Our Ref: 26654/HA

ALLAWAY ACOUSTICS
LIMITED

Client: University College London (UCL)
8th floor, 1-19 Torrington Place,
London WC1E 7HB.

**Project: 8-11 Queen Square,
WC1N 3AR London.**

Existing Environmental Noise Levels

Date of Survey: 11th March 2009 – 12th March 2009

Prepared By: Chris Swiejkowski BSc/MSc AMIOA
Checked By: Andy Smith MIOA

ALLAWAY ACOUSTIC
LIMITED

8-11 Queen Square, WC1N 3AR
Existing Environmental Noise Levels

1. Introduction

1.1 Prior to the installation of new building services plant at this site, we have carried out an environmental noise survey to establish the existing minimum background noise levels.

1.2 This report describes the survey and details the results obtained.

1.3 On the basis of the survey results, a target noise level will be determined for the proposed future plant.

2. Site Description

2.1 The site is located at No. 8-11 Queen Square, London WC1N 3AR. The building is surrounded by Queens Square to the east and by adjacent buildings to the west, north & south.

2.2 The site is exposed to high levels of background noise due to the busy Hotel area at Southampton Row and existing plant on adjacent buildings.

2.3 The area is entirely commercial and there were no residential properties observed within the vicinity. However there is hotel at Southampton Row (approx. 15-20m away from the proposed plant location), which will be considered as the nearest sensitive residential window for this exercise, although the Local Authority or client should confirm this.

2.4 The plant will have the capability to operate 24-hours.

4. Survey

4.1 The survey was carried out between the hours of 9:00am on Wednesday 11th March 2009 and 9:00am on Thursday 12th March 2009.

4.2 The weather during the survey period was cool with occasional winds and no rain. This was deemed not to have any significant effect on the measured noise levels.

4.3 To the best of our knowledge there were no roadworks or other unusual influences on traffic flow within the vicinity.

4.4 Noise levels were measured for 20-minute periods at roof level of the adjacent plant room at the rear of the UCL Building.

4.5 Of the parameters measured, the L_{A90} gives the closest representation of the background level, as it is the level exceeded for 90% of the measurement period. The L_{AEQ} is an energy-averaged value, and the L_{A10} is indicative of traffic noise.

4.6 In addition to the A-weighted levels referred to above, representative octave-band spectra were also recorded so that the frequency distribution of the noise could be assessed.

4. Instrumentation

4.1 All measurements were obtained using a Norsonic NOR131 Sound Level Meter (s/n 1312779). This instrument conforms to IEC60651 and 60804 Type 1 specifications and to IEC61260 and 61672-1:2002 Class 1 specifications.

4.2 Before commencing the readings, the meter was checked for correct calibration with both the internal reference signal and an acoustic calibrator. The calibration was rechecked after the survey with no change noted.

