Enterprise House, Blyth Road, Hayes, Middx. UB3 1DD

Telephone: 020 8848 3031 Fax: 020 8573 3605

DOUBLE 24 HOUR NOISE LEVEL SURVEY CARRIED OUT ON THE FIRST AND FOURTH FLOOR ROOFS OF THE PROPERTY AT 31-37 WHITFIELD STREET, LONDON AND A REPORT ON THE NOISE CRITERIA REQUIRED TO MINIMISE THE NOISE IMPACT OF ANY PROPOSED NEW AIR CONDITIONING PLANT

Test Engineer : M.G.Roberts

Report Author : .....

M.G.Roberts

Authorised for Release by : .....

R.T.Roberts

Client	:	Peter Deer and Associates.
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1.0. INTRODUCTION

This report details the results of a double 24 hour noise survey carried out on the first floor roof at the rear of the property and on the fourth floor roof at the front of the property at 31-37 Whitfield Street, London.

The objectives of this survey were as follows:

- To establish the existing background noise level enjoyed by the residential properties adjacent to the first floor roof of the property.
- To establish the existing background noise level that exists on the fourth floor roof.
- To set noise criteria for any new Air Conditioning or Ventilation plant that might be mounted onto the first or fourth floor roof of the building as part of the refurbishment of this property.

This report has been divided into the following sections for ease of analysis:

2.0. TEST INSTRUMENTATION

All measurement equipment used during the survey complied with the requirements of BS4142:1990 "Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas". Details of the equipment are as follows:

Integrating Sound Level Meter	: Bruel & Kjaer type 2231 fitted with a Bruel & Kjaer type 4155 ½ inch condenser microphone.
Statistical Analysis Module	: Bruel & Kjaer type BZ 7115 capable of computing the percentile levels L1, L10, L50, L90 and L99 and also the Leq level.
Acoustic Calibrator	: Bruel & Kjaer type 4231 electronic calibrator.

Calibration was performed before and after the survey and found to be, in all cases, +/- 0.1 dB from the reference source.

3.0. TEST PROCEDURE

The surveys were conducted during a continuous 23 hour period from 16.40pm on Monday the 30th of January 2006 to 16.10pm on Tuesday 31st January 2006.

Data was continuously acquired throughout the measurement period with the individual averaging time for statistical noise data set to 20 minutes. The following statistical measurements were recorded concurrently:

LA1 - The Sound Pressure Level exceeded for 1% of the measurement period.

LA10 - The Sound Pressure Level exceeded for 10% of the measurement period.

LA50 - The Sound Pressure Level exceeded for 50% of the measurement period.

LA90 - The Sound Pressure Level exceeded for 90% of the measurement period. LA90 is considered to represent the "background noise level" during the measurement period and is used for the assessment of noise to determine the likelihood of complaints (See BS 4142).

LA99 - The Sound Pressure Level exceeded for 99% of the measurement period.

LAeq - The continuous steady state Sound Pressure Level that has the same total acoustic energy as the real fluctuating level.

All noise levels recorded were filtered using a standard 'A' Weighting filter.

3.1. Measurement Position

The noise levels were measured at a position in the centre of the fourth floor roof in front of the plantroom and equidistant from the plantroom ang the front edge of the building. The microphone was positioned so that it was pointing towards the offices on the other side of Whitfield Street

The noise levels on the first floor roof were measured at the edge of the roof equidistant between the back of the four storey section of the building and the rear of the single storey section of the building.

The microphone was positioned so that it was pointing towards the residential properties situated on the left hand side of the rear of the premises.

The microphone was approximately 1.2 metres above the roof level. The rest of the measurement equipment was located in a weatherproof enclosure with a low impedance cable running from the instrumentation to the microphone.

3.2. Weather Conditions

The weather conditions prevailing during the measurement period were in line with those recommended in BS 4142:1990 with no precipitation and no wind. The weather was clear and cold throughout the daytime and nightime period.

The microphone was protected throughout the tests by an acoustically transparent wind balloon.

4.0. RESULTS

The raw test data, gathered during the 23 hour noise survey, is given in Appendix A of this report.

The 'A' Weighted Leq levels measured over each 20 minute interval throughout the 23 hour period (denoted by LAeq, (20 mins)) are displayed as bar graphs on the attached Sketches No. QF/4875/T1 and QF/4875/T3 at the back of this report.

The 'A' Weighted percentile levels measured over each 20 minute interval denoted by LA10 (20 mins), LA50 (20 mins) and LA90 (20 mins) are displayed as line graphs on the attached Sketches No. QF/4875/T2 and QF/4875/T4 at the back of this report.