EVERSHOLT HOUSE
EVERSHOLT STREET
LONDON NW1

PLANT NOISE ASSESSMENT
REPORT 2744/PNA2

12 July 2006
Revision Number: 0

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Contents

1.0 Introduction

In order to complete a recent planning application for the location of building services plant within a lightwell outside of 203 Eversholt House, Eversholt Street, London NW1, an assessment was undertaken of atmospheric noise emissions from the proposed units to the nearest noise sensitive property on 25 June 2007.

RBA Acoustics were commissioned to undertake measurements of the prevailing noise conditions at the site and to provide the assessment required by Camden Council.

Measurements were undertaken on the pavement outside the grounds of the Calgarth and Glenridding blocks of residential flats to the rear of Eversholt House; as these locations were considered to be most representative of both the closest affected residential windows to the original plant location. These measurement positions are illustrated on the attached Site Plan 2744/SP1.

It is now proposed that the building services plant be positioned within a lightwell at 163 Eversholt House which, at the opposite end of the building, is 140m further South East of the original lightwell. Therefore Camden Council requires a new assessment to be undertaken of atmospheric noise emissions from the proposed units at this location to the nearest noise sensitive property. It has been agreed with Camden Council that measured levels at the façades of the closest residences to be affected by the new location of the plant are likely to be higher than those measured during the survey dated 25 June 2007 due to the proximity of Barnby Street, which is likely to experience more traffic (and therefore generate more noise) than the access road adjacent 203 Eversholt House.

RBA have therefore suggested it is unnecessary to carry out another survey since the data gathered on 25 June 2007 represents the worst case conditions likely to be experienced at the new location and Camden Council have agreed with this. Consequently the levels measured previously are to be used for the assessment of the building services plant at the new location.

This report presents the results of the noise measurements from 25 June 2007 and associated assessment at the new location for the proposed building services plant.

2.0 Noise Survey

2.1 General

RBA undertook noise monitoring during a three hour daytime period, which we consider to be representative of the typical daytime noise climate, because the proposed building services plant was to be in use during daytime office hours only (08:00 – 22:00). This criterion has not altered and the time period is still appropriate. The measured prevailing noise climate at the closest affected façades to the previous proposed location of the plant shall be compared to the noise levels from the new location of the proposed plant in accordance with the requirements of the Local Authority. Attended measurements were made during the following three hour period:

11:00 - 14:00 Monday 25 June 2007

During the survey period the weather conditions were considered satisfactory for the noise measurement exercise, it being predominantly dry with little wind.

Measurements were made of the $L_{A90,}$ L_{Amax} and L_{Aeq} noise levels over sample periods of 15 minutes duration.

2.2 Measurement Location

Measurements were undertaken on the pavement outside the grounds of the Calgarth and Glenridding blocks of residential flats to the rear of Eversholt House. These measurement positions are illustrated on the attached Site Plan 2744/SP1.

The prevailing noise climate was noted to mainly consist of the consistently busy traffic along Eversholt Street and individual vehicles accessing the area to the rear of Eversholt House.

N.B. The closest affected residential façade to the new proposed location of the plant is the ground and first floor of Beckfoot block of residential flats which is indicated on the attached site plan 2744/SP1. The prevailing noise climate at Beckfoot is likely to be greater than that monitored at Calgarth and Glenridding blocks of residential flats and we are therefore assuming worst case (quietest) background noise conditions.

2.3 Instrumentation

The following equipment was used for the measurements.

Table 2744/T1 - Equipment used for the measurements

Manufacturer	Model Type	Serial No.	Calibration	
			Certificate No.	Expiry Date
01dB A&V Type 1 Sound Level Meter	Solo 01	11595	DTE-T-05-PVE-20440	17 Nov 2007
01dB A&V Pre Amplifier	PRE 21 S	12009		
Gras ½“ Microphone	MCE 212	45099		
01dB-Stell Calibrator	Cal 21	51231453	02770	10 Dec 2007

The equipment was calibrated prior to and on completion of the survey. No significant calibration drift occurred.

