINT SPRAY BOOTH,
POCOCK YARD, HOPTON INDUSTRIAL ESTATE,
HOPTON ROAD, DEVIZES, SN10 2EU**

NOISE ASSESSMENT



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On behalf of:
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1.0 SUMMARY

- 1.1 A noise assessment has been carried out of the proposed car paint spray booth at Pocock Yard, Hopton Road, Hopton Road Industrial Estate, Devizes.
- 1.2 The assessment is required to accompany the planning application to Wiltshire Council. The spray booth use would be restricted to 08:30-17:00 hours Monday to Friday only (no use of the spray booth at weekends).
- 1.3 A background noise survey has been undertaken at the nearest residences to the site, to establish the existing noise climate during proposed trading hours. Existing levels are dominated by constant noise from existing mechanical services plant serving adjacent industrial units.
- 1.4 A separate noise survey has been undertaken of the proposed car paint spray booth when operational elsewhere. This has enabled noise levels to be established at source.
- 1.5 The noise level from the use of the proposed car paint spray booth has been predicted at the nearest residences and BS4142 noise impact assessment undertaken.
- 1.6 The assessment indicates a below 'low' impact at the nearest residences.
- 1.7 The predicted noise level from the site at the closest residences would be better than the absolute levels recommended by BS8233 for residential amenity.
- 1.8 It is therefore concluded that the potential noise impact from the proposed use would not affect residential amenity. It is recommended that planning permission may be granted and, if necessary, conditioned accordingly.

2.0 INTRODUCTION

- 2.1 DKN Acoustics Ltd has been instructed by RBC Automotive to carry out a noise assessment of the proposed car paint spray booth at Pocock Yard, Hopton Industrial Estate, Hopton Road, Devizes, SN10 2EU.
- 2.2 This report is required to accompany the planning application to Wiltshire Council.
- 2.3 The assessment has included:
- Review of site drawings;
 - Site inspection;
 - Attended background noise survey;
 - Noise survey of proposed car paint spray booth;
 - Prediction and assessment of noise impact at nearest residences;
 - Recommendations for appropriate noise control measures as necessary.
- 2.4 Noise levels referred to in the text of this report have been rounded to the nearest whole decibel (dB), as fractions of dBs are imperceptible. **A glossary and description of the relevant noise units and noise characteristics is provided in Appendix I.**
- 2.5 The survey and assessment has been carried out by Duncan Newhall, who is a Member of the Institute of Acoustics (IOA), holder of the IOA Diploma in Acoustics and Noise Control and who has 30 years' experience in the noise consultancy field. DKN Acoustics Ltd is an independent acoustic consultancy.

3.0 SITE DESCRIPTION

3.1 The site drawings and photos are shown in Figures 1-5.

Site & local area

3.2 The site is at the south-west of the Hopton Industrial Estate. As such, the local area is dominated by commercial and industrial premises. These include the following units next to the application site:

- Ball Aerocan UK site to south and east of the site boundary. This site includes extensive mechanical services plant. The existing plant forms a significant noise source and is understood to operate over 24-hours.
- Sydenhams Hire Centre (builder's yard and plant hire) to the north and west of the site boundary. This includes stock movement and use of bulldozer plant (sand and aggregates handling) and fork lift trucks across the yard.
- Various units to the north and east, including Toolstation hardware shop and Omni 24-hour gym.

3.3 There are numerous other commercial and industrial units in the wider area of the Hopton Industrial estate. This includes the household waste and recycling amenity site further to the north-east. The nearby feeder roads of the industrial estate therefore carry a significant level of heavy goods vehicles and more general road traffic.

3.4 The nearest residences are off Folly Road approximately 35m to the south-west.

Application site

3.5 The site currently comprises a two-storey unit with single pitched roof. The entrance and roller shutter is on the north-east elevation, therefore on the remote side from the nearest residences. The unit is currently being fitted out and internally lined to provide a workshop at ground floor with offices/staff room and customer area at first floor level.

3.6 The car paint spray booth would be contained in the proposed extension to the south of the existing building. The spray booth would be accessed via doors on the north-western elevation.

- 3.7 The proposed mechanical services plant serving the spray booth would be located inside the extension or existing unit. The proposed building envelope would therefore provide acoustic screening of this plant to the residences. The only external parts of the spray booth plant would be the 3 no. duct terminations penetrating the proposed roof (booth extract, booth supply and paint mixing room extract). The plant location is in an area already exposed to significant noise from mechanical services plant at the adjacent Ball Aerocan site.
- 3.8 The paint spray booth would comprise the following main items of plant:
- Extract fan, with motor sited inside the proposed extension and duct termination above roof;
 - Supply fan, sited as above;
 - Paint-mixing room extract fan, sited as above;
 - Recirculating fan within spray booth and with no external termination;
 - Heater for bake mode (paint drying);
 - Air compressor for paint spray guns (compressor unit to be located inside existing site building).
- 3.9 The proposed trading hours of the site as a whole are 08:30-17:00 hours Monday to Friday and 08:30-12:00 hours on Saturday. The use of the Saturday trading period is intended for light use, such as office work or customers collecting cars.
- 3.10 The spray booth itself would only be in use during the weekday trading period. There would be no use of the spray booth at weekends.
- 3.11 The typical worst-case use of the spray booth in any one hour during its weekday use would be over 30 minutes. This would comprise 15 minutes in spray mode (with use of extract/supply fans) and 15 minutes in bake mode (with use of heater and re-circulation fan). This worst-case use has been considered in the subsequent assessment. However, it is noted that there would be significant periods when the spray booth would not be in use at all during the typical working day, particularly after midday/early afternoon.

