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Noise Assessment Report

Report Ref: 209BARN
Client: Mr Matthew Ashworth
Site Location: 7 Eastgate
Barnsley
S70 2EP
Date of Issue: 16th June 2017
Date of Assessment: Friday 26th May – Saturday 27th May 2017 (7 Eastgate)
Tuesday 30 May – Friday 2 June 2017 (7 Eastgate)
Saturday 3rd June – Sunday 4th June 2017 (Brooklands Night Club)
Wednesday 14th June 2017 (7 Eastgate)



Picture 1: 7 Eastgate Barnsley S70 2EP front

Executive Summary

The front of 7 Eastgate has a daytime level of L_{Aeq} (16 hour) 56dB and a night time L_{Aeq} (8 hour) of 45dB. LAF_{mx} reached 78dB during the night.

The rear of 7 Eastgate has a daytime level of L_{Aeq} (16 hour) 46dB and (using data from Brooklands Night Club) a night time L_{Aeq} (8 hour) of 65dB. LAF_{mx} reached 101dB during the night.

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In relation to BS8233:2014 and WHO (2009) these levels are too high and have to be actively reduced in order to ensure that internal noise levels for each dwelling does meet the guidelines. However reduction of the external noise to acceptable levels internally is achievable. This can be done by using windows, doors and ventilation that has the $R_{w}(C;Ctr)$ specified herein for the respective rooms.

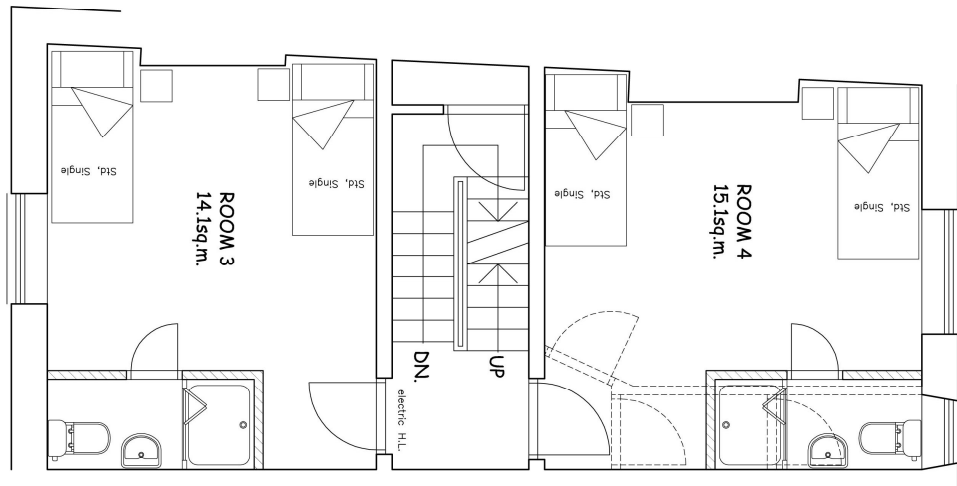
The WHO (2009) recommendation for L_{AFmax} of 60dB and an $L_{Aeq}(8 \text{ hour})$ of 45dB outside bedrooms may not be achievable. However the development should not be prohibited if the planners deem the development as desirable in the circumstances as acknowledged in BS8233:2014.

Application of the sound reduction recommendations in this report will meet the standards for internal noise levels required by the national planning policy framework guidelines. If users of the property keep external windows and doors closed, they will be at a low risk of adverse noise impact.

Objective:

The property known as 7 Eastgate was last occupied as offices. The Client proposes to convert the offices into a house of multiple occupancy. The purposes of this noise assessment is to determine the level of noise likely to impact the building and the type and level of sound reduction required from external windows, doors and ventilation.