3.0 Results

The noise levels at the Calgarth (Position 1) and Glenridding (Position 2) measurement positions are shown as time-histories on the attached Graphs 2744/G1 and G2.

In order to ensure a worst case assessment the lowest background noise levels measured have been used in our analyses.

The lowest L_{90} dBA noise levels measured are summarised below.

Table 2744/T2 – Measured L_{A90}

Measurement Position	L_{90} (dBA)
Position 1	52.2
Position 2	51.6

4.0 Criteria

The requirements of Camden Council's Unitary Development Plan 2003 regarding noise levels from new plant and machinery are confirmed as follows.

Table 2744/T3 - Camden Council Noise Thresholds

Noise description and Location of measurement	Period	Time	Noise level
Noise at 1 metre external to a sensitive facade	Day, evening and night	0000-2400	5dB(A) $<L_{A90}$
Noise that has a distinguishable discrete continuous note (whine, hiss, screech, hum) at 1 metre external to a sensitive facade	Day, evening and night	0000-2400	10dB(A) $<L_{A90}$
Noise that has distinct impulses (bangs, clicks, clatters, thumps) at 1 metre external to a sensitive facade	Day, evening and night	0000-2400	10dB(A) $<L_{A90}$
Noise at 1 metre external to sensitive façade where LA90 >60dB	Day, evening and night	0000-2400	55dB L_{Aeq}

The air conditioning units are required to operate during the day and as such the plant is therefore required to not exceed a level of 46.6 dBA at the nearest residential window (assuming the noise does not contain the undesirable characteristics described by Camden).

This criterion also ensures that internal noise level recommendations for residential properties relating to break in from noise associated with the unit, as stated in British Standard BS 8233, are met.

5.0 Assessment

Our assessment has been based upon the following information:

5.1 Proposed Air Conditioning Units

2No. Daikin REYQ8M7W1B
2No. Daikin REYQ10M7W1B

5.2 Noise Levels and Position of Units

Information regarding the noise levels of the proposed plant has been provided by the manufacturers of the units.

The sound pressure level of each unit is advised as being the following, as measured at 1m:

- REYQ8M7W1B 57 dBA
- REYQ10M7W1B 58 dBA

Review of octave band frequency data would suggest that there would be no tonal characteristics associated with the proposed plant.

The location of the proposed air conditioning units is to be within the light well located next to 163 Eversholt House. This position is indicated on the attached Site Plan 2744/SP1.

5.3 Location of Nearest Residential Window

The worst affected residential façade to the proposed plant is identified as being the ground and first floor of the block of flats opposite the rear of Eversholt House called Beckfoot.

N.B. It should be noted that there are no façades at Beckfoot with complete line of sight to the proposed plant location since this is within a light well.

The location of this façade is also indicated on the attached Site Plan 2744/SP1.

5.4 Calculation of Noise Levels at Nearest Residential Window

Our calculation method for predicting noise levels from the proposed air conditioning units at the chosen receptor location, based on the information stated above, is summarised below.

- Source Term (Combined Plant SPL)
- 20LogR Distance Attenuation
- Screening provided by location
- Noise build-up due to enclosed lightwell space

The above method predicts a noise level due to the cumulative operation of the building services plant of 42dBA at the nearest residential habitable window. (Beckfoot).