4.0 NOISE SURVEYS

Site background noise survey

- 4.1 An attended background noise survey was conducted on Thursday 7 May 2026 from 08:49-11:59 hours.
- 4.2 The application site was vacant and not in use, allowing true background noise levels to be established.
- 4.3 The following measurement location was chosen to represent the nearest residences:

Table 1: Background noise survey location

Location	Representing residences at:	Description/details
1	Residences off Folly Road	At site boundary with residences Microphone approximately 1.3m above ground level. Automated, fixed measurement position throughout survey period

- 4.4 Noise levels were recorded over a series of consecutive 10-minute measurements, in terms of the overall A-weighted noise levels, including octave band frequency analysis. A summary of the measured levels is shown in Table 2. A full set of measured levels is shown in Appendix II.

Table 2: Mean measured background noise levels, dB

Location	Noise level				Comments
	L _{Aeq}	L _{Amax}	L _{A10}	L _{A90}	
1	50	67 (range 60-73)	51	48	Ball Aerocan plant, builder's yard, road traffic, birds/gulls

- 4.5 The existing mechanical services plant serving the adjacent Ball Aerocan site was observed to be the main noise source affecting the measured levels. This existing plant noise was a constant drone and included intermittent pulses of high frequency noise, seemingly from a pressure relief valve. Other sound sources included the adjacent builder's yard and road traffic.

- 4.6 The mean ambient L_{Aeq} noise level was 50 dB L_{Aeq} , with the mean L_{A90} background noise level measured at **48 dB**.
- 4.7 The chart in Appendix II confirms that individual measurements were very consistent with each other providing a 'flat line' graph. This is typical when existing mechanical services plant is continuous and determines the background sound level.

Noise survey of proposed car paint spray booth

- 4.8 The proposed spray booth unit was previously operational at Emtec, Middleton Road, Salisbury. It has since been dismantled and would be installed on the site on granting of planning permission.
- 4.9 A noise survey was undertaken of the unit when operational at the Salisbury site on Friday 24 April 2026, prior to its dismantling.
- 4.10 The spray booth was installed entirely within the larger industrial unit, with supply and extract ducts terminating through the roof.
- 4.11 Noise measurements were recorded of the spray booth plant items inside the larger unit and externally at roof level near the extract terminations. Due to safety and access concerns, it was not possible to measure at close proximity (i.e. at 1m) from each roof extract termination in isolation. The site was adjacent to the busy A36 Salisbury dual-carriageway ring road (Churchill Way West). There was some difficulty in measuring the external plant noise levels in isolation due to road traffic noise, which have been background-corrected where possible.
- 4.12 A summary of the measured levels at source is shown in Table 3 below. The full results are shown in Appendix II.

Table 3: Operational spray booth unit – L_{Aeq} noise levels, dB

Item	L_{Aeq} noise level	Comments
Supply inlet & extract discharge	65 (spray mode) 66 (bake mode)	Measured on roof 2.3m from supply inlet; 1.7m from extract discharge Background-corrected levels shown
Paint mixing room extract discharge at 3m	46	Measured on roof 3m from extract discharge Background-corrected levels shown
Compressor unit at 1m	77	Reverberant level measured at 1m inside building unit
Paint mixing room extract fan motor at 1m	66	Reverberant level measured at 1m inside building unit
Supply inlet fan motor & extract discharge fan motor at 2m	70 (spray mode) 70 (spray mode)	Reverberant level measured at 2m inside building unit
At 1m from closed booth doors	61 (spray mode) 62 (bake mode)	Reverberant level measured at 1m inside building unit

- 4.13 The noise levels measured externally have been corrected for background. The levels measured of the plant items inside the building unit were reverberant in nature.

Noise measurement equipment

- 4.14 Measurements were undertaken using the following equipment.

Table 4: Measurement equipment

Equipment – Car spray booth survey 24 April 2026	Serial no.	Equipment – Background survey 7 May 2026	Serial no.
RION NL-52 Type 1 sound level meter	00809384	RION NA-28 Type 1 sound level meter	00991176
Pre-amplifier model NH-25	09677	Pre-amplifier model NH-23	81217
Microphone model UC-59	17841	Microphone model UC-59	01421
Windshield	n/a	Windshield	n/a
Microphone extension cable	n/a	Tripod	n/a
Tripod	n/a	Calibrator model NC-74 to 94.0dB	34794362
Calibrator model NC-74 to 94.0dB	34794362		

4.15 The sound level meters are fully calibrated with up-to-date calibration certificates, copies of which will be provided on request.

4.16 The calibration of the meters was checked before and after the survey, using calibrator model NC-74 (serial no. 34794362) with no significant variation in level noted. A windshield was fitted over the microphones at all times.

Weather conditions

4.17 For the background survey of 7 May 2026, the weather was dry, overcast with little or no wind and a temperature of around 10°C.

4.18 For the car spray booth survey of 24 April 2026, the weather was dry with clear skies and little of no wind. The temperature was around 20°C.