4.3 To minimise environmental effects, the microphone was fitted with a windshield at all times.

20:02	68.8	60.1	62.6	58.3	53.2	48.1	41.0	30.8	59.6
20:22	68.9	60.5	62.6	58.3	53.0	48.0	40.8	30.5	59.5
20:43	69.1	60.1	62.6	58.1	52.9	48.4	40.8	30.6	59.4
21:03	69.1	60.0	62.5	58.2	52.8	48.0	40.7	30.6	59.4
21:23	69.1	60.2	62.5	58.3	52.8	48.0	40.6	30.7	59.4
21:43	69.2	60.1	62.6	58.5	53.0	48.1	40.9	31.3	59.6
22:03	68.9	59.9	62.7	58.6	53.5	48.4	40.7	30.6	59.8
22:23	69.1	60.0	62.6	58.7	53.0	48.0	40.8	31.0	59.6
22:44	69.3	60.3	62.8	59.2	53.8	48.9	41.2	31.2	60.1
23:04	69.1	59.6	62.5	58.7	53.1	48.4	40.8	30.9	59.6
23:24	68.2	58.1	60.3	56.8	51.3	46.6	40.4	32.1	57.8
23:44	68.3	57.5	56.8	54.1	49.4	44.6	39.4	31.9	55.4
00:04	68.2	58.0	56.7	53.8	48.9	44.0	38.6	30.2	55.1
00:24	68.1	57.9	57.0	54.0	50.3	44.5	38.6	30.1	55.6
00:45	68.3	57.5	56.4	53.5	48.7	43.9	38.5	30.2	54.9
01:05	68.1	57.4	56.5	53.6	49.1	44.1	38.6	30.1	55.0
01:25	68.1	57.3	56.7	53.8	48.7	43.8	38.2	29.5	55.0
01:45	68.3	57.3	56.2	53.7	48.8	43.7	37.8	28.6	54.8
02:05	68.1	57.3	56.6	54.0	49.1	43.7	37.6	28.2	55.1
02:25	68.2	57.1	56.0	53.7	48.5	43.4	37.6	28.5	54.7
02:46	68.4	57.4	55.9	54.3	48.8	43.9	38.0	28.7	55.0
03:06	68.2	57.1	56.1	53.6	48.5	43.6	37.5	28.2	54.7
03:26	68.0	57.1	56.9	53.7	49.0	44.0	39.0	31.4	55.1
03:46	68.1	57.2	56.3	53.6	48.9	43.9	37.9	28.4	54.9
04:06	68.0	57.2	56.5	53.7	48.7	43.8	37.8	28.3	54.9
04:26	68.1	57.2	56.2	53.6	48.8	44.6	38.6	28.7	54.9
04:47	68.2	57.3	56.4	55.1	49.1	44.1	37.9	28.6	55.5
05:07	68.0	57.2	56.4	55.1	49.0	43.9	37.8	28.3	55.4
05:27	68.3	57.4	56.2	54.7	49.0	44.0	38.1	29.0	55.3
05:47	68.3	57.6	56.4	55.3	49.3	44.6	38.6	29.0	55.7
06:07	68.2	57.5	56.9	54.9	49.2	44.3	38.6	29.3	55.6
06:27	68.4	57.6	56.8	55.9	49.3	44.6	38.8	30.1	56.0
06:48	68.4	58.1	57.6	56.2	50.2	45.4	39.6	31.3	56.6
07:08	68.3	58.6	57.2	55.8	50.0	46.2	40.8	34.1	56.5
07:28	68.4	58.1	57.5	56.0	51.3	47.8	41.5	33.7	57.2
07:48	68.7	58.5	57.1	54.5	49.7	45.1	40.5	32.7	55.8
08:08	73.6	61.5	60.1	58.2	55.3	55.8	57.1	51.7	63.3
08:29	73.5	61.7	60.7	59.0	56.2	56.4	56.3	50.4	63.5
08:49	74.9	61.7	60.3	59.0	57.2	56.7	59.0	52.2	64.6
09:09	72.0	61.3	59.8	58.3	55.8	55.6	59.0	52.2	64.0
09:29	72.0	61.7	60.3	58.4	55.8	54.8	55.8	50.9	62.8
09:49	69.6	61.9	59.0	57.3	56.0	55.1	53.9	51.0	63.0