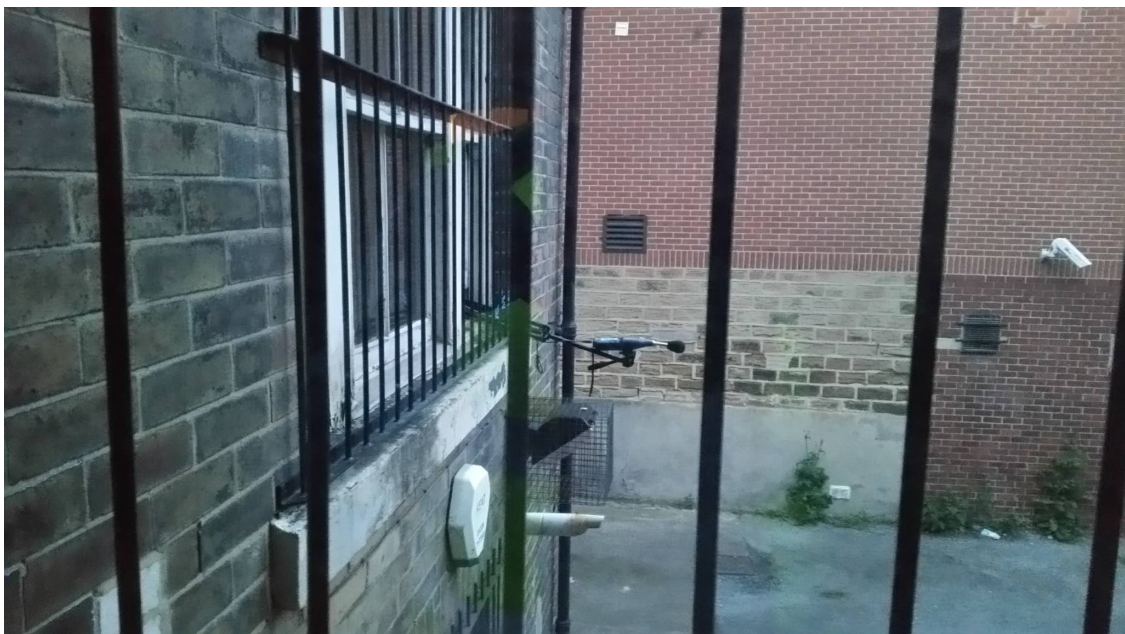
FIRST FLOOR PLAN AS PROPOSED 1:50



Picture 2: First floor plan supplied by the client. The building has 3 floors.

Source under Assessment

To the front of the property is a one way street known as Eastgate. It is a street within a town center setting. To the rear of the property is the rear of a night club currently not in use.



Picture 3: The red brick building in the background of the picture is the night club. It is 8m from the rear of 7 Eastgate.

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Methodology

Measurements were taken at the front and rear of 7 Eastgate. Measurements were also taken at the side of Brooklands night club. Two Casella Cel-490 type 1 sound level meters were used to take measurements of ambient noise levels. The meters were calibrated and placed at the front and rear of the proposed dwellings. A Cesva SC310 type 1 sound level meter was calibrated and used to take measurements outside Brooklands night club. The night club measurements were used to represent noise levels at the rear of 7 Eastgate if the current building should be brought again into use as a night club.



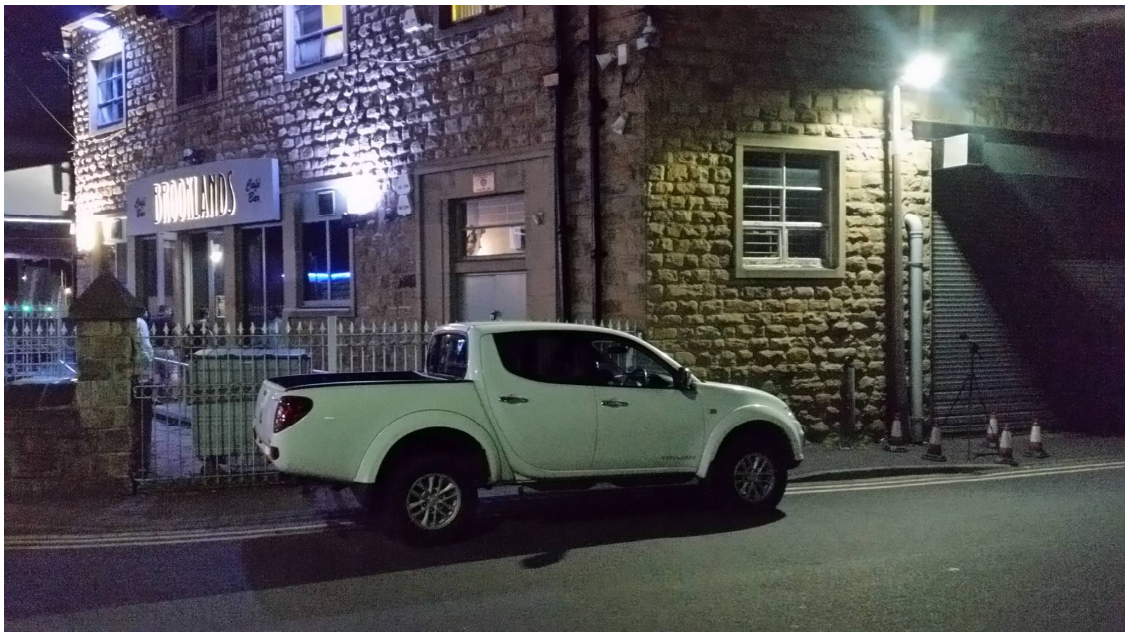
Picture 4: noise sources included Legends A652 Bradford road and Brooklands night club

Brooklands is a night Club located on Bradford Road, Batley WF17 6HT. Directly opposite Brooklands night club is another club known as Legends. In between the two clubs is the A652 Bradford Road.

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Picture 5: Legends club directly opposite Brooklands night club.



Picture 6: The sound level meter was located to the side of Brooklands night club. The roller shutter doors mark the end of Brooklands night club.



Picture 7:Rear of 7 Eastgate. It is an enclosed yard with no through traffic.

The measurements at the side of Brooklands night club are not a direct representative comparison of the rear of 7 Eastgate. This is because;

- There are two night clubs (Legends and Brooklands) as opposed to the rear of one club
- The location of the sound level meter measured direct noise from Legends and the A652 Bradford Rd. The rear of Eastgate would not receive direct noise from a main road or straight from the front of a night club.
- Eastgate is at the front of the proposed property whilst measurements at Brooklands included road traffic noise direct from the A652.