4.19 On both occasions, these were ideal conditions for noise measurement.

5.0 ACOUSTIC CRITERIA

BS4142: 2014+A1: 2019

- 5.1 BS4142: 2014+A1:2019 '*Methods for rating and assessing industrial and commercial sound*' describes a method for rating and assessing sound of an industrial and/or commercial nature and to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.
- 5.2 BS4142 compares the noise rating level of the noise source being assessed with the L_{A90} background noise level outside the relevant noise-sensitive receptor. The rating level at the assessment location includes noise 'character correction(s)' applied where appropriate for any tonal, impulsive, intermittent or any other sound characteristic of the noise source under assessment.
- 5.3 The proposed spray booth would only operate during daytime hours, also being restricted to weekdays only. The relevant assessment period of BS4142 is therefore over one hour.
- 5.4 To assess impact it states that:
- Typically, the greater the difference [*between rating level and background sound level*], the greater the magnitude of impact;
 - A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;
 - A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and
 - The lower the rating level 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 noise level, this is an indication of the specific sound source having a low impact, depending on the context.
- 5.5 BS4142 states that this depends on the context. The context is that the application site is in an industrial area where noise from existing mechanical services plant at adjacent premises is constant and determining the existing background sound level.

BS 8233: 2014

Habitable rooms (living rooms and bedrooms)

- 5.6 Appropriate guidance on acoustic design goals for residential development is set out in British Standard 8233: 2014 'Guidance on sound insulation and noise reduction for buildings'. This recommends desirable noise levels, in absolute terms, for residential amenity.
- 5.7 The desirable criteria for dwellings recommended by BS8233: 2014 are summarised in Table 5 below for the daytime.

Table 5: BS 8233: 2014 for desirable indoor ambient noise levels for dwellings

Activity	Location	Time period
		07:00-23:00 hrs (day)
Resting	Living room	35 dB $L_{Aeq,16\text{hour}}$
Dining	Dining room/area	40 dB $L_{Aeq,16\text{hour}}$
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16\text{hour}}$

- 5.8 BS8233 states that '*..... the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved*'. The internal noise level recommended by BS8233 for living rooms and bedrooms during the day can therefore be up to 40 dB L_{Aeq} .

Outdoor amenity space

- 5.9 BS8233: 2014 also states the following for external amenity areas of residences:

"For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments."

6.0 NOISE ASSESSMENT & RECOMMENDATIONS

BS4142 assessment – relative to background

- 6.1 The BS4142 assessment has been undertaken for the proposed car spray booth. The noise rating level has been calculated at the nearest residences. The predictions take account of the main noise sources (e.g. fan motors, fan duct terminations, compressor unit and noise breakout from spray booth). The noise rating level has been compared with the background sound level to indicate level of impact.
- 6.2 The full predictions are shown in Appendix III with a summary shown in Table 6 below.

Table 6: BS4142 assessment, dB (figures rounded)

	Residences off Folly Rd	Notes
L _{Aeq,1hour} from spray mode	36	For 15 mins of 60 mins assessment period
L _{Aeq,1hour} from bake mode	37	For 15 mins of 60 mins assessment period
Cumulative L_{Aeq,1hour}	40	Includes corrections for: On-time Reflected noise Distance attenuation Acoustic screening attenuation
Noise rating level	43	Includes +3 dB acoustic feature correction for intermittent plant noise
L _{A90} background sound level	48	As measured at residential location
BS4142 assessment result (when rounded)	-5	Noise rating level minus background
Indication of assessment of impact	Below 'low impact'	Depending on the context.

- 6.3 The BS4142 assessment result is **-5dB** (i.e. noise rating level of 5 dB below background).
- 6.4 This indicates an impact of below '*low impact*'.
- 6.5 BS4142 emphasises that the impact predictions are dependent on the context.
- 6.6 The context here is that the site is in an industrial area where there are numerous industrial and commercial units. Noise from existing mechanical services plant serving the adjacent site is dominant and constant, and determines the background sound level.

Predicted noise level – in absolute terms

- 6.7 The existing ambient 'background' noise level is 50 dB L_{Aeq} at the nearest residences. The predicted L_{Aeq,1hr} noise level from the application site is 40 dB at this location. This is therefore significantly lower than the existing ambient L_{Aeq} noise level. The predicted L_{Aeq} level is 10 dB(A) below existing at the closest residences. This would ensure that there would be no increase in the existing L_{Aeq} noise level.

- 6.8 Further, the predicted L_{Aeq} noise level from the site of 40 dB is better than the 50-55 dB range recommended by BS8233 as desirable in residential gardens.
- 6.9 In turn, the noise level inside the nearest residences would be expected to be around 25 dB L_{Aeq} , even with an open window at the residence (providing 15 dB(A) attenuation). With a closed window at the residence, the internal noise level from the site would be significantly lower still. The internal noise level from the site inside habitable rooms at the closest residences would therefore be better than the 35-40 dB(A) good/reasonable range recommended by BS8233 for residential amenity.

Conclusions

- 6.10 It is therefore concluded that the potential noise impact from the proposed use would be below 'low impact'. It is recommended that planning permission may be granted and, if necessary, conditioned accordingly.

Appendix I – Noise & vibration units and indices

Sound pressure level and the decibel (dB)

A sound wave is a small fluctuation of atmospheric pressure. The human ear responds to these variations in pressure, producing the sensation of hearing. The ear can detect a very wide range of pressure variations. In order to cope with this wide range of pressure variations, a logarithmic scale is used to convert the values into manageable numbers. Although it might seem unusual to use a logarithmic scale to measure a physical phenomenon, it has been found that human hearing also responds to sound in an approximately logarithmic fashion. The dB (decibel) is the logarithmic unit used to describe sound (or noise) levels. The usual range of sound pressure levels is from 0 dB (threshold of hearing) to 120 dB (threshold of pain).