5.5 Mitigation

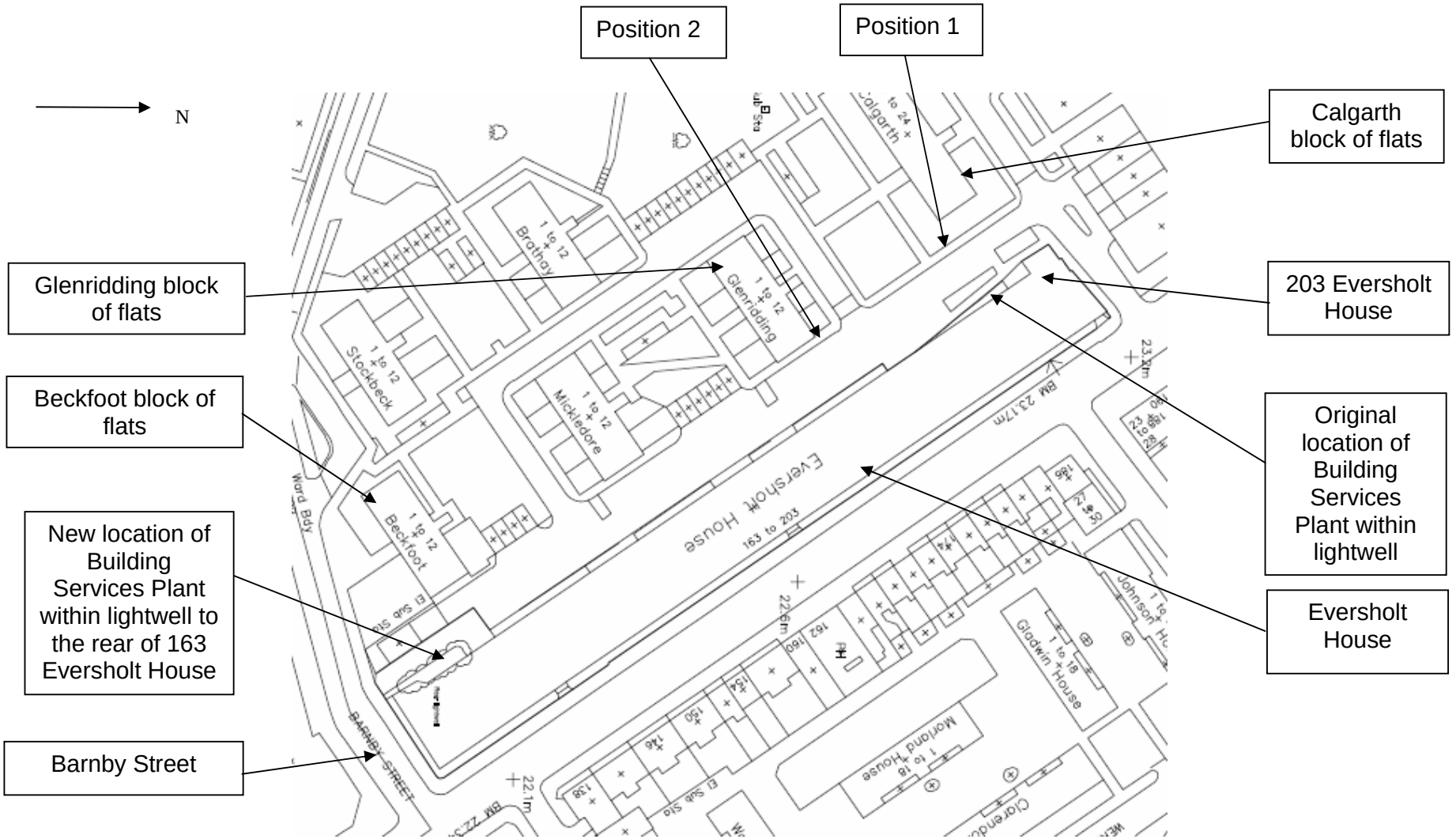
The predicted noise level of 42dBA at the nearest residential window is within the target level as required by Camden Council Unitary Development Plan 2003. As such the proposed units should be considered acceptable and no mitigation is required.

6.0 Conclusion

Measurements of the existing background noise levels taken on 25 June 2007 at Eversholt House, Eversholt Street, London NW1, were undertaken in line with the requirements of Camden Council to be used in an assessment of building services plant to be located at 203 Eversholt House.

After discussion with Camden Council it was agreed that the same measurements may be used to assess atmospheric noise emissions from the proposed air conditioning units located within the lightwell to the rear of 163 Eversholt House. It was agreed this would represent worst case condition at this location.

The results of the assessment indicate atmospheric noise emissions from the units are in line with the level required and, as such, should be considered acceptable.