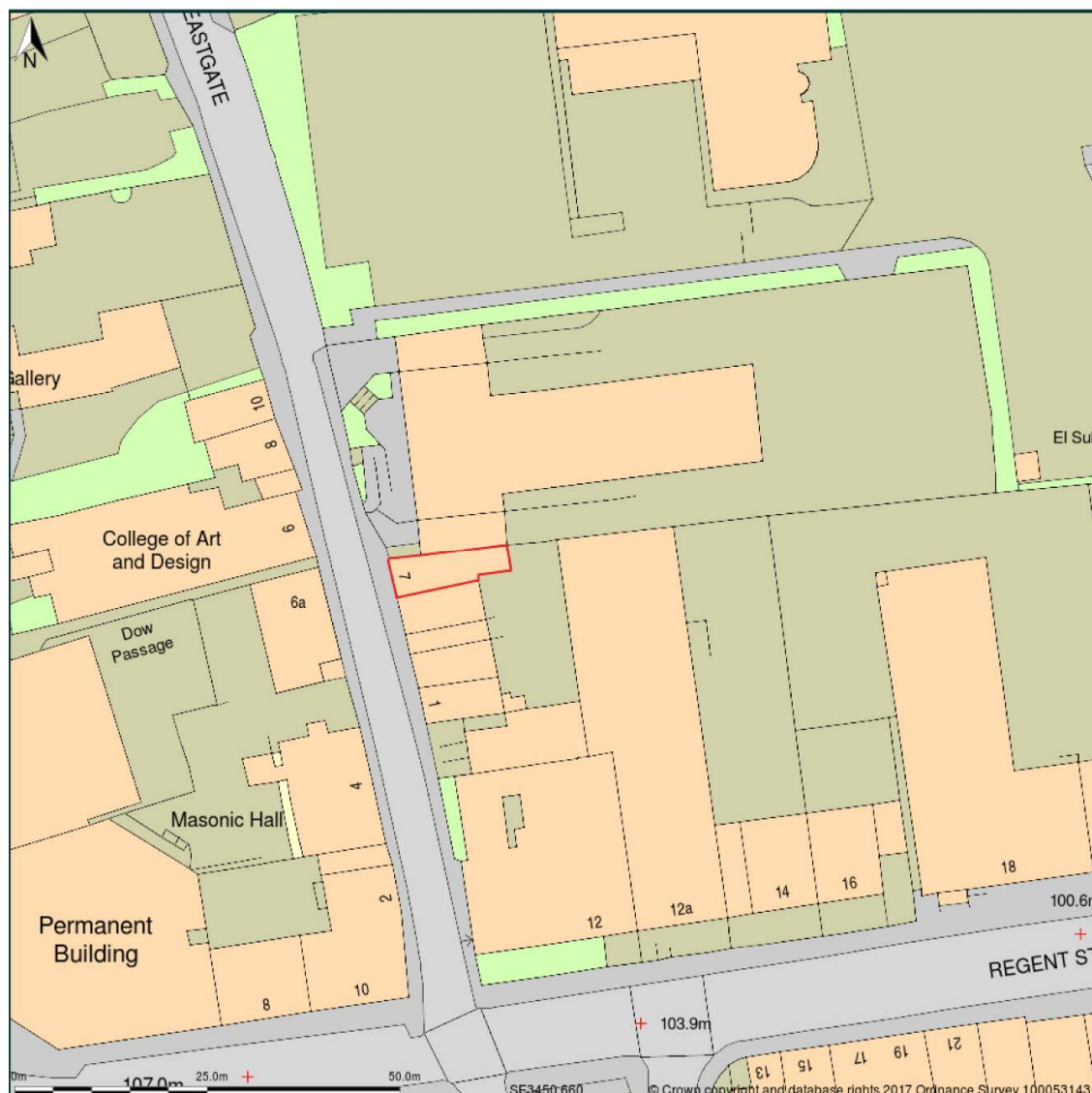
For the reasons above, noise levels at the rear of 7 Eastgate are likely to be lower than those measured outside Brooklands night club.

Façade Correction

Façade measurements occur when the meter is in front of a large reflective surface at a distance of less than 3.5m away from the reflective surface. In order to convert measurements to free field equivalents, a façade correction is required. This is done by reducing the measured levels by up to 3dB. In this instance a façade correction is required for all measurements because they were each taken 1m from a façade wall.

