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SIR RICHARD STEELE PUB, HAVERSTOCK HILL, LONDON

PRELIMINARY PLANNING COMPLIANCE REPORT - PLANT UNITS

Report 10741.PCR.01

For:

Faucet Inn Limited

88-90 George Street

London

W1U 8PA

Site Address	Report Date	Revision History
Sir Richard Steele Pub, Haverstock Hill, London	20/01/2014	Rev.A – 13/02/14

CONTENTS

List of Attachments

1.0 INTRODUCTION

KP Acoustics Ltd, Britannia House, 11 Glenthorne Road, London, W6 0LH, has been commissioned by Faucet Inn Limited, 88-90 George Street, London, W1U 8PA to undertake an environmental noise assessment Sir Richard Steele Pub, Haverstock Hill, London. The background noise levels measured will be used to determine daytime and night-time noise emission criteria for the plant unit installation in agreement with the planning requirements of London Borough of Camden.

This report presents the overall methodology and results from the environmental survey followed by calculations to demonstrate the feasibility of the plant installation to satisfy the emissions criterion at the closest noise-sensitive receiver and outline mitigation measures as appropriate.

2.0 ENVIRONMENTAL NOISE SURVEY AND EQUIPMENT

2.1 Procedure

Automated noise monitoring was undertaken at the position shown in Site Plan 10741.SP1. The location was chosen based on accessibility and on collecting data representative of the worst-case levels expected on the site due to all nearby sources.

Continuous automated monitoring was undertaken for the duration of the survey between 10:20 on 8 January 2014 and 10:50 on 10 January 2014. Weather conditions were generally dry with light winds and therefore suitable for the measurement of environmental noise.

The measurement procedure complied with BS7445:1991 "*Description and measurement of environmental noise, Part 2- Acquisition of data pertinent to land use*".

2.2 Equipment

The equipment calibration was verified before and after the survey and no calibration irregularities were observed.

The equipment used was as follows.

- 1 No. Svantek Type 957 Class 1 Sound Level Meters
- B&K Type 4231 Class 1 Calibrator

3.0 RESULTS

The results from the continuous noise monitoring are shown as a time history of L_{Aeq}, L_{Amax}, L_{A10} and L_{A90} averaged over 5 minute sample periods in Figures 10765.TH1.

Minimum background noise levels are shown in Table 3.1.

	Level dB(A)
Daytime $L_{Aeq,16hour}$	45
Night-time $L_{Aeq,8hour}$	35

Table 3.1: Minimum measured background noise levels

4.0 NOISE CRITERIA

The criterion of London Borough of Camden for noise emissions of new plant units in this instance is as follows:

"The proposed plant and machinery shall be operated so as to ensure that any noise generated is "not audible" outside the nearest residential premises. To demonstrate inaudibility, you will need to provide calculations that show that the plant noise level is 10dBA below the lowest background level (LA90 (15minutes)) 1m from the nearest residential window, over the proposed operating hours. Tonality must also be taken into consideration."

We therefore propose to set the noise criteria as shown in Table 4.1 in order to comply with the above requirement, based on the scheme's proposals for plant unit installation.

	Daytime (07:00 to 23:00)	Night-time (07:00 to 23:00)
Noise criterion at nearest residential receiver (10dB below minimum L_{A90})	35 dB(A)	25 dB(A)

Table 4.1: Proposed Noise Emissions Criteria

5.0 DISCUSSION

Once the plant selections have been confirmed, further calculations will be carried out in order to ensure that the proposals will meet the requirements of London Borough of Camden.

It is understood that there will be no additional plant as part of the proposal and as such, the calculations will be based on the existing and proposed plant used in the extraction system for the kitchen of the public house which are shown to be below the threshold stated in Table 4.1.

6.0 CONCLUSION

An environmental noise impact assessment has been undertaken for Sir Richard Steele Pub, Haverstock Hill, London by KP Acoustics Ltd between 8 January 2014 and 10 January 2014. The results of the survey have enabled criteria to be set for noise emissions from the proposed plant unit installation.

A preliminary noise impact assessment has been undertaken to provide a maximum level which must not be exceeded at nearby residential receivers.

