

Unit 21, Riverside Studios 28 Park Street London SE1 9EQ Tel: (+44) 20 7403 3808 Fax: (+44) 20 7403 0957

Acoustic Report

Nat West Bank, Euston Road

RECEIVED 30 MAY 2007

Prepared by Chris Walls

24 May 2007



.

.

| 1 | Summary | 3 | | | | |
|--------------------------------|--------------------------|----|--|--|--|--|
| 2 | Introduction | 4 | | | | |
| 3 | Noise Criteria | 4 | | | | |
| 4 | Site and Surroundings | 4 | | | | |
| 5 | Noise survey | 5 | | | | |
| 6 | Noise assessment | 7 | | | | |
| 7 | Conclusions | 7 | | | | |
| Appendix 1 – Noise Survey Data | | | | | | |
| Ap | pendix 2 – Calculations | 10 | | | | |
| Ap | Appendix 3 – Definitions | | | | | |

÷...



1 Summary

Munro Acoustics were commissioned by Troup, Bywaters & Anders to carry out a noise survey at 350 Euston Road, London to ascertain whether the noise level at the nearest noise sensitive window due to proposed plant equipment would meet the requirements set by Camden Council. Our calculations found that noise from the proposed plant comfortably meets the council's requirements.



2 Introduction

Munro Acoustics were commissioned by Troup, Bywaters & Anders to carry out a noise survey at 350 Euston Road, London. The purpose of the survey was to ascertain whether noise from the proposed plant will meet the requirements of Camden Council.

3 Noise Criteria

350 Euston Road falls in the borough of Camden. The requirement in this area is that the L_{Aeq} due to the plant should be at least 5 dB below the existing background noise level (L_{A90}) at the nearest sensitive residential window.

4 Site and Surroundings

The proposed plant location is at the rear of a bank located at ground floor level (see Figure 1). The nearest noise sensitive window is at the Melia White House Hotel on Albany Street (see Figure 2). This is approximately 50 m from the plant room (see Figure 3) The main sources of noise are traffic noise from Euston Road & Albany Street and construction noise from various sites. Subjectively, the background noise level at the hotel façade is very high even when construction noise stops.



Melia White House Hotel

These building now demolished to be replaced with commercial properties.

350 Euston Road



Figure 3 Louvred plant room

5 Noise survey

A Neutrik NC10 sound analyser and an MTG WME250 weatherproof microphone were used for the noise survey. The equipment was checked for calibration using a Castle GA607 calibrator before and after the measurement, no drift was detected. Noise measurements were carried out



between 16:15 on 18 May and 10:15 on 21 May 2007. Measurements were taken in 15-minute segments.

The microphone was positioned on the roof of 350 Euston Road away from any plant equipment. The noise sources at this location were the same as at the hotel façade and were, subjectively, at a similar level. The lowest measured background noise level during the entire noise survey was $L_{A90} = 51.3$ dB. The lowest measured background noise level during office hours (08:30 – 18:00) was 53.1 dB (measured on a Sunday, as construction work made measurement during a working day impossible).

Camden Council requires that L_{Aeq} noise from plant equipment is at least 5 dB below the background noise level. For plant operating 24 hours a day, seven days a week the noise level due to the new plant must not exceed 46.3 dB at the hotel façade. For plant operating during normal business hours the noise level due to the new plant must not exceed 48.1 dB at the hotel façade.

Measurement data is given in Appendix 1. Weather conditions during the survey were warm with light drizzle.



Figure 4 Noise survey data



6 Noise assessment

The plant equipment is to be installed in a louvered plant room. This will provide some noise attenuation to outside, though this hasn't been included in the calculations as the exact construction is unknown. Further attenuation will also be provided by the commercial development that is currently under construction between 350 Euston Road and the White House Hotel.

The predicted noise level at the nearest sensitive window due to the plant operating 24 hours a day, seven days a week (2 off Daikin RZQ71B) is $L_{Aeq} = 27.3$ dB. This is well below Camden Council's requirement of $L_{Aeq} \le 46.3$ dB.