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Table 2 – L10

	Octave Band Centre Frequency								
Time	**63 Hz**	**125 Hz**	**250 Hz**	**500 Hz**	**1.0 k**	**2.0 k**	**4.0 k**	**8.0 k**	**dB(A)**
09:17	71.5	62.0	59.2	59.2	57.4	55.4	60.2	50.7	64.6
09:37	71.5	61.6	59.3	58.4	54.6	50.1	45.4	40.0	60.1
09:57	71.5	60.5	58.9	56.4	53.7	49.5	44.7	40.4	58.6
10:17	71.6	61.1	63.5	59.5	55.3	52.0	52.3	48.3	61.7
10:37	71.7	61.4	64.0	60.0	55.1	51.7	50.7	45.8	61.6
10:58	71.0	61.3	64.0	59.9	56.2	51.9	45.1	38.8	61.8
11:18	72.4	62.6	64.3	60.7	56.5	53.5	52.7	47.1	62.7
11:38	77.2	62.7	64.3	61.9	59.5	58.6	57.0	48.8	65.6
11:58	77.5	62.7	64.2	60.8	57.2	56.6	54.3	47.6	63.7
12:18	77.3	62.9	64.3	61.0	57.7	56.7	56.0	47.3	64.2
12:38	76.8	63.6	64.2	61.1	58.3	57.6	55.9	47.7	64.7
12:59	70.7	61.4	63.8	60.2	55.7	51.9	45.7	35.1	61.5
13:19	70.6	61.3	63.9	59.9	55.2	51.9	44.1	36.1	61.3
13:39	70.7	61.3	63.8	60.0	55.4	51.0	44.4	38.6	61.3
13:59	77.0	63.2	64.7	62.1	59.4	57.9	56.7	49.8	65.5
14:19	77.2	63.7	64.9	62.4	59.9	59.0	58.3	51.5	66.2
14:39	75.1	64.0	65.0	61.6	57.5	56.5	56.7	50.7	64.6
15:00	76.1	64.3	64.8	61.4	57.1	56.2	58.4	54.2	65.0
15:20	75.7	63.8	64.5	61.2	57.5	57.6	59.0	54.5	65.5
15:40	76.3	63.7	64.9	61.7	57.8	57.4	59.3	54.6	65.6
16:00	71.5	62.6	64.3	60.7	55.6	52.1	51.3	47.9	62.6
16:20	73.0	62.9	64.2	60.3	55.2	53.6	55.2	52.4	63.0
16:40	70.9	62.4	64.0	59.9	54.8	49.6	42.5	32.1	60.9
17:01	70.9	61.6	63.9	60.0	54.9	49.5	42.2	31.5	60.9
17:21	70.9	61.4	63.8	59.9	54.6	49.4	42.2	31.4	60.8
17:41	70.7	61.9	63.8	60.4	54.9	49.4	42.3	31.5	61.2
18:01	70.7	61.8	63.7	59.8	54.6	49.3	42.2	31.6	60.7
18:21	70.9	62.0	63.9	59.8	54.6	49.3	42.6	32.7	60.8
18:41	70.9	61.7	63.7	59.4	54.3	49.1	42.2	31.9	60.4
19:02	70.9	61.9	63.9	59.4	54.8	49.5	41.7	31.4	60.9
19:22	70.4	61.5	63.7	59.4	54.3	49.0	42.6	34.7	60.3
19:42	70.5	61.1	63.4	59.0	54.1	49.0	42.8	34.9	60.1
20:02	70.4	61.2	63.6	59.1	53.9	48.7	41.5	31.5	60.1
20:22	70.4	61.7	63.6	59.1	53.8	48.7	41.5	31.3	60.1
20:43	70.7	61.1	63.6	58.9	53.8	48.8	41.5	31.5	60.0
21:03	70.6	61.1	63.5	59.0	53.6	48.6	41.3	31.4	60.0
21:23	70.6	61.2	63.5	59.2	53.6	48.6	41.2	31.6	60.0

21:43	70.7	61.1	63.6	59.5	53.8	48.7	41.5	31.8	60.2
22:03	70.4	61.0	63.7	59.4	54.0	48.9	41.4	31.6	60.2
22:23	70.6	61.1	63.7	59.7	53.9	48.8	41.3	31.5	60.3
22:44	70.9	61.2	63.7	60.5	54.2	49.2	41.7	32.0	60.7
23:04	70.6	60.7	63.5	59.8	53.9	48.9	41.6	31.9	60.3
23:24	69.5	59.4	62.9	58.9	53.2	48.3	41.5	34.9	59.7
23:44	69.9	58.8	58.0	56.0	50.8	45.6	41.2	34.9	56.5
00:04	69.4	59.1	57.9	55.5	50.8	45.6	39.7	31.2	56.3
00:24	69.4	59.1	58.5	56.0	51.2	45.9	39.7	31.2	56.8
00:45	69.6	58.7	58.2	55.3	50.6	45.4	39.4	31.0	56.3
01:05	69.4	58.5	58.4	55.4	51.0	45.7	39.7	31.2	56.5
01:25	69.4	58.5	58.3	55.6	50.8	45.5	39.5	30.8	56.5
01:45	69.6	58.5	58.1	55.6	50.6	45.2	38.9	29.8	56.1
02:05	69.3	58.5	58.2	56.2	50.9	45.3	38.9	29.9	56.5
02:25	69.5	58.3	57.6	55.9	50.4	45.0	38.6	29.5	56.1
02:46	69.6	58.6	57.2	56.7	51.0	45.7	39.3	30.2	56.5
03:06	69.5	58.3	58.1	56.0	50.7	45.3	38.8	29.5	56.2
03:26	69.2	58.3	58.6	55.6	50.8	45.6	41.3	35.0	56.5
03:46	69.4	58.4	58.1	55.8	50.8	45.8	39.4	29.7	56.3
04:06	69.2	58.4	58.3	55.8	50.8	45.5	39.1	29.7	56.4
04:26	69.3	58.4	57.8	55.7	50.5	45.9	39.3	29.6	56.3
04:47	69.4	58.5	57.8	58.0	50.9	45.6	39.1	29.7	57.3
05:07	69.2	58.4	57.8	58.0	51.1	45.8	39.1	29.6	57.2
05:27	69.5	58.7	57.9	57.4	50.8	45.5	39.2	29.8	57.0
05:47	69.6	58.9	58.2	58.3	51.2	46.2	39.5	29.8	57.7
06:07	69.4	58.8	58.3	57.4	50.9	45.6	39.6	30.9	57.1
06:27	69.6	58.8	58.4	59.2	51.1	46.1	39.8	30.9	58.0
06:48	69.6	59.3	58.8	59.4	51.6	46.5	40.3	31.2	58.2
07:08	69.6	59.3	58.3	59.0	51.4	47.0	42.0	35.7	58.1
07:28	69.7	59.4	58.7	58.4	52.5	47.3	41.9	35.1	58.3
07:48	70.0	60.3	58.4	56.7	51.2	46.4	41.0	32.4	56.9
08:08	76.3	62.9	61.5	60.1	57.3	58.4	60.2	55.2	65.4
08:29	76.2	63.1	62.3	61.4	59.1	59.9	59.9	54.8	66.3
08:49	76.8	63.1	61.6	60.7	59.1	58.6	61.9	55.2	66.6
09:09	74.9	62.7	61.3	60.0	57.5	57.3	61.7	55.0	65.9
09:29	75.0	63.0	61.5	60.3	57.4	58.6	60.2	55.6	65.8
09:49	70.8	63.5	60.5	58.8	57.2	58.2	55.7	53.9	65.6