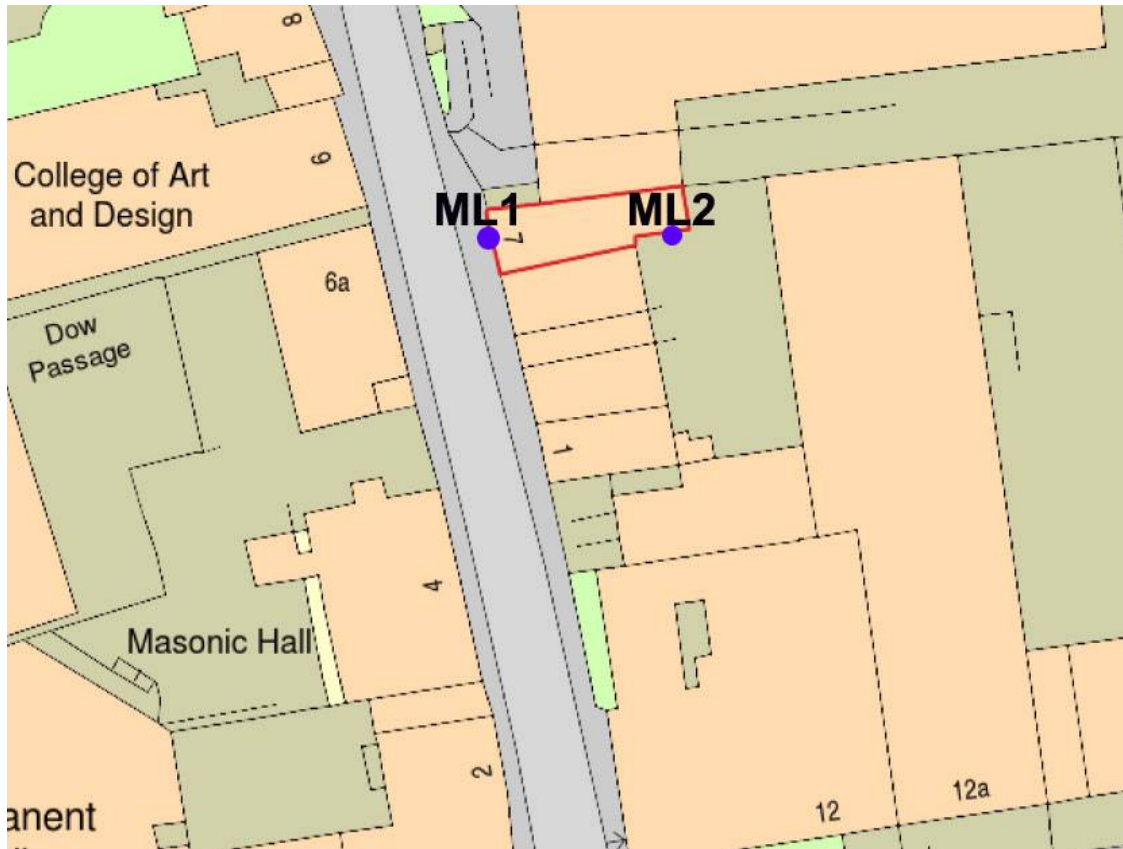
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Site and Measurement Locations



Site plan 1: This is a site location plan purchased and cropped from the website <https://www.buyaplan.co.uk> on 6th June 2017 at 11:00. The full site plan is attached as part of this report in the Appendix. The red border indicates 7 Eastgate. The night club building is shown on the plan as 12a Regent St. The night club is presently not in operation.

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Site Plan 2: The blue circles indicate the measurement locations. ML1 and ML2 is measurement location 1 and 2 respectively.

Date and Time of Measurements

Friday 26th May – Saturday 27th May 2017 from Friday 21:00 – Saturday 10:00 (7 Eastgate)

Tuesday 30 May – Friday 2 June 2017 from Tuesday 16:00 – Friday 10:00 (7 Eastgate)

Saturday 3rd June – Sunday 4th June 2017 Saturday 21:00 – Sunday 04:00 (Brooklands Night Club)

Wednesday 14th June 2017 (7 Eastgate)

Measuring Equipment & Calibration

The sound level meters used at ML1 and ML2 were Casella Cel-490, a class 1 meter laboratory calibrated traceable to UKAS standards serial number 240855 and 240790. At the beginning and at the end of measurements the meter was calibrated with an acoustic calibrator before and after the measurements with negligible deviation ($\leq 0.4\text{dB}$). The meter used at Brooklands night club is a Cesva SC310 type 1 sound level meter. This calibrated successfully before and after measurements.

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Noise Levels with -3dB Façade Correction

ML1 Noise Levels (7 Eastgate Front)

Day L_{Aeq} (16 hour) = 56 dB L_{AFmx} 91dB

Night L_{Aeq} (8 hour) 45dB L_{AFmx} 78dB

ML2 Noise Levels (7 Eastgate Rear)

Day L_{Aeq} (16 hour) 46dB L_{AFmx} 83dB

Night (Measurements at Brooklands Night club) L_{Aeq} (8 hour) 64.9dB L_{AFmx} 100.9dB

(see measurement data in the Appendix).

The noise levels exceed the BS8233:2014 guidelines and require mitigation.

BS8233:2014 Criteria

Table 1 below is taken from BS8233:2014. It shows the guide lines for internal ambient noise levels. The guidelines in BS8233:2014 are also advised by WHO (2009).

Activity	Location	Day (07:00 -23:00)	Night (23:00 – 07:00)
Resting	Living Room	35 L_{Aeq} (16 hour)	-
Dining	Dining room/area	40 L_{Aeq} (16 hour)	-
Sleeping(daytime resting)	Bedroom	35 L_{Aeq} (16 hour)	30 L_{Aeq} (16 hour)

Table 1: BS8233:2014 noise level for internal habitable rooms.