The predicted noise level at the nearest sensitive window due to the plant operating during office hours (2 off Daikin RZQ71B, 1 off Daikin REYQ14M, 1 off Daikin VAM2000) is $L_{Aeq} = 41.2$ dB. This is comfortably below Camden Council's requirement of $L_{Aeq} \leq 48.1$ dB.

7 Conclusions

The predicted noise levels due to the proposed plant equipment meet the requirements set by Camden Council. The actual noise levels at the nearest sensitive window will be lower than those calculated due to the louvered plant room and an acoustic barrier formed by the new commercial buildings on Albany Street.



Appendix 1 – Noise Survey Data

| Date | Start | End | l I dB | Data | Start | End | مەت ئا | Data | Start | End | مب با |
|------------|-------|-------|--------|------------|-------|-------|--------------|------------|--------------|-------|-------------|
| 18/05/2007 | 16.15 | 16-30 | 72.3 | 19/05/2007 | 04:15 | 04:30 | 665 | 10/05/2007 | 46.46 | 10,20 | 4 A90 * 0 B |
| 18/05/2007 | 16:30 | 16:45 | 744 | 19/05/2007 | 04.30 | 04.30 | 50.0 | 10/05/2007 | 10.10 | 10:30 | 50.4 |
| 18/05/2007 | 16:45 | 17:00 | 70.6 | 19/05/2007 | 04.30 | 05:00 | 54.0 | 19/05/2007 | 10.30 | 10.40 | 56.0 |
| 18/05/2007 | 17:00 | 17:15 | 70.2 | 10/05/2007 | 05.00 | 05.00 | 54.2 | 19/05/2007 | 10.40 | 47:45 | 55.7 |
| 18/05/2007 | 17-15 | 17-30 | 60.8 | 19/05/2007 | 05.00 | 05.10 | 04.4 64.6 | 19/05/2007 | 17:00 | 17:15 | 55.7 |
| 19/05/2007 | 17:10 | 17-45 | 60.6 | 10/05/2007 | 05.10 | 05.30 | 54.5 | 19/05/2007 | 17:15 | 17:30 | 55.8 |
| 19/05/2007 | 17.46 | 18:00 | 60.5 | 19/03/2007 | 00.30 | 05.45 | 54.9 | 19/05/2007 | 17:30 | 17:45 | 56.0 |
| 18/05/2007 | 18-00 | 18:45 | 60.5 | 10/05/2007 | 05.45 | 00.00 | 55.1 | 19/05/2007 | 17:45 | 18:00 | 55.8 |
| 19/05/2007 | 19-16 | 10.10 | 60.0 | 19/05/2007 | 00.00 | 06.15 | 55.2 | 19/05/2007 | 18:00 | 18:15 | 56.0 |
| 19/05/2007 | 10.10 | 10.30 | 60.9 | 19/05/2007 | 06:10 | 00:30 | 57.Z | 19/05/2007 | 18:15 | 18:30 | 56.0 |
| 19/05/2007 | 10.30 | 10:40 | 60.3 | 19/05/2007 | 00:30 | 00:45 | 55.4 | 19/05/2007 | 18:30 | 18:45 | 55.7 |