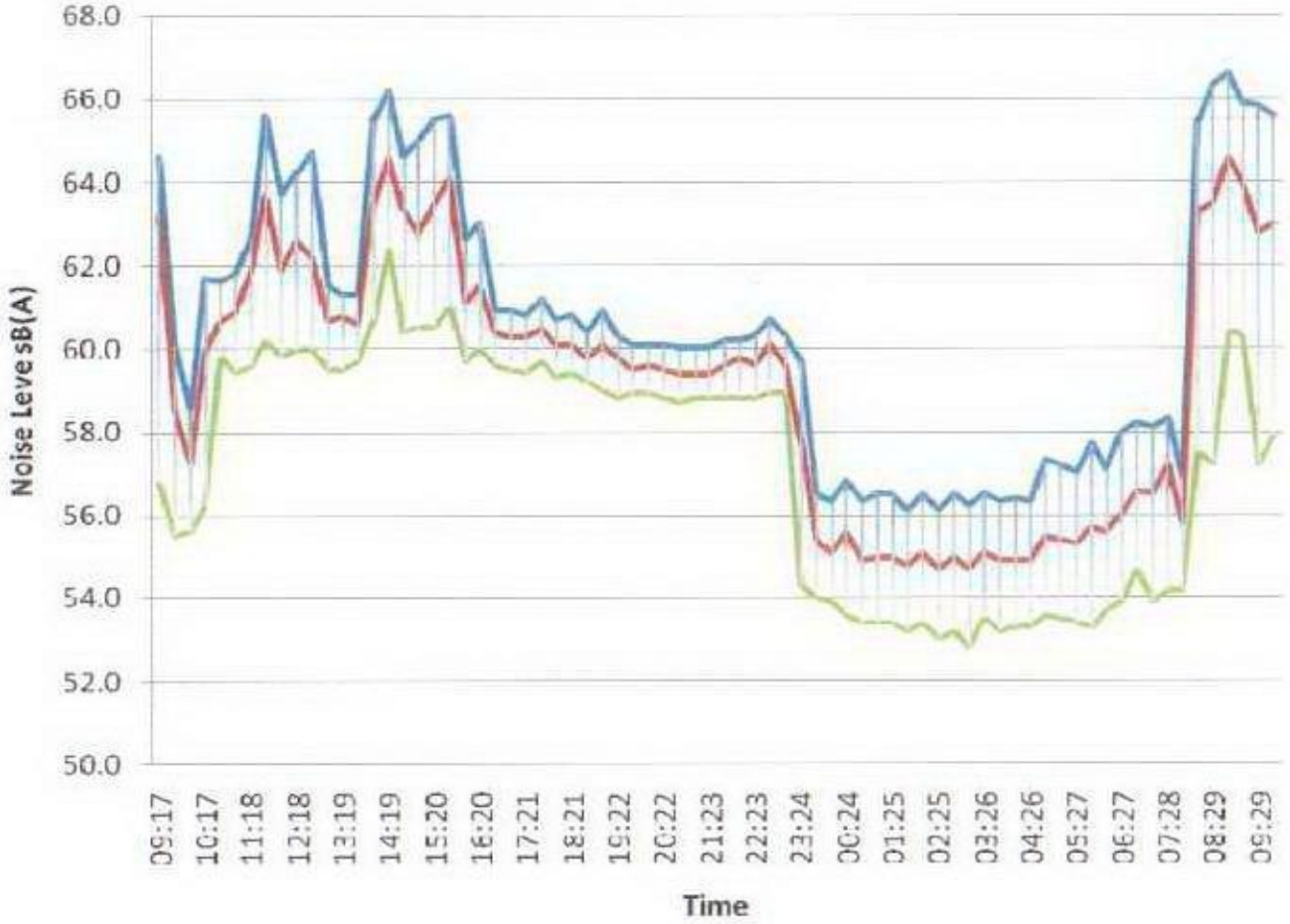
ALLAWAY ACOUSTIC
LIMITED

Table 3 – L90

	Octave Band Centre Frequency								
Time	63 Hz	125 Hz	250 Hz	500 Hz	1.0 k	2.0 k	4.0 k	8.0 k	dB(A)
09:17	68.3	58.9	56.6	54.6	50.7	46.6	41.0	31.3	56.8
09:37	68.2	57.8	55.9	52.9	49.6	45.1	39.7	29.6	55.5
09:57	68.3	57.9	56.0	53.1	49.6	45.1	40.0	30.0	55.6
10:17	68.3	58.2	56.5	53.5	50.8	46.1	40.7	30.3	56.2
10:37	68.2	59.0	61.8	58.2	53.3	48.6	42.0	31.5	59.8
10:58	67.6	58.8	61.8	57.9	52.9	47.9	40.9	29.7	59.4
11:18	68.2	59.3	61.8	58.2	53.0	48.1	41.2	30.1	59.6
11:38	69.1	60.3	62.0	58.8	53.8	49.0	42.1	31.6	60.2
11:58	68.5	59.5	61.9	58.2	53.3	48.5	41.5	31.0	59.8
12:18	69.9	59.8	61.9	58.2	53.3	48.9	42.2	31.7	60.0
12:38	68.0	60.3	61.9	58.3	53.7	48.6	41.3	29.8	60.0
12:59	67.2	58.8	61.6	58.1	53.0	47.8	40.5	29.1	59.5
13:19	67.0	58.8	61.5	58.0	53.1	48.1	41.0	30.0	59.5
13:39	67.1	58.9	61.6	58.2	53.3	48.4	41.4	30.4	59.7
13:59	68.9	60.4	62.4	58.7	54.1	50.0	45.0	39.6	60.7
14:19	72.5	61.1	62.7	59.9	55.3	53.4	50.7	42.9	62.4
14:39	68.0	60.7	62.3	58.7	53.9	49.1	42.6	33.2	60.4