An increase in noise level of 10 dB(A) is roughly perceived as a doubling of the sound source. A 3 dB(A) change in noise level is generally the minimum perceptible difference.

Frequency and Hertz (Hz)

As well as the loudness of a sound, the frequency content of a sound is also very important. Frequency is a measure of the rate of fluctuation of a sound wave. The unit used is cycles per second, or Hertz (Hz). Sometimes large frequency values are written as kiloHertz (kHz), where 1 kHz = 1000 Hz. Young people with normal hearing can hear frequencies in the range 20 Hz to 20,000 Hz. However, the upper frequency limit gradually reduces as a person gets older.

Glossary of Terms

When a noise level is constant and does not fluctuate over time, it can be described adequately by measuring the dB(A) level. However, when the noise level varies with time, the measured dB(A) level will vary as well. In this case it is therefore not possible to represent the noise climate with a simple dB(A) value. In order to describe noise where the level is continuously varying, a number of other indices, including statistical parameters, are used. The indices used in this report are described below.

L_{Aeq} The A-weighted 'equivalent continuous noise level' which is an average of the total sound energy measured over a specified time period. In other words, L_{Aeq} is the level of a continuous noise which has the same total (A-weighted) energy as the real fluctuating noise, measured over the same time period. It is increasingly being used as the preferred parameter for all forms of environmental noise.

L_{Amax} The maximum A-weighted noise level that was recorded during the monitoring period.

L_{A10} The A-weighted noise level exceeded for 10% of the time period. L_{A10} is commonly used as a descriptor of road traffic noise.

L_{A90} The A-weighted noise level exceeded for 90% of the time period. L_{A90} is used as a measure of background noise.

SEL or L_{AE} Sound exposure level which is the level of sound of 1 second duration, that has the same sound energy as the actual noise event considered.

R_w Weighted sound reduction index. Single number quantity which characterises the airborne sound insulating properties of a material or building element over a range of frequencies as measured in a laboratory.

D_{nT,w} Weighted standardised level difference. Single number quantity that characterises the airborne sound insulation between rooms. This can only be tested and determined *in situ*.

L'_{nT,w} Weighted standardised impact sound pressure level. Single number quantity used to characterise the impact sound insulation of floors over a range of frequencies. This can only be tested and determined *in situ*.

A-weighting

The human ear responds differently to different frequencies of sound. A-weighting is the method of adjusting measured sound pressure levels to take into account human hearing and our uneven frequency response. For example, an A-weighted Leq noise level of 95 dB can be written as either Leq of 95 dB(A) or L_{Aeq} of 95 dB.