| 10/05/2007 | 10.40 | 19.00 | 60.2 | 19/05/2007 | 00:40 | 07:00 | 55.4 | 19/05/2007 | 18:45 | 19:00 | 55.6 |
| 10/05/2007 | 19:00 | 19:15 | 50.0 | 19/05/2007 | 07:00 | 07:15 | 57.1 | 19/05/2007 | 19:00 | 19:15 | 55.8 |
| 10/05/2007 | 19:15 | 19:30 | 50.1 | 19/05/2007 | 07:15 | 07:30 | 56.6 | 19/05/2007 | 19:15 | 19:30 | 55.6 |
| 10/05/2007 | 19:30 | 19:45 | 57.6 | 19/05/2007 | 07:30 | 07:45 | 56.5 | 19/05/2007 | 19:30 | 19:45 | 55.4 |
| 18/05/2007 | 19:40 | 20:00 | 57.0 | 19/05/2007 | 07:45 | 08:00 | 58.3 | 19/05/2007 | 19:45 | 20:00 | 55.3 |
| 10/05/2007 | 20:00 | 20:15 | 57.3 | 19/05/2007 | 08:00 | 08:15 | 72.3 | 19/05/2007 | 20:00 | 20:15 | 55.8 |
| 18/05/2007 | 20:15 | 20:30 | 57.0 | 19/05/2007 | 08:15 | 08:30 | /5.1 | 19/05/2007 | 20:15 | 20:30 | 55.6 |
| 18/05/2007 | 20:30 | 20:45 | 56.6 | 19/05/2007 | 08:30 | 08:45 | /3.8 | 19/05/2007 | 20:30 | 20:45 | 55.9 |
| 18/05/2007 | 20:45 | 21:00 | 56.7 | 19/05/2007 | 08:45 | 09:00 | 76.5 | 19/05/2007 | 20:45 | 21:00 | 55.5 |
| 18/05/2007 | 21:00 | 21:15 | 56.8 | 19/05/2007 | 09:00 | 09:15 | 73.3 | 19/05/2007 | 21:00 | 21:15 | 54.9 |
| 18/05/2007 | 21:15 | 21:30 | 56.3 | 19/05/2007 | 09:15 | 09:30 | 74.4 | 19/05/2007 | 21:15 | 21:30 | 54.9 |
| 18/05/2007 | 21:30 | 21:45 | 56.4 | 19/05/2007 | 09:30 | 09:45 | 71.7 | 19/05/2007 | 21:30 | 21:45 | 54.9 |
| 18/05/2007 | 21:45 | 22:00 | 56.8 | 19/05/2007 | 09:45 | 10:00 | 70.0 | 19/05/2007 | 21:45 | 22:00 | 55.0 |
| 18/05/2007 | 22:00 | 22:15 | 56.3 | 19/05/2007 | 10:00 | 10:15 | 63.5 | 19/05/2007 | 22:00 | 22:15 | 55.2 |
| 18/05/2007 | 22:15 | 22:30 | 56.4 | 19/05/2007 | 10:15 | 10:30 | 64.3 | 19/05/2007 | 22:15 | 22:30 | 55.3 |
| 18/05/2007 | 22:30 | 22:45 | 55.9 | 19/05/2007 | 10:30 | 10:45 | 65.3 | 19/05/2007 | 22:30 | 22:45 | 55.1 |
| 18/05/2007 | 22:45 | 23:00 | 56.5 | 19/05/2007 | 10:45 | 11:00 | 74.3 | 19/05/2007 | 22:45 | 23:00 | 55.1 |
| 18/05/2007 | 23:00 | 23:15 | 56.5 | 19/05/2007 | 11:00 | 11:15 | 74.3 | 19/05/2007 | 23:00 | 23:15 | 55.6 |
| 18/05/2007 | 23:15 | 23:30 | 56.4 | 19/05/2007 | 11:15 | 11:30 | 71.9 | 19/05/2007 | 23:15 | 23:30 | 55.0 |
