THE

EQUUS

PARTNERSHIP

CONSULTANTS IN
ACOUSTICS

EPL: 6280

14 ATLANTIC HOUSE
LONDON NW1

NOISE ASSESSMENT REPORT

28TH SEPTEMBER, 2006

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1.0 INTRODUCTION

It is proposed to install a new roof mounted heat pump unit. The London Borough of Camden have requested that an assessment of atmospheric noise emissions from the proposed new plant item is undertaken in order to ensure the amenity of neighbouring properties is not compromised.

The Equus Partnership Ltd has therefore been commissioned to undertake a noise survey to establish existing background noise levels at the site, to discuss The London Borough of Camden's standard noise control policy regarding noise emissions and to assess noise emissions from the proposed plant in light of these requirements.

2.0 SITE LOCATION

The subject premises comprise a large four storey, mixed use building with a public house, a food retail use and a gymnasium on the ground floor, offices on the first floor and residential accommodation on the second and third floors. The new plant item is to be located on the main flat roof of the building in the position shown on the relevant Simon Miller Architects drawing accompanying the planning application. The closest residential windows are to neighbouring apartments in the same building and are located approximately 8m to the north of the plant location in a lightwell, and in a roof mounted roof light approximately 8m to the south of the plant location.

2.0 PROPOSED PLANT

The proposed plant comprises one Mitsubishi MXZ-4A80VA Inverter Heat Pump, for which the manufacturer's quote a noise level of 46 dB(A) at 1m.

3.0 ENVIRONMENTAL NOISE SURVEY

The plant may be required to operate at any time and therefore in order to determine the current background noise levels, a 24 hour environmental noise survey was undertaken between 16.00 on 26th September and 16.00 on 27th September 2006. The results of the survey are shown on the attached table ***6280/T1***.

The noise level was measured at a position on the roof near the proposed plant location, with the L_{Aeq} and L_{A90} values being recorded over consecutive 15 minute periods. Please refer to ***Appendix A*** for an explanation of the acoustic terminology used above.

3.1 Instrumentation

The following instrumentation was used for the survey:

Brüel and Kjær Precision Sound Level Meter	Type 2260B
Brüel and Kjær ½" Condenser Microphone	Type 4189
Brüel and Kjær Sound Level Calibrator	Type 4230
Brüel and Kjær ½" Windshield	Type UA 0237

The sound level meter was calibrated prior to the survey and the calibration was checked upon completion. No drift was found to have occurred.

3.2 Survey Results

Noise levels were dominated by traffic on the surrounding streets, although noise from plant items associated with neighbouring buildings was also thought to be influencing the results. The lowest background noise level was measured between 02.00 and 03.00 and was 40 dB L_{A90}.

The weather during the survey was mild and dry with light winds.

4.0 ACOUSTIC DESIGN TARGETS

The London Borough of Camden's standard planning condition requires that atmospheric noise emissions from new installations should be at least 10dB(A) below the lowest background (L_{A90}) sound level when assessed at 1m from the nearest residential window. Based on the results of the environmental noise survey this would equate to criterion of 30 dB(A) to be achieved at the identified locations.

5.0 ASSESSMENT

Based on the manufacturer's plant noise data and acoustic design targets outlined above, an assessment of noise emissions from the proposed plant items has been

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5.0 ASSESSMENT

Based on the manufacturer's plant noise data and acoustic design targets outlined above, an assessment of noise emissions from the proposed plant items has been

undertaken. Due allowance has been made for the distance between the respective plant locations and the identified neighbouring properties, and any losses due to screening etc.

With the plant item operating the noise level at the roof light to the south of the plant location is calculated to be 29 dB(A), and 27 dB(A) at the nearest window in the lightwell to the north.. These values are both lower than the design target value of 30 dB(A), and it is therefore concluded that noise emissions from the proposed plant will fully comply with the Local Authority's noise requirements.

6.0 STRUCTUREBORNE NOISE AND VIBRATION

In order to protect the amenity of the adjoining residential properties we would also recommend that consideration be given to the control of structure-borne noise and vibration. To minimise the transmission of noise and/or vibration into the building structure it is recommended that the unit should be mounted on suitable proprietary neoprene-in-shear vibration isolators, that there should be no other rigid connection between the unit and the building structure, that electrical connections should be via looped flexible cables (not rigid conduits), and that all associated pipework should be fixed using over-sized clips with neoprene inserts throughout its entire length.

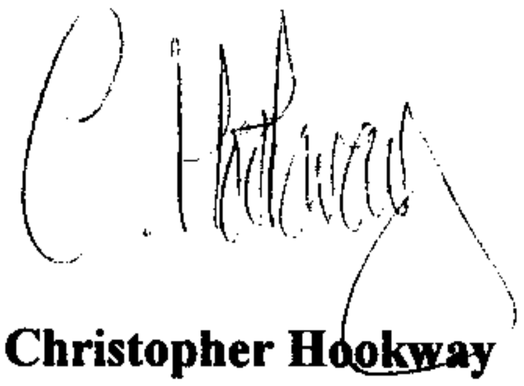
7.0 CONCLUSIONS

A critical period environmental noise survey has been undertaken in order to establish prevailing background noise levels around the site.

Based on manufacturer's noise data for the proposed new unit, noise emissions to the identified nearest residential and commercial properties have been assessed.

Calculations confirm that noise emissions will be adequately controlled in accordance with The London Borough of Camden's standard noise control policy for new plant

installations. Advice regarding the control of structure-borne noise and vibration has also been provided.



Christopher Hookway
THE EQUUS PARTNERSHIP LTD.