In addition the WHO (2009) has guidance for outdoor living areas such as gardens for day time noise of 50 – 55dB L_{Aeq} (16 hour). It has a L_{AFmax} of 45dB inside bedrooms and a L_{AFmax} of 60dB outside bedrooms, (see table 2 below).

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Specific Environment	LAeq dB	Time base (hours)	LAFmax dB
Outdoor living area (day)	55	16	
Outdoor living area (evening)	50	16	
Inside bedrooms (sleeping)	30	8	45
Outside bedrooms	45	8	60

Table 2: WHO (2009) guidelines

Recommendations for Dwelling at ML1 (7 Eastgate Front)

- Living rooms should have windows, external doors, external walling and ventilation with a sound reduction of $R_w(c;ctr)$ 26dB. The sound reduction is set to account for some uncertainty ± 5 dB (see uncertainty section below).
- Dining rooms should have windows, external doors, external walling and ventilation with a sound reduction of $R_w(c;ctr)$ 21dB. The sound reduction is set to account for some uncertainty ± 5 dB (see uncertainty section below).
- Bed rooms should have windows, external doors, external walling and ventilation with a sound reduction of $R_w(c;ctr)$ 38dB. The sound reduction is set to account for some for WHO (2009) recommendations of LAFmx night of 45dB inside bedrooms and to allow for some uncertainty.
- It should be noted that the development relies on windows being closed to achieve internal noise level guidelines. As a result acoustic ventilation must be provided that does not require windows to be open. Acoustic ventilation in bedrooms, dining rooms and living rooms must achieve the minimum sound reduction stated for that room.
- WHO (2009) has an external LAFmx night of 60dB outside bedrooms. This is not achievable because LAFmx is 78dB night.

Recommendations for Dwelling at ML1 (7 Eastgate Rear)

- Living rooms should have windows, external doors, external walling and ventilation with a sound reduction of $R_w(c;ctr)$ 16dB. The sound reduction is set to account for some uncertainty ± 5 dB (see uncertainty section below).

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- Dining rooms should have windows, external doors, external walling and ventilation with a sound reduction of $R_{w(c;ctr)}$ 11dB. The sound reduction is set to account for some uncertainty ± 5 dB (see uncertainty section below).
- Bed rooms should have windows, external doors, external walling and ventilation with a sound reduction of $R_{w(c;ctr)}$ 56dB. The sound reduction is set to account for some for WHO (2009) recommendations of LAFmx night of 45dB inside bedrooms. No allowance has been made for uncertainty. Pilkington Optiphon double glazing can achieve $R_{w(c;ctr)}$ 50dB. Additional secondary glazing can increase the sound reduction index further.
- It should be noted that the development relies on windows being closed to achieve internal noise level guidelines. As a result acoustic ventilation must be provided that does not require windows to be open. Acoustic ventilation in bedrooms, dining rooms and living rooms must achieve the minimum sound reduction stated for that room.
- WHO (2009) has an external LAFmx night of 60dB outside bedrooms. This is not achievable because LAFmx is 101dB night.

A data sheet from Pilkington glass has been attached showing glazing that achieves the noise reductions as recommended in this report.

Pilkington provides glazing. Huet provides acoustic doors that achieve the required $R_{w(c;ctr)}$ Greenwoods acoustic ventilation provides ventilation that would be suitable. Data sheets have been attached as part of this report to assist the Client in achieving the required sound insulation. The client does not have to source these products from the suppliers mentioned in this report. The suppliers mentioned herein are for example purposes only.

No special acoustic measures are required for hallways, bathrooms and kitchens unless they form part of a Dining room, Living room or bedroom.

The day time noise levels are within the LAeq (16 hour) 50 – 55dB for outside living space.

Achieving the sound reduction as stated in this report will meet the standards for day and night time levels in the specified rooms.

Context of the Noise Environment

WHO (2009) provides guidance of night time $L_{Aeq(8 \text{ hour})}$ of 45dB outside bedrooms. Adverse health effects arise from sleep disturbance when the window to the bedroom is left open. This means that persons sleeping with the window open are likely to have disturbed sleep if outside noise levels are greater than night time $L_{Aeq(8 \text{ hour})}$ 45dB. For this reason the WHO (2009) guidelines recommend noise levels outside bedrooms to be $L_{Aeq(8 \text{ hour})}$ 45dB or lower. This requirement may not be achievable in the presence of road traffic or commercial night club noise.

Should $L_{Aeq(8 \text{ hour})}$ 45 dB outside bedrooms not be achievable BS8233:2014 (see below) provides for the approval of development if the planners deem the development as desirable.

LAFmx 45dB Inside Bedrooms

The SRI of the windows, external doors and ventilation has been calculated to reduce LAFmx to 45dB and to also achieve the day time $L_{Aeq(16 \text{ hour})}$ of 35dB and the night time $L_{Aeq(8 \text{ hour})}$ of 30dB.

National Planning Policy Framework (NPPF) and Litchfield District Local Plan Strategy 2015 Policy BE1 'High Quality Development'

The national policy framework states at paragraph 109 new and existing developments should be prevented;

“from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability..”