| 18/05/2007 | 23:30 | 23:45 | 56.0 | 19/05/2007 | 11:30 | 11:45 | 71.1 | 19/05/2007 | 23:30 | 23:45 | 55.2 |
| 18/05/2007 | 23:45 | 00:00 | 56.1 | 19/05/2007 | 11:45 | 12:00 | 72.9 | 19/05/2007 | 23:45 | 00:00 | 54.9 |
| 19/05/2007 | 00:00 | 00:15 | 56.3 | 19/05/2007 | 12:00 | 12:15 | 73.2 | 20/05/2007 | 00:00 | 00:15 | 55.5 |
| 19/05/2007 | 00:15 | 00:30 | 56.9 | 19/05/2007 | 12:15 | 12:30 | 76.5 | 20/05/2007 | 00:15 | 00:30 | 54.6 |
| 19/05/2007 | 00:30 | 00:45 | 56.1 | 19/05/2007 | 12:30 | 12:45 | 72.3 | 20/05/2007 | 00:30 | 00:45 | 55.2 |
| 19/05/2007 | 00:45 | 01:00 | 56.1 | 19/05/2007 | 12:45 | 13:00 | 58.8 | 20/05/2007 | 00:45 | 01:00 | 54.7 |
| 19/05/2007 | 01:00 | 01:15 | 55.6 | 19/05/2007 | 13:00 | 13:15 | 59.0 | 20/05/2007 | 01:00 | 01:15 | 55.1 |
| 19/05/2007 | 01:15 | 01:30 | 55.4 | 19/05/2007 | 13:15 | 13:30 | 58.4 | 20/05/2007 | 01:15 | 01:30 | 54.9 |
| 19/05/2007 | 01:30 | 01:45 | 56.1 | 19/05/2007 | 13:30 | 13:45 | 58.4 | 20/05/2007 | 01:30 | 01:45 | 54.8 |
| 19/05/2007 | 01:45 | 02:00 | 55.8 | 19/05/2007 | 13:45 | 14:00 | 58.4 | 20/05/2007 | 01:45 | 02:00 | 54.2 |
| 19/05/2007 | 02:00 | 02:15 | 55.1 | 19/05/2007 | 14:00 | 14:15 | 58.8 | 20/05/2007 | 02:00 | 02:15 | 54.3 |
| 19/05/2007 | 02:15 | 02:30 | 55.7 | 19/05/2007 | 14:15 | 14:30 | 58.6 | 20/05/2007 | 02:15 | 02:30 | 54.7 |
| 19/05/2007 | 02:30 | 02:45 | 55.0 | 19/05/2007 | 14:30 | 14:45 | 58.7 | 20/05/2007 | 02:30 | 02:45 | 54.4 |
| 19/05/2007 | 02:45 | 03:00 | 55.3 | 19/05/2007 | 14:45 | 15:00 | 58.6 | 20/05/2007 | 02:45 | 03:00 | 53.7 |
| 19/05/2007 | 03:00 | 03:15 | 54.6 | 19/05/2007 | 15:00 | 15:15 | 58.6 | 20/05/2007 | 03:00 | 03:15 | 54.2 |
| 19/05/2007 | 03:15 | 03:30 | 55.0 | 19/05/2007 | 15:15 | 15:30 | 58.5 | 20/05/2007 | 03:15 | 03:30 | 54.4 |
| 19/05/2007 | 03:30 | 03:45 | 55.1 | 19/05/2007 | 15:30 | 15:45 | 58.5 | 20/05/2007 | 03:30 | 03:45 | 54.0 |
| 19/05/2007 | 03:45 | 04:00 | 55.4 | 19/05/2007 | 15:45 | 16:00 | 58.6 | 20/05/2007 | 03:45 | 04:00 | 54.1 |
| 19/05/2007 | 04:00 | 04:15 | 55.2 | 19/05/2007 | 16:00 | 16:15 | 56.1 | 20/05/2007 | 04:00 | 04:15 | 53.5 |