The established background noise level as stated in Table 3.1 is 45 dB(A) during daytime and 35 dB(A) during night-time. In order to protect the amenity of the nearest noise sensitive receivers, the plant should not exceed 35 dB(A) during daytime and 25 dB(A) during night-time as established in Table 4.1.

The existing and proposed plant installation would be designed so as not to exceed the figures stated in Table 4.1. Further calculations will be undertaken once all details of the plant unit installation are finalised. All calculations will be based on relevant British Standard in order to ensure that the amenity of nearby residential receivers will be protected.

Report by
Kyriakos Papanagiotou MIOA
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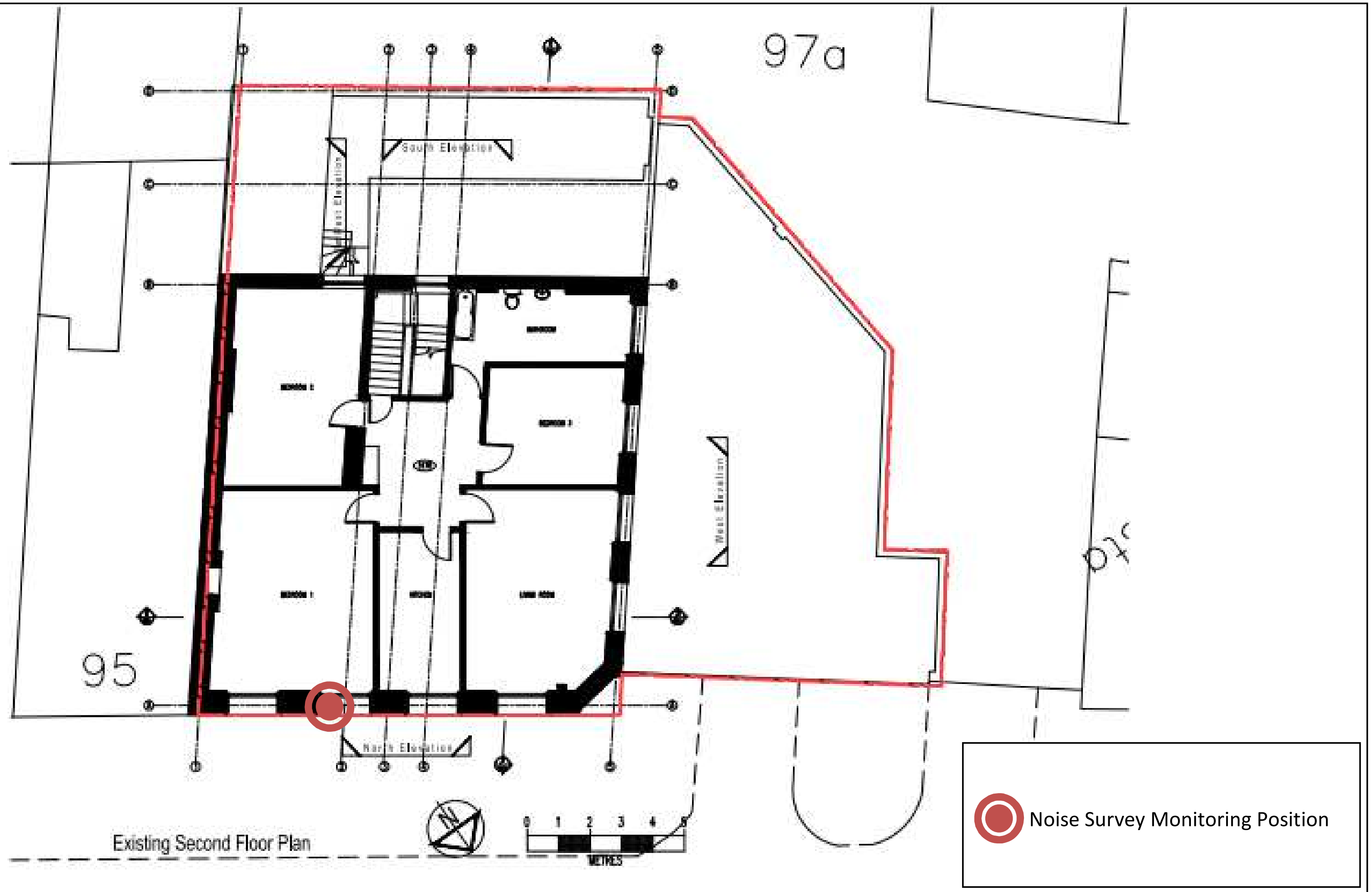