Client:
RBC Automotive

Site address:
Pocock Yard, Hopton Industrial Estate, Devizes

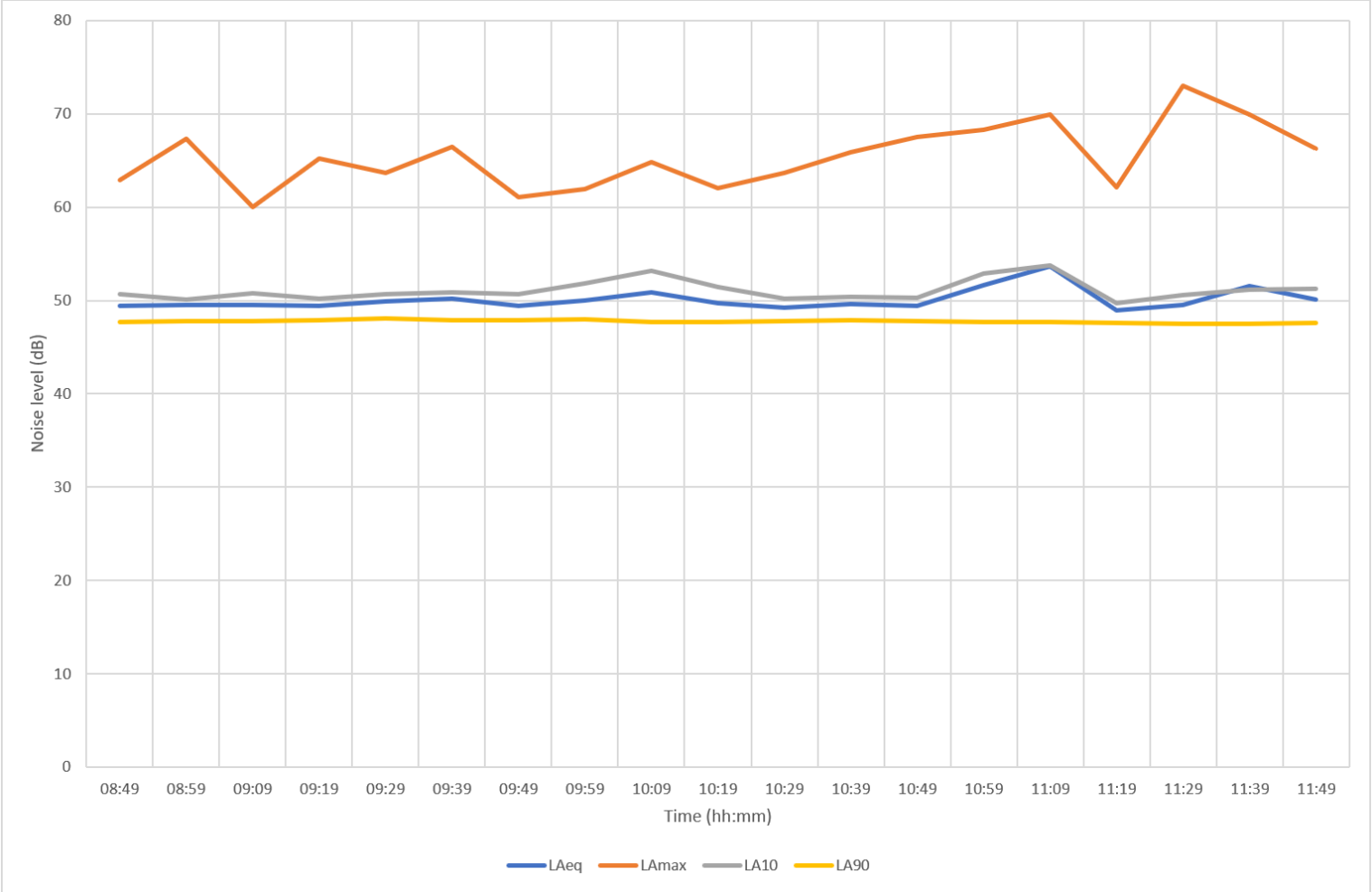
Appendix II – Noise survey results

Background noise survey – Pocock Yard, Devizes

Table A1: Background noise survey - Location 1 adjacent to residences (Thursday 7 May 2026)

Start Time	LAeq	LAmaz	LA10	LA90	Comments
08:49	49.4	62.9	50.7	47.7	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
08:59	49.5	67.3	50.1	47.8	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
09:09	49.5	60.0	50.8	47.8	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
09:19	49.4	65.2	50.2	47.9	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
09:29	49.9	63.7	50.7	48.1	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
09:39	50.2	66.5	50.9	47.9	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
09:49	49.4	61.1	50.7	47.9	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
09:59	50.0	61.9	51.8	48.0	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
10:09	50.9	64.8	53.2	47.7	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
10:19	49.7	62.0	51.4	47.7	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
10:29	49.2	63.7	50.2	47.8	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
10:39	49.6	65.9	50.4	47.9	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
10:49	49.4	67.5	50.3	47.8	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
10:59	51.6	68.3	52.9	47.7	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
11:09	53.7	69.9	53.8	47.7	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
11:19	48.9	62.1	49.7	47.6	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
11:29	49.5	73.0	50.6	47.5	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
11:39	51.5	69.9	51.2	47.5	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
11:49	50.1	66.3	51.3	47.6	Mechanical plant - Ball Aerocan site, builder's yard, road traffic, birds
Min	48.9	60.0	49.7	47.5	
Max	53.7	73.0	53.8	48.1	
Mean	50.2	66.7	51.1	47.8	

Chart A1: Location 1 adjacent to residences (Thursday 7 May 2026)



Client:
RBC Automotive

Site address:
Pocock Yard, Hopton Industrial Estate, Devizes

Car spray booth noise survey – Emtec, Salisbury

Table A2: Noise survey of proposed car spray booth – Emtec, Salisbury (Friday 24 April 2026)

Location	Comments	Start Time	Meas. Time	LAeq	LAmx
Roof	Background - roof	24/04/2026 12:25	00d 00:01:14.9	56.2	59.6
Roof	Spray mode: 2.3m from supply inlet, 1.7m from extract discharge Background corrected	24/04/2026 12:29	00d 00:00:23.5	65.5 65.0	66.6
Roof	Bake mode: 2.3m from supply inlet, 1.7m from extract discharge Background corrected	24/04/2026 12:32	00d 00:00:15.1	66.1 65.6	67.4
Roof	Paint mixing room extract discharge at 3m Background corrected	24/04/2026 12:36	00d 00:00:10.8	56.6 46.0	59.1
Inside unit	Compressor at 1m	24/04/2026 12:44	00d 00:00:17.7	76.8	79.0
Inside unit	Paint mixing room extract fan motor at 1m	24/04/2026 12:46	00d 00:00:08.6	66.5	67.4
Inside unit	Inside paint mixing room - extract on	24/04/2026 12:46	00d 00:00:07.5	64.3	65.1
Inside unit	Spray mode: approx 2m from supply & extract fan motors	24/04/2026 12:48	00d 00:00:17.2	69.5	70.4
Inside unit	Bake mode: approx 2m from supply & extract fan motors & oven motor	24/04/2026 12:49	00d 00:00:14.9	69.4	70.6
Inside unit	Inside spray booth - spray mode	24/04/2026 12:50	00d 00:00:16.5	76.3	77.2
Inside unit	Inside spray booth - bake mode	24/04/2026 12:51	00d 00:00:07.9	75.4	76.2
Inside unit	1m from long side spray booth - bake mode	24/04/2026 12:52	00d 00:00:07.4	65.1	65.8
Inside unit	1m from door side spray booth - bake mode	24/04/2026 12:53	00d 00:00:10.2	61.9	63.5
Inside unit	Immediately outside door side - bake mode	24/04/2026 12:53	00d 00:00:09.4	64.4	65.9
Inside unit	1m from long side spray booth - spray mode	24/04/2026 12:54	00d 00:00:08.0	65.2	65.9
Inside unit	1m from door side spray booth - spray mode	24/04/2026 12:55	00d 00:00:10.5	61.1	62.0
Inside unit	Immediately outside door side - spray mode	24/04/2026 12:55	00d 00:00:10.8	62.6	63.8