.

.

| Date | Start | End | L 490 - d8 | Date | Start | End | L A90 - dB | Date | Start | End | LASO - dB |
|------------|-------|-------|------------|-------------|-------|---------|------------|-------------|-------|---------|-----------|
| 20/05/2007 | 04:15 | 04:30 | 53.8 | 20/05/2007 | 16:15 | 16:30 | 54.0 | 21/05/2007 | 04:15 | 04:30 | 52.2 |
| 20/05/2007 | 04:30 | 04:45 | 53.1 | 20/05/2007 | 16:30 | 16:45 | 53.6 | 21/05/2007 | 04:30 | 04:45 | 52.8 |
| 20/05/2007 | 04:45 | 05:00 | 53.4 | 20/05/2007 | 16:45 | 17:00 | 53.5 | 21/05/2007 | 04:45 | 05:00 | 52.3 |
| 20/05/2007 | 05:00 | 05:15 | 53.4 | 20/05/2007 | 17:00 | 17:15 | 53.6 | 21/05/2007 | 05:00 | 05:15 | 52.4 |
| 20/05/2007 | 05:15 | 05:30 | 53.4 | 20/05/2007 | 17:15 | 17:30 | 53.7 | 21/05/2007 | 05:15 | 05:30 | 53.0 |
| 20/05/2007 | 05:30 | 05:45 | 54.3 | 20/05/2007 | 17:30 | 17:45 | 53.3 | 21/05/2007 | 05:30 | 05:45 | 54.2 |
| 20/05/2007 | 05:45 | 06:00 | 54.4 | 20/05/2007 | 17:45 | 18:00 | 53.1 | 21/05/2007 | 05:45 | 06:00 | 53.6 |
| 20/05/2007 | 06:00 | 06:15 | 53.6 | 20/05/2007 | 18:00 | 18:15 | 53.7 | 21/05/2007 | 06:00 | 06:15 | 54.3 |
| 20/05/2007 | 06:15 | 06:30 | 53.7 | 20/05/2007 | 18:15 | 18:30 | 53.3 | 21/05/2007 | 06:15 | 06:30 | 54.4 |
| 20/05/2007 | 06:30 | 06:45 | 53.9 | 20/05/2007 | 18:30 | 18:45 | 53.3 | 21/05/2007 | 06:30 | 06:45 | 54.6 |
| 20/05/2007 | 06:45 | 07:00 | 53.1 | 20/05/2007 | 18:45 | 19:00 | 53.4 | 21/05/2007 | 06:45 | 07:00 | 55.1 |
| 20/05/2007 | 07:00 | 07:15 | 52.8 | 20/05/2007 | 19:00 | 19:15 | 53.2 | 21/05/2007 | 07:00 | 07:15 | 57.6 |
| 20/05/2007 | 07:15 | 07.30 | 53.1 | 20/05/2007 | 19:15 | 19:30 | 53.0 | 21/05/2007 | 07:15 | 07:30 | 57.4 |
| 20/05/2007 | 07:30 | 07:45 | 53.0 | 20/05/2007 | 19:30 | 19:45 | 53.3 | 21/05/2007 | 07:30 | 07:45 | 58.4 |
| 20/05/2007 | 07:45 | 08:00 | 53.6 | 20/05/2007 | 19:45 | 20:00 | 53.2 | 21/05/2007 | 07:45 | 08:00 | 59.7 |
| 20/05/2007 | 08:00 | 08:15 | 56.4 | 20/05/2007 | 20.00 | 20.15 | 53 3 | 21/05/2007 | 08:00 | 08:15 | 63.8 |
| 20/05/2007 | 08-15 | 08:30 | 56.5 | 20/05/2007 | 20:15 | 20:30 | 53.0 | 21/05/2007 | 08-15 | 08:30 | 73.3 |
| 20/05/2007 | 08:30 | 08:45 | 56.6 | 20/05/2007 | 20:30 | 20:45 | 53.0 | 21/05/2007 | 08:30 | 08:45 | 74.4 |
| 20/05/2007 | 08:45 | 09:00 | 56.3 | 20/05/2007 | 20:45 | 21.00 | 52.9 | 21/05/2007 | 08:45 | 09.00 | 74.6 |
| 20/05/2007 | 09:00 | 09:15 | 57.0 | 20/05/2007 | 21:00 | 21.15 | 52.8 | 21/05/2007 | 09.00 | 09:15 | 73.9 |