Title:

Indicative site plan showing noise monitoring position

Date: 30 January 2014

FIGURE 10741.SP1

KP acoustics

Sir Richard Steele Pub,Haverstock Hill, London
Environmental Noise Time History
8th January to 10th January 2014

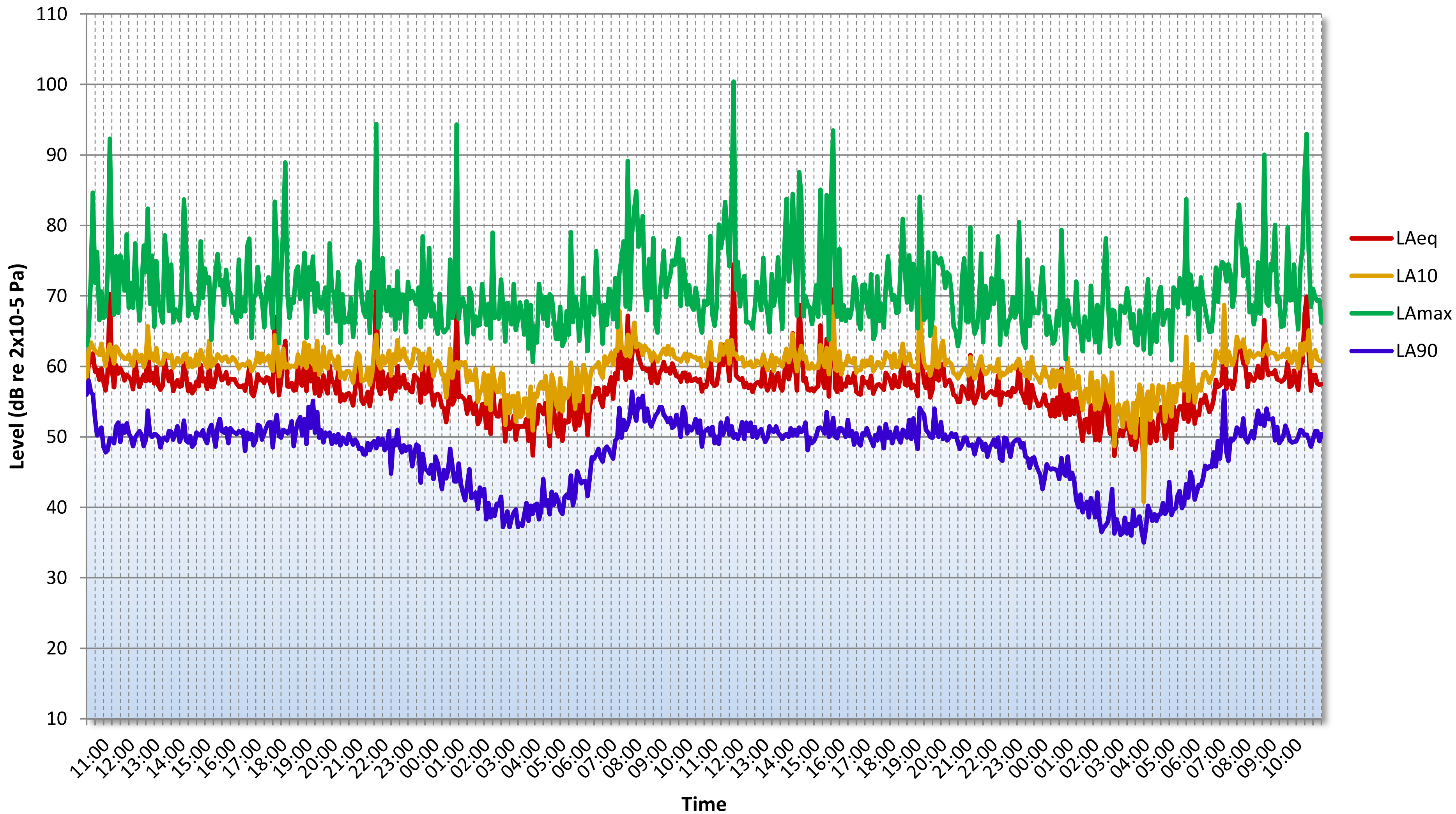

Figure 10741.TH1

APPENDIX A

GENERAL ACOUSTIC TERMINOLOGY

Decibel scale - dB

In practice, when sound intensity or sound pressure is measured, a logarithmic scale is used in which the unit is the 'decibel', dB. This is derived from the human auditory system, where the dynamic range of human hearing is so large, in the order of 10^{13} units, that only a logarithmic scale is the sensible solution for displaying such a range.

Decibel scale, 'A' weighted - dB(A)

The human ear is less sensitive at frequency extremes, below 125Hz and above 16Khz. A sound level meter models the ears variable sensitivity to sound at different frequencies. This is achieved by building a filter into the Sound Level Meter with a similar frequency response to that of the ear, an A-weighted filter where the unit is dB(A).

L_{eq}

The sound from noise sources often fluctuates widely during a given period of time. An average value can be measured, the equivalent sound pressure level L_{eq}. The L_{eq} is the equivalent sound level which would deliver the same sound energy as the actual fluctuating sound measured in the same time period.

L_{10}

This is the level exceeded for no more than 10% of the time. This parameter is often used as a "not to exceed" criterion for noise.

L_{90}

This is the level exceeded for no more than 90% of the time. This parameter is often used as a descriptor of "background noise" for environmental impact studies.

L_{max}

This is the maximum sound pressure level that has been measured over a period.

Octave Bands

In order to completely determine the composition of a sound it is necessary to determine the sound level at each frequency individually. Usually, values are stated in octave bands. The audible frequency region is divided into 11 such octave bands whose centre frequencies are defined in accordance with international standards. These centre frequencies are: 16, 31.5, 63, 125, 250, 500, 1000, 2000, 4000, 8000 and 16000 Hertz.

Environmental noise terms are defined in BS7445, *Description and Measurement of Environmental Noise*.

APPENDIX A

