Cole Jarman

1 Alfred Mews, London

Noise Survey

Report 15/0338/R1

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Smart Energy GB

East Side
King's Cross Station
London
N1C 4AX

Issue	Description	Date	Prepared by	Checked by
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Attachments

1 Introduction

1.1 Planning permission is being sought for an alteration to a small section of façade at the offices at 1 Alfred Mews. The alteration is to include a new louvre and duct which are to serve internal ventilation plant.

1.2 The plant equipment will terminate at the façade via the louvre and duct into the courtyard area created by the surrounding buildings. This report sets out the results of a noise survey which quantifies the background noise climate and establishes suitable plant noise emission limits for the new equipment in line with Camden's planning policy.

2 Site Description

2.1 The site address is 1 Alfred Mews, with the building fronting Tottenham Court Road. The site can be seen in attached site plan 15/0338/SP1.

2.2 The proposal is to replace an existing window with a louvre panel and to utilise a duct (either re-use or replacement of an existing one already installed). This is located in the corner of the site as indicted on figure SP1 at fourth floor level. The louvre and duct will be serving an internally located ventilation unit.

2.3 A number of premises look in to the light well; the majority being office spaces. Typically we would not consider this type of accommodation to be considered noise sensitive (it is typically residential accommodation that is referenced); however we note that Camden's planning policy notes offices as 'noise sensitive'. Planning criteria is described later in the report.

2.4 The closest office windows to the louvre are adjacent at a distance of approximately 3m.

2.5 At the time of the noise survey the property at 1 Alfred Mews as well as those at Tottenham Court Road / Torrington Place were all undergoing refurbishment works. There was a significant amount of scaffolding erected along all façades in the courtyard area to the rear of the building.

2.6 We note there is a significant amount of plant already installed at Alfred Mews and the neighbouring premises.

3 Noise Survey

3.1 Methodology and Instrumentation

3.1.1 An unattended noise survey was undertaken commencing at 1600 hours on 21st July 2015. Measurements were made over consecutive 15 minute periods until 1100 hours the following day.

3.1.2 The noise monitoring equipment was set up in a single location (MP1) shown on the site plan 15/0338/TH01. This was at the rear of the building, at fourth floor level on a tripod on external scaffolding. The microphone was set up at fourth floor level to be set away from any rooftop plant.

3.1.3 Measurements of the L_{Amax}, L_{Aeq} and L_{A90} indices were made (see the Glossary of Acoustic Terms for an explanation of the noise units used).

3.1.4 Noise measurements were made the equipment listed in table T1 below.

Item	Manufacturer	Type
Sound Level Analyser	Norsonic	118
Outdoor Microphone Enclosure	Norsonic	1212
Acoustic Calibrator	Norsonic	1251

T1 Equipment used during noise survey.

3.1.5 The microphone was fitted with a weatherproof windshield and was calibrated before and after the survey to ensure a consistent and acceptable level of accuracy was maintained throughout.

3.1.6 The general weather conditions over the survey period were dry and warm. Wind speeds were typically less than 5m/s, and the site was well sheltered from wind.

3.2 Results

3.2.1 The results of the noise measurements are shown in the attached time history graph 15/0338/TH01. It can be seen that the minimum measured background noise level was 49dB L_{A90} which occurred at 0430 hours.

3.2.2 Noise levels were generally very consistent up until 0700, being dominated by existing mechanical services plant equipment. From 0700 workers arrived with construction activity in full flow from 0830.

3.2.3 We understand that the majority of the plant serving the premises at 1 Alfred Mews was not operational during the survey and the microphone was positioned at fourth floor level in order to ensure it was away from any rooftop plant. It was existing plant serving other premises in the surrounding area which was the dominant noise source.

3.2.4 Although the daytime reading were affected by construction activity the evening and night time periods were unaffected by this temporary activity.

3.2.5 In addition to the existing services noise, there was a level of background noise from Tottenham Court Road which is a busy route through the area.

4 Planning Criteria

4.1 The site falls within the London Borough of Camden. Camden Council policy DP28 – 'Noise and Vibration' found within the Camden Local Development Framework contains quantitative guidance with regards to plant noise emission limits. Table E contained with the 'Development Policies' document under policy DP28 sets out the various noise limits relative to the background or in absolute terms. Table E is reproduced below for reference:

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 façade.	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 façade.	Day, evening and night	0000-2400	10dB(A) $<L_{A90}$
Noise at 1 metre external to sensitive façade where $L_{A90}>60$dB	Day, evening and night	0000-2400	55dB L_{Aeq}

T2 Camden Policy DP28, Table E

4.2 Assuming that any plant does not contain any distinguishable acoustic character, this means that any new mechanical plant items should be designed to a combined level that is at least 5dB(A) below the existing L_{A90} background noise level as measured during the relevant time period. These noise limits are to apply to the combined effect of all plant items running during the appropriate period as measured 1m from the appropriate window.

4.3 The equipment will likely only operate during office hours, but as a worst case we have considered 24 hour operation. Based upon the survey data and the above criteria the noise limit to apply at the relevant receivers is 44dBA. As noted, if any plant has an acoustic character the limit should be reduced by 5dB.

5 Conclusion

5.1 Planning permission is being sought for the installation of a new louvre panel and duct in the façade of offices at 1 Alfred Mews. The development will include the installation of mechanical services plant items.

5.2 Cole Jarman have conducted an environmental noise survey at a location representative of the nearest noise sensitive properties and plant noise limits have been set considering the planning guidance of the local authority.