15:00	67.8	60.8	62.5	58.9	54.0	49.1	42.2	32.1	60.5
15:20	68.7	60.4	62.3	58.9	53.7	49.3	43.8	38.5	60.5
15:40	69.5	60.8	62.6	59.2	54.7	50.3	44.2	35.4	61.0
16:00	67.3	59.6	62.1	58.1	53.1	48.3	41.4	31.1	59.7
16:20	67.5	59.7	62.1	58.5	53.4	48.6	41.8	31.7	60.0
16:40	67.4	59.3	61.8	58.2	53.1	48.2	40.9	29.7	59.6
17:01	67.4	59.2	61.8	58.0	52.9	48.0	40.9	29.6	59.5
17:21	67.4	59.0	61.7	57.9	52.8	47.9	40.8	29.5	59.4
17:41	67.2	59.4	61.7	58.2	53.1	48.0	40.9	29.9	59.7
18:01	67.1	59.5	61.6	58.0	52.7	47.8	40.8	29.6	59.3
18:21	67.4	59.5	61.6	58.0	52.8	47.9	40.9	30.0	59.4
18:41	67.4	59.4	61.5	57.7	52.6	47.8	40.8	29.9	59.2
19:02	67.2	59.1	61.5	57.5	52.3	47.4	40.0	29.2	59.0
19:22	66.9	58.9	61.4	57.4	51.9	47.1	39.6	28.8	58.8
19:42	67.0	58.8	61.3	57.3	52.2	47.6	41.2	32.6	58.9
20:02	66.8	58.9	61.4	57.4	52.2	47.4	40.2	29.8	58.9
20:22	67.0	58.9	61.4	57.3	52.0	47.3	39.9	29.4	58.8
20:43	67.2	58.8	61.4	57.2	51.9	47.3	40.0	29.5	58.7
21:03	67.3	58.8	61.4	57.3	51.9	47.3	40.0	29.6	58.8
21:23	67.2	58.7	61.4	57.3	51.9	47.2	39.9	29.7	58.8