APPLIED ACOUSTIC TERMINOLOGY

Addition of noise from several sources

Noise from different sound sources combines to produce a sound level higher than that from any individual source. Two equally intense sound sources operating together produce a sound level which is 3dB higher than a single source and 4 sources produce a 6dB higher sound level.

Attenuation by distance

Sound which propagates from a point source in free air attenuates by 6dB for each doubling of distance from the noise source. Sound energy from line sources (e.g. stream of cars) drops off by 3dB for each doubling of distance.

Subjective impression of noise

Hearing perception is highly individualised. Sensitivity to noise also depends on frequency content, time of occurrence, duration of sound and psychological factors such as emotion and expectations. The following table is a guide to explain increases or decreases in sound levels for many scenarios.

Change in sound level (dB)	Change in perceived loudness
1	Imperceptible
3	Just barely perceptible
6	Clearly noticeable
10	About twice as loud

Transmission path(s)

The transmission path is the path the sound takes from the source to the receiver. Where multiple paths exist in parallel, the reduction in each path should be calculated and summed at the receiving point. Outdoor barriers can block transmission paths, for example traffic noise. The effectiveness of barriers is dependent on factors such as its distance from the noise source and the receiver, its height and construction.

Ground-borne vibration

In addition to airborne noise levels caused by transportation, construction, and industrial sources there is also the generation of ground-borne vibration to consider. This can lead to structure-borne noise, perceptible vibration, or in rare cases, building damage.

Sound insulation - Absorption within porous materials

Upon encountering a porous material, sound energy is absorbed. Porous materials which are intended to absorb sound are known as absorbents, and usually absorb 50 to 90% of the energy and are frequency dependent. Some are designed to absorb low frequencies, some for high frequencies and more exotic designs being able to absorb very wide ranges of frequencies. The energy is converted into both mechanical movement and heat within the material; both the stiffness and mass of panels affect the sound insulation performance.