At paragraph 123 the NPPF states;

“Planning policies and decisions should aim to avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development..”

The proposed development is within an elevated noise environment where LAFmax reached 78dB during the night. The area has a daytime level of $L_{Aeq(16 \text{ hour})}$ 56dB and a night time $L_{Aeq(8 \text{ hour})}$ of 45dB at ML1.

At ML2 LAFmax reached 101dB night time and has a daytime level of $L_{Aeq(16 \text{ hour})}$ 46dB and a night time $L_{Aeq(8 \text{ hour})}$ of 65dB. Achieving the weighted sound reduction index for windows, doors and ventilation as specified in this report will satisfy the main standards for internal habitable rooms and should fulfill the requirements of the national planning policy framework. It should be noted

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that users of the proposed dwellings are at risk of adverse noise impact when external doors and windows are left open.

BS8233:2014 accepts that external noise level guidelines may not be attainable but in certain circumstances development is acceptable, see section 7.7.2 and 7.7.3.2 of BS8233:2014 reproduced below.

Section 7.7.2 Internal Ambient Noise Levels for Dwellings of BS8233:2014 states

Note 4: Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or L_{AFMAX} depending on the character and number of events per night. Sporadic noise events could require separate values.

Note 5: If relying on closed windows to meet the guide values, there needs to be an appropriate alternative ventilation that does not compromise the façade insulation or the resulting noise level.

Note 7: Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.

Section 7.7.3.2 Design Criteria for External Noise of BS8233:2014 states

“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 50dB $L_{Aeq,T}$ with an upper guideline of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited,” (BS8233:2014).

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Uncertainty

The noise levels were obtained by direct onsite measurements. The sound level meter was fitted with a wind shield and maintained on a tripod throughout the measurement period. Once readings were started, the sound level meter was free from human interference. This was done to minimize uncertainty in the readings.

In addition, the readings were taken during suitable weather conditions. Each measurement was conducted for a duration sufficient to provide a representation of $L_{Aeq,(8 \text{ hour})}$ for night time and $L_{Aeq,(16 \text{ hour})}$ for day time.

The calibration of the sound level meter at the beginning and end of the readings showed a maximum drift of 0.4 dB at the start and end of the reading. This is considered normal.

Laboratory calibration uncertainty of the sound level meter is $\pm 1 \text{ dB}$

The nature of the road traffic noise may vary from time to time depending on but not limited to the number of vehicles, type of vehicles and the speed at which they are travelling. An uncertainty factor of $\pm 5 \text{ dB}$ has been added to account for variations that can occur day to day.

$$u = \sqrt{a^2 + b^2 + c^2 \dots etc}$$

$$U = \sqrt{1 + 5^2}$$

$$U = \pm 5 \text{ dB}$$

Uncertainty in the measurement is $\pm 5 \text{ dB}$

Conclusion

The front of 7 Eastgate has a daytime level of $L_{Aeq,(16 \text{ hour})}$ 56dB and a night time $L_{Aeq,(8 \text{ hour})}$ of 45dB. L_{AFmx} reached 78dB during the night.

The rear of 7 Eastgate has a daytime level of $L_{Aeq,(16 \text{ hour})}$ 46dB and (using data from Brooklands Night Club) a night time $L_{Aeq,(8 \text{ hour})}$ of 65dB. L_{AFmx} reached 101dB during the night.

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In relation to BS8233:2014 and WHO (2009) these levels are too high and have to be actively reduced in order to ensure that internal noise levels for each dwelling does meet the guidelines. However reduction of the external noise to acceptable levels internally is achievable. This can be done by using windows, doors and ventilation that has the $R_{w}(C;Ctr)$ specified herein for the respective rooms.

The WHO (2009) recommendation for L_{AFmax} of 60dB and an $L_{Aeq}(8 \text{ hour})$ of 45dB outside bedrooms may not be achievable. However the development should not be prohibited if the planners deem the development as desirable in the circumstances as acknowledged in BS8233:2014.

Application of the sound reduction recommendations in this report will meet the standards for internal noise levels required by the national planning policy framework guidelines. If users of the property keep external windows and doors closed, they will be at a low risk of adverse noise impact.

Uncertainty in the measurement is $\pm 5 \text{ dB}$

Signed:

Donald I Angir

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Noise Consultant

Noise Survey Ltd

BIBLIOGRAPHY

British Standards Institution (2014) BS EN 8233:2014 **Guidance on Sound Insulation and Noise Reduction for Buildings**. London. BSI

World Health Organization Europe (2009) **Night Noise Guidelines for Europe**. Copenhagen WHO

Department for Communities and Local Government (2012) **National Planning Policy Framework**. Crown London

APPENDIX A

Measuring Equipment

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Casella Cel-490 sound level meter type 1 laboratory calibrated traceable to UKAS standards serial number 240855 last calibration date November 2016.

Casella Cel-490 sound level meter type 1 laboratory calibrated traceable to UKAS standards serial number 240790 last calibration date November 2016.

Cesva SC310 sound level meter type 1 laboratory calibrated traceable to UKAS standards serial number T237608 last calibration date 16th June 2015.