Client:
RBC Automotive

Site address:
Pocock Yard, Hopton Industrial Estate, Devizes

Appendix III – BS4142 predictions

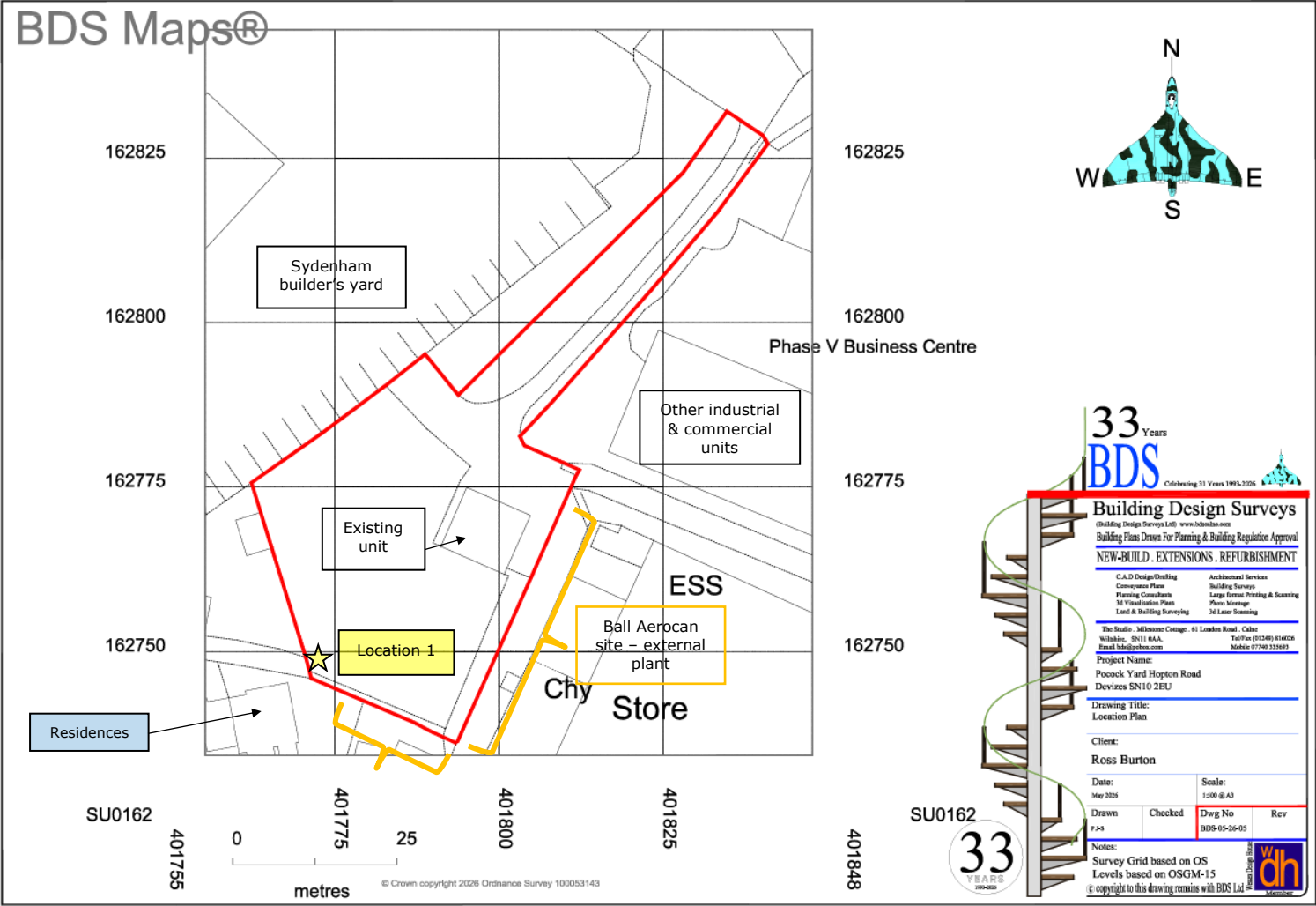
Table A3: Noise prediction from proposed car spray booth