Site Plan showing measurement locations

Eversholt House, Eversholt Street, London NW1

Figure 2744/SP1

12 July 2007

Not to Scale

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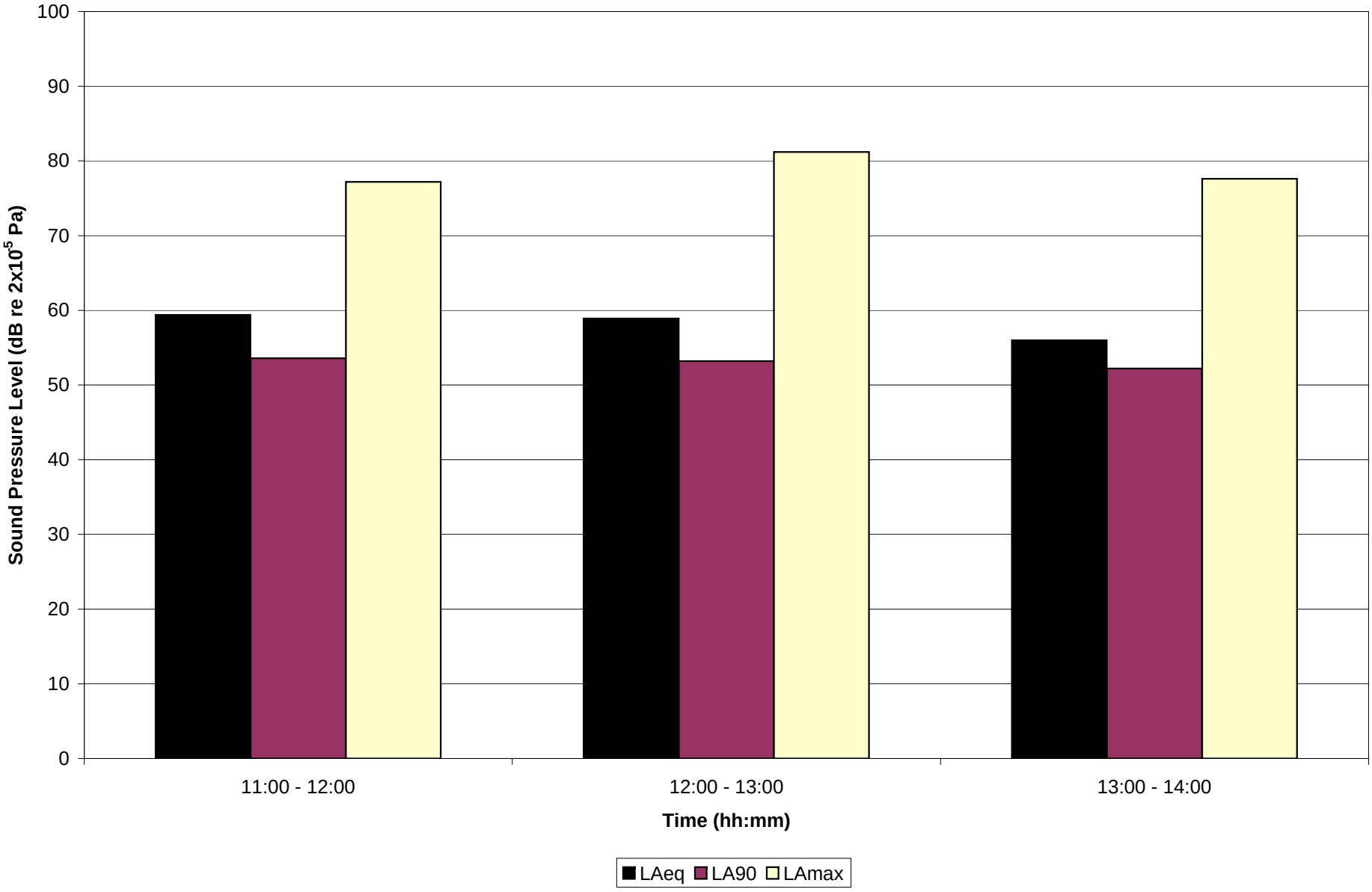