Cesva Acoustic Calibrator 94dB @ 1KHz serial No 9004470. Laboratory calibrated by Pennine Instruments Services Ltd on 29th June 2015.

Kane May Thermostat model KM330 serial: 723858 calibrated 19/05/2015 by Stroma Technology certificate: 723858-150519

Kaindl Electronic model: Windtronic 2 Anemometer.

Weather Conditions

Wind speeds were below 5m/s with no precipitation. Cloud cover ranged from 10% - 90% during the measurement duration. The temperature ranged from 7°C to 24°C during the measurement period. All measurements were conducted during suitable weather conditions.

Measurement Data

7 Eastgate Front Daytime (Wed 14th June)

LAeq (11 hour) = 59dB LAFmx 94dB

Date	Time	LAFmx	LAeq	LAF10.0	LAF90.0
		dB	dB	dB	dB
14/06/2017	08:39:16	86.8	60.10	62	45.5
14/06/2017	09:39:16	91.1	61.10	61	44
14/06/2017	10:39:16	76.6	56.90	58.5	43.5
14/06/2017	11:39:16	80.3	58.60	60	45
14/06/2017	12:39:16	80.8	57.80	59.5	45.5
14/06/2017	13:39:16	86.2	58.90	59.5	45.5
14/06/2017	14:39:16	80.5	58.40	60	46
14/06/2017	15:39:16	82.2	59.10	60.5	46
Break during measurements					
Arrangements and moving meter from building to outside pavement					
Date	Time	LAFmx	LAeq	LAF10.0	LAF90.0
		dB	dB	dB	dB

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14/06/2017	20:46:24	94.1	62.60	56	42.5
14/06/2017	21:46:24	84.5	53.70	54	43
14/06/2017	22:46:24	81.2	51.70	50	39.5

Table 3: Day time measurements at ML1

7 Eastgate Front Night time (Wed 14th June)

LAeq (8 hour) 48dB LAFmx 81dB

Date	Time	LAF	LAFmx	LAFmn	LAeq
		dB	dB	dB	dB
26/05/2017	20:41:27	49.4	77.6	38.3	52.2
26/05/2017	21:41:27	39.9	80	37.5	51.1
26/05/2017	22:41:27	39.2	80.8	35.4	50.4
26/05/2017	23:41:27	35.9	79.7	33.2	48.1
27/05/2017	00:41:27	33.8	79.7	31.8	50.8
27/05/2017	01:41:27	41.2	76.8	30.9	47.3
27/05/2017	02:41:27	32.7	77.7	31.4	48.3
27/05/2017	03:41:27	37.9	69.1	31.9	42.6
27/05/2017	04:41:27	41.2	74.2	33.3	45.5
27/05/2017	05:41:27	41.8	79.2	34.6	48.8
27/05/2017	06:41:27	43.8	76.5	34.5	49.3
27/05/2017	07:41:27	41.1	78.7	36.9	54.6

Table 4: Night time measurements at ML1

7 Eastgate Rear

Daytime LAeq (16 hour) = 49dB LAFmx 86dB

Night time we substitute measurements at Brooklands Night club.

Date	Time	LAF	LAFmx	LAFmn	LAeq
		dB	dB	dB	dB
30/05/2017	16:44:00	50.2	66.3	45.5	49.1
30/05/2017	17:44:00	47.2	65.7	45.2	49.7
30/05/2017	18:44:00	47.6	68.3	45.4	50.5
30/05/2017	19:44:00	46.6	64.1	45.3	48.3
30/05/2017	20:44:00	51.2	71	44.6	48.1
30/05/2017	21:44:00	46.1	66.1	44.8	48.3
30/05/2017	22:44:00	45.6	70.6	44.7	47.6
30/05/2017	23:44:00	45.9	72.3	44.5	47.6
31/05/2017	00:44:00	45.4	65.6	44.3	46.1
31/05/2017	01:44:00	45.6	56.3	44.3	45.6
31/05/2017	02:44:00	45.2	56.1	44.1	45.6
31/05/2017	03:44:00	45.4	58.5	44.2	45.7