Plant item & proposed location							Notes
<u>Spray mode</u>	Compressor in existing unit	Paint mixing room extract fan motor inside extension unit	Paint mixing room extract discharge termination above roof of extension unit	Supply & extract fan motors inside extension unit	Supply inlet/extract discharge terminations above roof of extension unit	Closed door to spray booth of extension unit	
Location where measured	Inside unit	Inside unit	On roof	Inside unit	On roof	Inside unit	At Salisbury site
L _{Aeq} noise level	76.8	66.5	46	69.5	65	61.1	
Reference distance (m)	1	1	3	2	2.3	1	
Correction for measurement location	0	0	0	0	0	-3	-3 dB if measured inside unit and plant assessment location would be located outside (conservative estimate)
Distance to residence (m)	35	26	33	26	33	30	From plant item or nearest part of building
Distance attenuation	-30.9	-28.3	-20.8	-22.3	-23.1	-29.5	
Acoustic screening/sound insulation of building	-20	-20	0	-20	0	0	From being inside building (-20 dB, conservative SRI of building envelope) or screened by intervening building (-10 dB). If no screening, 0 dB.
Inside to outside correction	-6	-6		-6			-6 dB from reverberant to free-field correction
On-time correction	-10.8	-6.0	-6.0	-6.0	-6.0	-6.0	Compressor: 5 mins of 60 mins assessment period. Other plant: 15 mins of 60 mins assessment period
L _{Aeq} noise level at residence	9.1	6.2	19.2	15.2	35.8	22.6	
Cumulative L_{Aeq},1hr noise level - spray mode	36.2						
Plant item & proposed location							Notes
<u>Bake mode</u>	Compressor in existing unit	Paint mixing room extract fan motor inside extension unit	Paint mixing room extract discharge termination above roof of extension unit	Supply & extract fan motors inside extension unit	Supply inlet/extract discharge terminations above roof of extension unit	Closed door to spray booth of extension unit	
Location where measured	Inside unit	Inside unit	On roof	Inside unit	On roof	Inside unit	At Salisbury site
L _{Aeq} noise level	76.8	66.5	46	69.4	65.6	61.9	
Reference distance (m)	1	1	3	2	2.3	1	
Correction for measurement location	0	0	0	0	0	-3	-3 dB if measured inside unit and plant assessment location would be located outside (conservative estimate)
Distance to residence (m)	35	26	33	26	33	30	From plant item or nearest part of building
Distance attenuation	-30.9	-28.3	-20.8	-22.3	-23.1	-29.5	
Acoustic screening/sound insulation of building	-20	-20	0	-20	0	0	From being inside building (-20, conservative SRI of building envelope) or screened by intervening building (-10). If no screening, 0.
Inside to outside correction	-6	-6		-6			-6 dB from reverberant to free-field correction
On-time correction	-10.8	-6.0	-6.0	-6.0	-6.0	-6.0	Compressor: 5 mins of 60 mins assessment period. Other plant: 15 mins of 60 mins assessment period
L _{Aeq} noise level at residence	9.1	6.2	19.2	15.1	36.4	23.4	
Cumulative L_{Aeq},1hr noise level - bake mode	36.8						
TOTAL cumulative L_{Aeq},1hr noise level - spray & bake mode	39.5						
<u>Acoustic feature correction</u>							
Tonal	0						No tonal content
Impulsive	0						No impulsive content
Intermittent	3						+3dB for intermittent plant operation (total 30mins/60 mins)
Other sound characteristics	0						No other sound characteristics
Noise rating level	42.5						
L _{A90} background sound level	47.8						Measured at boundary with residences
BS4142 result	-5.3						Indicates low impact, depending on the context

Client:
RBC Automotive

Site address:
Pocock Yard, Hopton Industrial Estate, Devizes

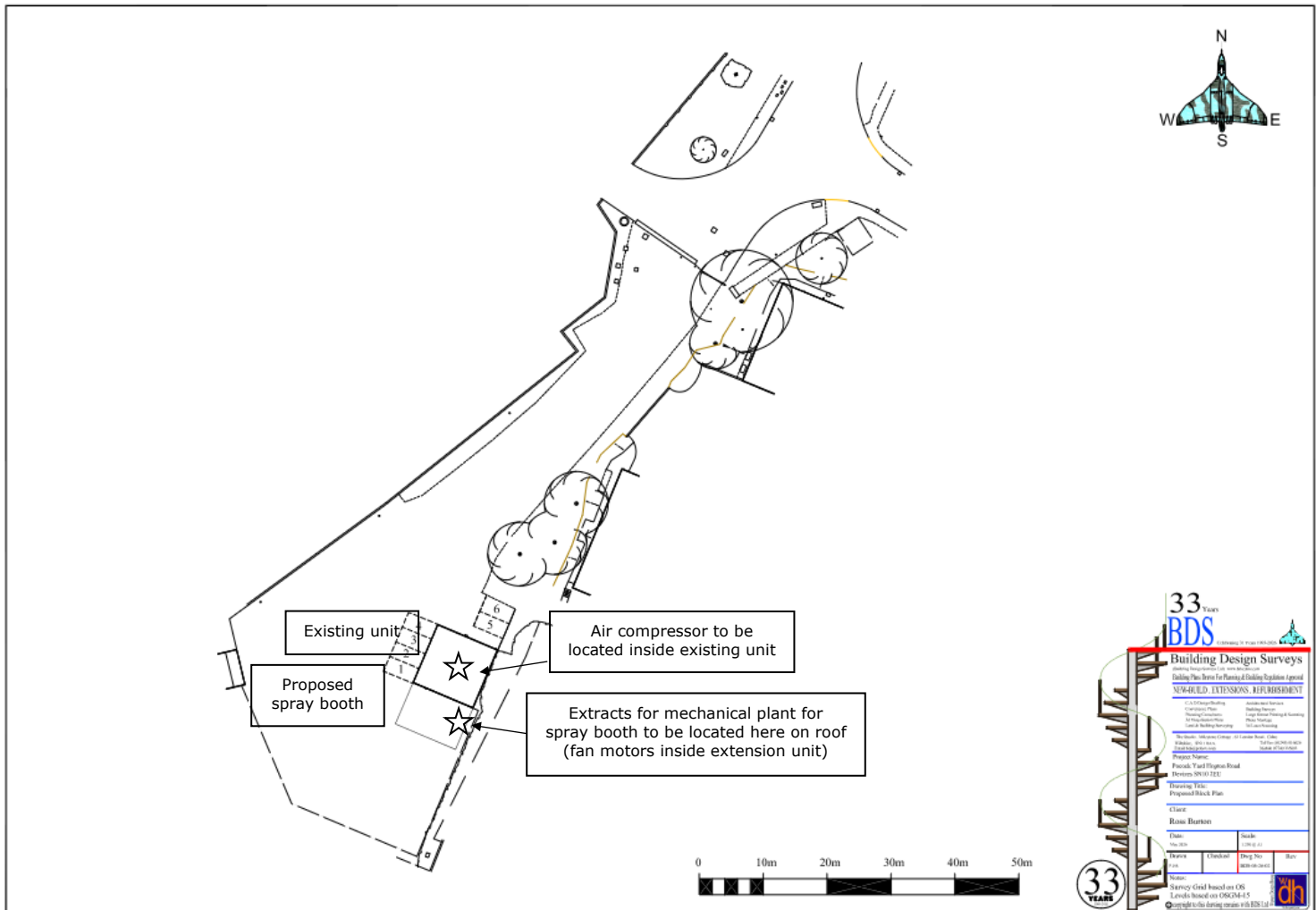
Figure 1 – Site location plan



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Figure 2 – Proposed plan



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Site address:
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Figure 3 – Existing elevations