21:43	67.3	58.8	61.5	57.4	52.0	47.3	40.0	29.7	58.8
22:03	67.1	58.7	61.5	57.4	51.9	47.2	39.9	29.6	58.8
22:23	67.2	58.7	61.5	57.4	52.0	47.3	40.0	29.7	58.8
22:44	67.3	58.8	61.5	57.5	52.1	47.4	40.1	30.0	58.9
23:04	67.1	58.3	61.4	57.5	52.1	47.4	40.0	29.7	58.9
23:24	66.6	56.5	55.7	52.0	47.7	43.5	38.7	29.3	54.3
23:44	66.4	55.9	55.5	51.6	47.3	42.7	37.7	29.3	54.0
00:04	66.7	56.7	55.5	51.5	46.8	42.4	37.5	29.2	53.9
00:24	66.5	56.4	55.1	51.3	46.9	42.3	37.4	29.1	53.6
00:45	66.8	56.1	54.8	51.1	46.9	42.4	37.6	29.3	53.4
01:05	66.6	56.0	54.9	51.1	47.0	42.4	37.5	29.1	53.4
01:25	66.6	55.8	55.3	51.1	46.6	41.8	36.3	26.9	53.4
01:45	66.8	55.9	54.7	51.1	46.7	41.9	36.3	26.9	53.2
02:05	66.7	55.8	55.0	51.2	46.6	41.8	36.2	26.8	53.4
02:25	66.7	55.7	54.5	50.8	46.4	41.7	36.1	26.7	53.0
02:46	66.9	55.9	54.6	51.2	46.8	41.9	36.4	26.9	53.2
03:06	66.7	55.6	54.5	50.6	46.1	41.5	35.9	26.4	52.8
03:26	66.5	55.7	55.2	51.2	46.7	42.0	36.3	26.7	53.5
03:46	66.6	55.8	54.7	50.8	46.6	41.8	36.3	26.9	53.2
04:06	66.6	55.8	54.9	51.0	46.7	42.0	36.3	26.7	53.3
04:26	66.6	55.8	54.7	51.0	46.8	42.1	36.4	26.8	53.3
04:47	66.7	55.9	55.0	51.5	47.1	42.2	36.5	27.1	53.6
05:07	66.5	55.8	55.0	51.5	46.7	41.8	36.3	26.7	53.5
05:27	66.8	55.9	54.7	51.4	46.8	42.0	36.3	26.6	53.4
05:47	66.9	56.0	54.6	51.3	46.9	42.1	36.5	26.9	53.3
06:07	66.7	56.1	55.4	51.5	47.1	42.3	36.6	26.8	53.7
06:27	66.9	56.2	55.2	51.8	47.2	42.6	37.5	28.9	53.9
06:48	66.8	56.6	56.1	52.5	48.1	43.6	38.1	29.1	54.7
07:08	66.8	56.2	55.4	51.8	46.9	42.6	37.3	28.6	53.9
07:28	66.9	56.4	55.4	52.2	47.7	43.1	37.9	29.1	54.2
07:48	67.0	56.6	55.6	52.1	47.8	43.2	37.9	29.1	54.2
08:08	68.7	59.7	58.5	55.0	51.3	47.3	41.8	33.3	57.5
08:29	68.3	59.7	58.2	54.8	50.9	47.3	42.4	35.7	57.2
08:49	70.3	59.7	58.6	56.1	53.1	52.0	52.4	46.1	60.4
09:09	68.3	59.6	57.8	55.6	52.0	51.3	53.2	46.4	60.3
09:29	68.4	59.3	57.5	54.6	51.5	47.3	41.9	33.1	57.2
09:49	68.1	59.2	56.9	54.6	53.1	48.6	44.1	37.9	57.9

Notes; All readings sound pressure level dB re: $2x10^{-5}$ Nm^{-2}.



ALLAWAY ACOUSTICS
LIMITED

Char. 1. Ambient noise levels.