| 20/05/2007 | 09.15 | 09:30 | 56.4 | 20/05/2007 | 21:15 | 21:30 | 52.8 | 21/05/2007 | 09:15 | 09:30 | 77.1 |
| 20/05/2007 | 09:30 | 09:45 | 57.1 | 20/05/2007 | 21:30 | 21.45 | 52.8 | 21/05/2007 | 09:30 | 09:45 | 75.8 |
| 20/05/2007 | 09:45 | 10:00 | 56.6 | 20/05/2007 | 21.45 | 22.00 | 53.3 | 21/05/2007 | 09:45 | 10:00 | 717 |
| 20/05/2007 | 10:00 | 10:15 | 57.3 | 20/05/2007 | 22:00 | 22:15 | 53.7 | 21/05/2007 | 10:00 | 10:15 | 69.4 |
| 20/05/2007 | 10:15 | 10:30 | 57.1 | 20/05/2007 | 22:15 | 22:30 | 53.5 | 2.000.200.1 | | 1 10.10 | |
| 20/05/2007 | 10:10 | 10:45 | 57.2 | 20/05/2007 | 22:30 | 22:45 | 54.0 | | | | |
| 20/05/2007 | 10:45 | 11.00 | 57.2 | 20/05/2007 | 22:45 | 23:00 | 53.3 | | | | |
| 20/05/2007 | 11:00 | 11:15 | 56.9 | 20/05/2007 | 23:00 | 23:15 | 53.7 | | | | |
| 20/05/2007 | 11:15 | 11:30 | 57.3 | 20/05/2007 | 23.15 | 23:30 | 53.3 | | | | |
| 20/05/2007 | 11:30 | 11:45 | 57.0 | 20/05/2007 | 23.30 | 23:45 | 53.0 | | | | |
| 20/05/2007 | 11:45 | 12:00 | 56.9 | 20/05/2007 | 23:45 | 00.00 | 52.2 | | | | |
| 20/05/2007 | 12.00 | 12:15 | 56.5 | 21/05/2007 | 00.00 | 00.15 | 52.1 | | | | |
| 20/05/2007 | 12:15 | 12:30 | 56.7 | 21/05/2007 | 00:15 | 00:30 | 52.2 | | | | |
| 20/05/2007 | 12:30 | 12:45 | 57.2 | 21/05/2007 | 00:30 | 00.45 | 52.3 | | | | |
| 20/05/2007 | 12:45 | 13:00 | 56.9 | 21/05/2007 | 00:45 | 01:00 | 52.2 | | | | |
| 20/05/2007 | 13:00 | 13:15 | 57.1 | 21/05/2007 | 01.00 | 01.15 | 517 | | | | |
| 20/05/2007 | 13:15 | 13:30 | 57.2 | 21/05/2007 | 01:15 | 01:30 | 51.7 | | | | |
| 20/05/2007 | 13:30 | 13:45 | 56.8 | 21/05/2007 | 01:30 | 01:45 | 51.5 | | | | |
| 20/05/2007 | 13:45 | 14:00 | 57.4 | 21/05/2007 | 01:45 | 02:00 | 51.3 | | | | |
| 20/05/2007 | 14:00 | 14:15 | 57.1 | 21/05/2007 | 02:00 | 02:15 | 51.7 | | | | |
| 20/05/2007 | 14:15 | 14:30 | 56.6 | 21/05/2007 | 02:15 | 02:30 | 51.6 | | | | |
| 20/05/2007 | 14:30 | 14:45 | 57.3 | 21/05/2007 | 02:30 | 02:45 | 51.5 | | | | |
| 20/05/2007 | 14 45 | 15 00 | 56.7 | 21/05/2007 | 02:45 | 03 00 | 514 | | | | |
| 20/05/2007 | 15:00 | 15:15 | 56.9 | 21/05/2007 | 03:00 | 03.15 | 51.5 | | | | |
| 20/05/2007 | 15:15 | 15:30 | 57.1 | 21/05/2007 | 03.15 | 03:30 | 51.5 | | | | |
| 20/05/2007 | 15:30 | 15:45 | 56.7 | 21/05/2007 | 03:30 | 03:45 | 51.9 | | | | |
| 20/05/2007 | 15:45 | 16:00 | 57.1 | 21/05/2007 | 03:45 | 04:00 | 51.5 | | | | |
| 20/05/2007 | 16:00 | 16:15 | 54.4 | 21/05/2007 | 04:00 | 04.15 | 51.8 | | | | |
| 20100/2001 | 10.00 | 10.10 | 1 04.4 | 2 1100/2007 | 04.00 | 1 04.10 | 01.0 | | | | |