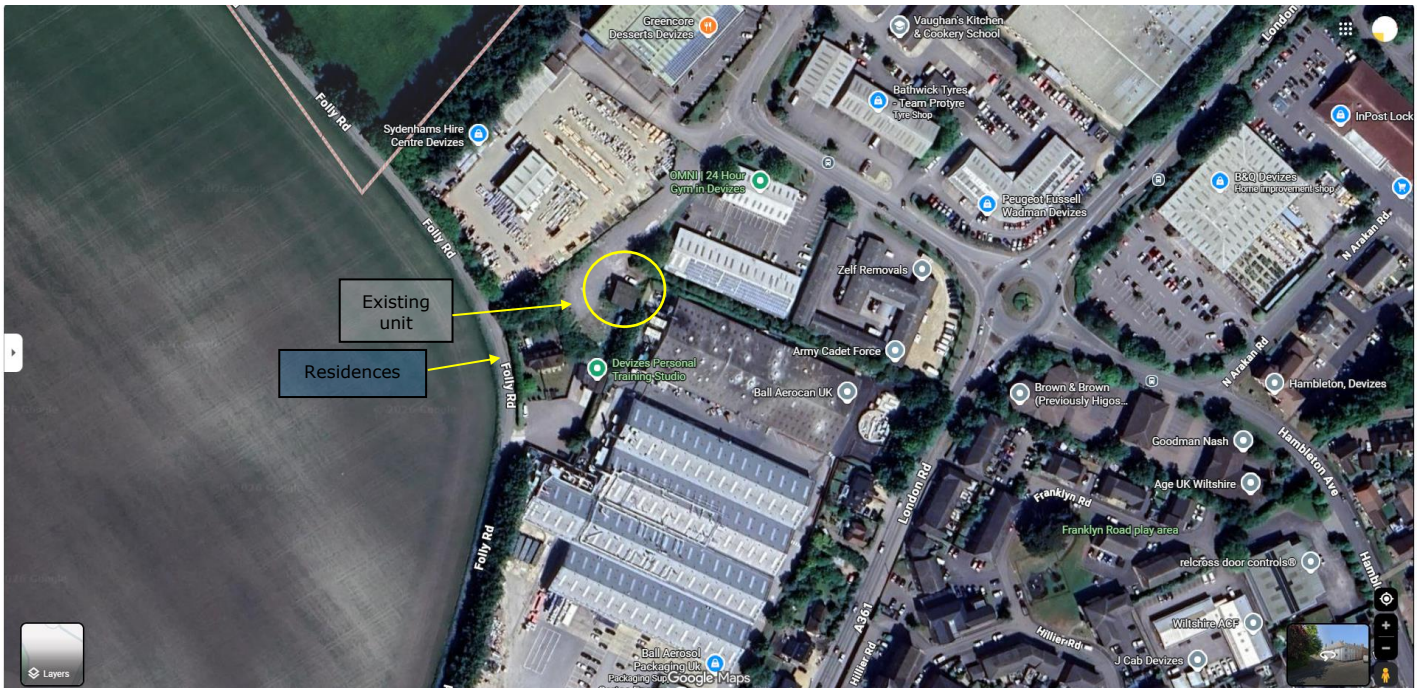


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Figure 5 – Site photos



1: Overhead - image from Google Maps



2: View of residences from site



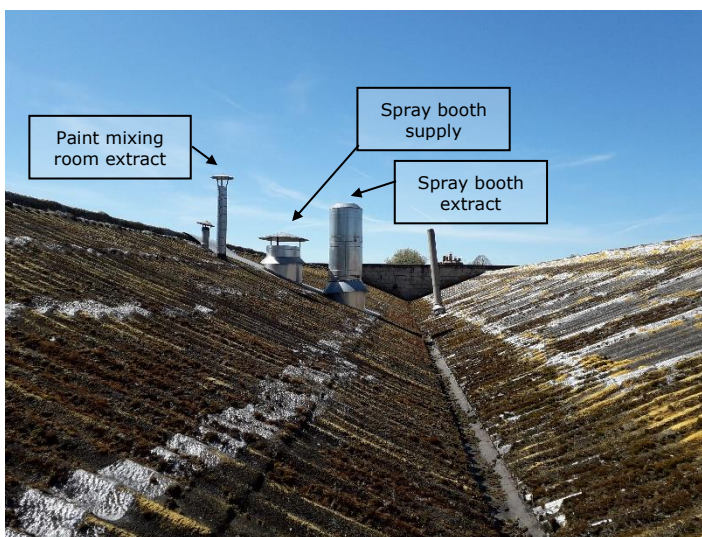
3. View of site from entrance road

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Pocock Yard, Hopton Industrial Estate, Devizes



4: Spray booth inside building unit (Salisbury site)



5. Spray booth extracts (Salisbury site)