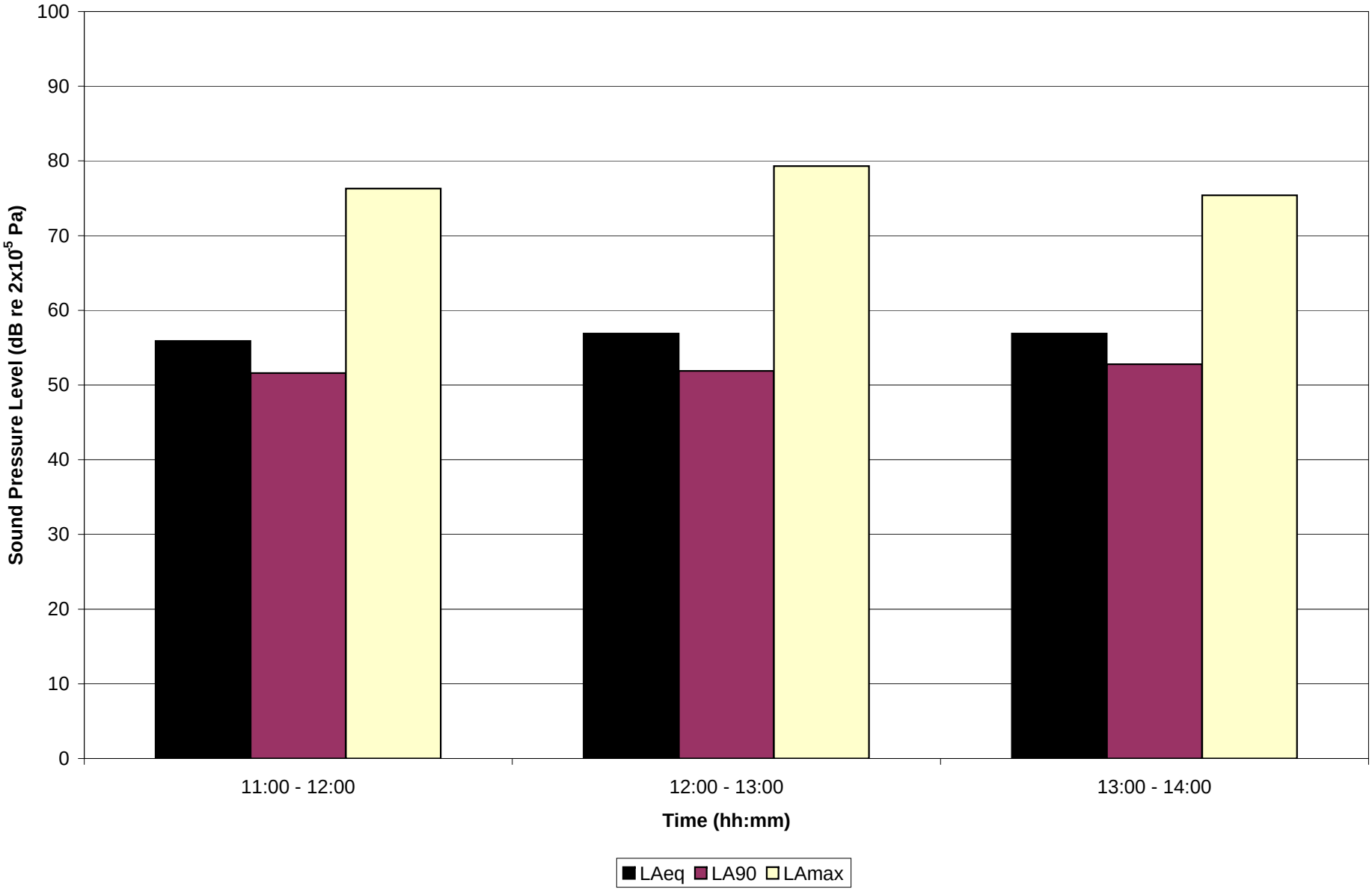
Eversholt House, Eversholt Street
L_{Aeq}, L_{A90} and L_{Amax} Time History
Position 1



2744/G1

Eversholt House, Eversholt Street
L_{Aeq}, L_{A90} and L_{Amax} Time History
Position 2



2744/G2