24 MAY 2007



Appendix 2 – Calculations

For plant running 24/7, L Arg < 46.3dB

| 2 x RZQ71B | Octave Band Centre Frequency | | | | | | | | | |
|--------------------------------|------------------------------|--------|--------|--------|-------|-------|-------|-------|--|--|
| | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz | | |
| Sound Power of unit | 67 | 69 | 63 | 62 | 58 | 50 | 49 | 46 | | |
| Distance correction & constant | -42 | -42 | -42 | -42 | -42 | -42 | -42 | -42 | | |
| A-weighting | -26.2 | -16.1 | -8.6 | -3.2 | 0 | 1.2 | 0.8 | -2 | | |
| Façade correction | 3 | | | | | | | | | |
| Level at façade (2 units) | 27.3 | dB | | | | | | | | |

For plant running office hours, L_{Aeq} < 48.1 dB

| 2 x RZQ71B | Octave Band Centre Frequency | | | | | | | | |
|--------------------------------|------------------------------|--------|--------|--------|-------|-------|-------|-------|--|
| | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz | |
| Sound Power of unit | 67 | 69 | 63 | 62 | 58 | 50 | 49 | 46 | |
| Distance correction & constant | -42 | -42 | -42 | -42 | -42 | -42 | -42 | -42 | |
| A-weighting | -26.2 | -16.1 | -8.6 | -3.2 | 0 | 1.2 | 0.8 | -2 | |
| Level at façade (2 units) | 24.3 | dB | | | | | | | |

| 1 x REYQ14M | Octave Band Centre Frequency | | | | | | | | |
|--------------------------------|------------------------------|--------|--------|--------|-------|-------|-------|-------|--|
| | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz | |
| Sound Power of unit | 83 | 85 | 83 | 80 | 74 | 69 | 63 | 61 | |
| Distance correction & constant | -42 | -42 | -42 | -42 | -42 | -42 | -42 | -42 | |
| A-weighting | -26.2 | -16.1 | -8.6 | -3.2 | 0 | 1.2 | 0.8 | -2 | |
| Level at façade | 38.9 | dB | | | | | | | |

| 1 x VAM2000 | Octave Band Centre Frequency | | | | | | | | | |
|--------------------------------|------------------------------|--------|--------|--------|-------|-------|-------|-------|--|--|
| | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz | | |
| Sound Power of unit | 65 | 61 | 56 | 54 | 52 | 42.5 | 35.5 | 32 | | |
| Distance correction & constant | -42 | -42 | -42 | -42 | -42 | -42 | -42 | -42 | | |
| A-weighting | -26.2 | -16.1 | -8.6 | -3.2 | 0 | 1.2 | 0.8 | -2 | | |
| Level at façade | 14.1 | dB | | | | | | | | |
| Eacade correction | 3 | | | | | | | | | |

| raçade correction | 3 | |
|-----------------------|------|----|
| Total level at façade | 42.1 | dB |
| | | |



.

24 MAY 2007

Appendix 3 – Definitions

| Decibel (dB) | The unit used to measure sound levels. |
|------------------|--|
| SPL | Sound pressure level |
| SWL | Sound power level |
| A-weighting | A network of corrections applied to all relevant frequencies to simulate the frequency response of the human ear. |
| L _{Aeq} | The equivalent continuous A-weighted noise level over a given time period |
| L _{A90} | The A-weighted noise level exceeded for 90% of the measurement period. This is frequently referred to as the 'background' noise. |