End of Section

Cole Jarman

Figure 15/0338/SP1

Title: Site plan showing noise survey measurement position

Project: 1 Alfred Mews, London

Date: July 2015

Scale: Not to scale

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Noise Level Time History at Position MP1, 21-22 July 2015

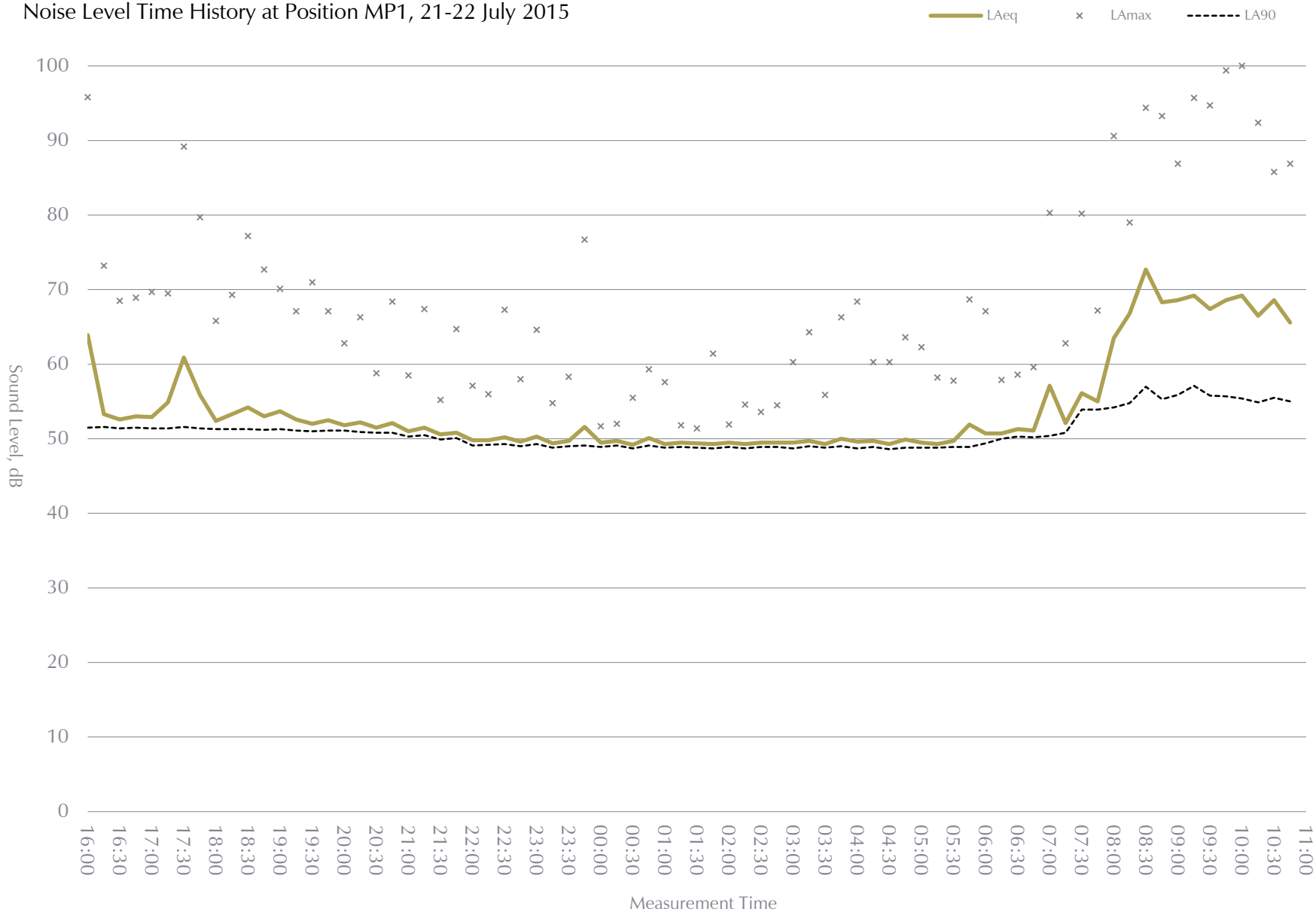

Figure 15/0338/TH01

Glossary of Acoustic Terms

L_{Aeq}:

The notional steady sound level (in dB) which over a stated period of time, would have the same A-weighted acoustic energy as the A-weighted fluctuating noise measurement over that period. Values are sometimes written using the alternative expression dB(A) L_{eq}.

L_{Amax}:

The maximum A-weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise when occasional loud noises occur, which may have little effect on the L_{Aeq} noise level. Unless described otherwise, L_{Amax} is measured using the "fast" sound level meter response.

L_{A10} & L_{A90}:

If non-steady noise is to be described, it is necessary to know both its level and degree of fluctuation. The L_{An} indices are used for this purpose. The term refers to the A-weighted level (in dB) exceeded for n% of the time specified. L_{A10} is the level exceeded for 10% of the time and as such gives an indication of the upper limit of fluctuating noise. Similarly L_{A90} gives an indication of the lower levels of fluctuating noise. It is often used to define the background noise.

L_{A10} is commonly used to describe traffic noise. Values of dB L_{An} are sometimes written using the alternative expression dB(A) L_{n}.

L_{AX}, L_{AE} or SEL

The single event noise exposure level which, when maintained for 1 second, contains the same quantity of sound energy as the actual time varying level of one noise event. L_{AX} values for contributing noise sources can be considered as individual building blocks in the construction of a calculated value of L_{Aeq} for the total noise. The L_{AX} term can sometimes be referred to as Exposure Level (L_{AE}) or Single Event Level (SEL).

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