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31/05/2017	04:44:00	45.4	57.6	44.6	45.9
31/05/2017	05:44:00	46.1	59.7	44.7	46.3
31/05/2017	06:44:00	46.1	60.8	44.8	46.7
31/05/2017	07:44:00	57.8	64	44.6	47.6
31/05/2017	08:44:00	47	75	45	49.6
31/05/2017	09:44:00	46	73.7	44.8	49.8
31/05/2017	10:44:00	53.1	85.7	44.8	50.7
31/05/2017	11:44:00	46	77.5	44.6	49
31/05/2017	12:44:00	46.1	79.7	44.6	50.8
31/05/2017	13:44:00	47.8	74.5	44.5	49.8
31/05/2017	14:44:00	47.3	68.4	44.8	49.2
31/05/2017	15:44:00	45.9	64.7	44.9	48.3
31/05/2017	16:44:00	47.3	68.4	45.1	49.6
31/05/2017	17:44:00	48.8	78	45.1	50.2
31/05/2017	18:44:00	45.2	63.7	44.5	47.3
31/05/2017	19:44:00	48.9	71.5	44.4	47.4
31/05/2017	20:44:00	45.3	65.4	44.8	47.5
31/05/2017	21:44:00	46	69.2	44.6	47.3
31/05/2017	22:44:00	46.1	74.6	44.9	47.7
31/05/2017	23:44:00	46	60.2	44.3	46.1
01/06/2017	00:44:00	45.7	74.3	44.5	46.6
01/06/2017	01:44:00	45.8	62.1	44.5	45.8
01/06/2017	02:44:00	45.4	59.4	44.3	45.7
01/06/2017	03:44:00	45.2	57.1	44.4	45.8
01/06/2017	04:44:00	49.1	57	44.5	46.1
01/06/2017	05:44:00	45.6	60.1	44.5	46.1
01/06/2017	06:44:00	45.6	82.9	44.7	52
01/06/2017	07:44:00	46.7	65.8	45	48.6
01/06/2017	08:44:00	54.6	72.8	44.7	49.3
01/06/2017	09:44:00	49.2	68.3	44.6	47.8
01/06/2017	10:44:00	46.5	72	44.3	49.2
01/06/2017	11:44:00	48.9	78	44.6	48.6
01/06/2017	12:44:00	46.1	73.6	44.9	49
01/06/2017	13:44:00	47.2	77.8	44.8	51.1
01/06/2017	14:44:00	47.6	73.7	44.7	49.7
01/06/2017	15:44:00	46.6	67.1	44.9	48.5
01/06/2017	16:44:00	47.2	71.2	44.7	49.4
01/06/2017	17:44:00	46.7	76.3	44.9	51.5
01/06/2017	18:44:00	45.7	62.8	44.6	48
01/06/2017	19:44:00	48.9	70.6	44.5	48.2
01/06/2017	20:44:00	48.2	73.7	44.7	47.9

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01/06/2017	21:44:00	48.9	71.4	44.5	48.1
01/06/2017	22:44:00	46.4	74.8	44.6	49.6
01/06/2017	23:44:00	45.7	65.9	44.5	46.7
02/06/2017	00:44:00	45.2	61	44.4	45.9
02/06/2017	01:44:00	45.2	63.2	44.3	45.7
02/06/2017	02:44:00	45	63.3	44.3	45.5
02/06/2017	03:44:00	45	55.8	44.2	45.4
02/06/2017	04:44:00	45.2	58.5	44.2	45.8
02/06/2017	05:44:00	47.2	71.6	44.1	46.6
02/06/2017	06:44:00	45.9	71.4	44.4	46.7
02/06/2017	07:44:00	46.1	62.9	44.6	47.8
02/06/2017	08:44:00	46	76.2	44.7	51.7
02/06/2017	09:44:00	46.2	74.6	44.6	48.2

Table 5: Measurements at ML2

Brooklands Night Club Sat 3rd June 2017
(Used as the equivalent at the rear of 7
Eastgate during the night)

L_{Aeq} (4 hours 50min) = 67.9dB L_{AFmx} 103.9 dB

Date	Start	End	Duration	L _{aeq}	L _{AFmx}
03/06/2017	21:00	21:40:00	40min	63.8	88.5
03/06/2017	22:00	23:00:00	60min	64.1	81.6
03/06/2017	23:00	02:10:00	190min	68.8	103.9
03/06/2017	02:10	03:50:00	100min	65.6	95.6

Table 6: Night time measurements at Brooklands Night club adjacent to Bradford Road Batley WF17 6HT

Site plan 2: Original full site location.

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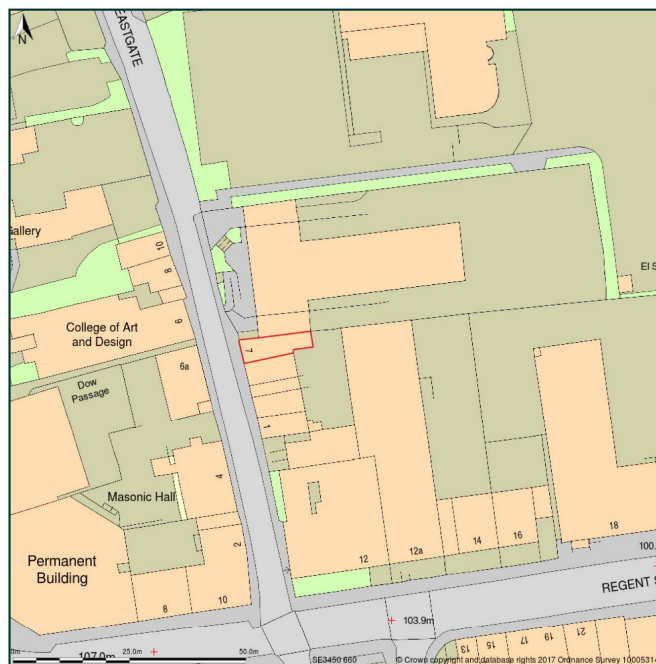


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Site Plan shows area bounded by: 434430.49, 406532.8 434571.91, 406674.22 (at a scale of 1:1250), OSGridRef: SE3450 660. The representation of a road, track or path is no evidence of a right of way. The representation of features as lines is no evidence of a property boundary.

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