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REPORT No. 370430/1A – Issue 3

Public Conveniences
Guildford Place
London
WC1N

ENVIRONMENTAL NOISE SURVEY REPORT

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CONTENTS

1.0 Introduction

1.1 Bloomsbury Leisure Group has commissioned Noico Ltd to conduct an environmental noise survey at the site of the disused public conveniences in Guildford Place, London WC1.

1.2 The purpose of the survey is to obtain statistical noise data and to determine the background noise levels at the site. Based on the noise survey data, noise criteria are to be established for limiting noise emission from the mechanical plant installations serving the premises. The noise criteria are to be set in accordance with the requirements of the local planning authority (The London Borough of Camden Council).

1.3 The development site comprises a disused underground public convenience dating back to the 19th century. It is located on a traffic island at the north end of Guildford Place at its junction with Guildford Street and directly opposite Coram's Fields and The Harmsworth Memorial playground**.** The surrounding area comprises a mix of commercial, educational and residential properties. The nearest noise sensitive properties are to the south east of the site at the northern end of Guildford Place. These appear to be residential apartments and are situated approximately 20 metres away.

1.4 There are plans to convert the property into an underground restaurant which may include the installation of mechanical plant to provide ventilation to the building.

2.0 Instrumentation

2.1 A precision grade Norsonic 140 'Type 1' Integrating Sound Level Meter was used for the survey. This was equipped with an environmental microphone and extension cable. The instrument was powered by an external battery and stored in a weatherproof case.

2.2 The instrument was calibrated prior and subsequent to use with no calibration drift recorded.

3.0 Survey Details

3.1 Location: The environmental noise analyser microphone was located externally on the staircase of the toilet facilities. This position was chosen as it was considered to be representative of the typical background noise environment which exists in the close vicinity, and in particular at the nearest noise affected properties. Note, from the observations made on site, the nearest noise affected properties are considered to be on the eastern side of Guildford Place, to the south east of the site, and approximately 20 metres away.

3.2 Period: Monitoring was carried out continuously from approximately 11:35 hrs on the 27th April 2017 through to 13:15 hrs on the 28th April 2017. The instrument was set up to monitor noise levels continuously and store data in fifteen minute intervals.

3.3 Weather: The prevailing weather condition throughout the majority of the survey period was satisfactory for noise monitoring, being dry, mild and with little to moderate breeze. Windspeed, although not recorded, was considered to be less than 5 m/s throughout the survey period.

3.4 Site Noise Characteristics: Although the survey was un-attended, it is considered that the ambient noise level was characterised almost entirely by road traffic noise, in particular along Guildford Street (B502) and Guildford Place. It is thought that no unusual events occurred during the survey period and the data are considered to be a true representation of ambient noise levels.

4.0 Survey Results

4.1 The results of the environmental survey are presented in graphical and numerical format in the attached appendices, showing the recorded values of L_{Aeq} and L_{A90}.

4.2 See Appendix 1 for a glossary of terms.

4.3 With reference to the measured data, the minimum background noise level measured during the survey period was:

Daytime (07:00 to 23:00hrs)	- 48.1 L_{A90}
Night time (23:00 to 07:00hrs)	- 40.3 L_{A90}

5.0 Environmental Noise Level Criteria

5.1 Criteria for mechanical services noise emission are normally based upon the prevailing level of background noise in the period of concern and may be set against this to a level as normally defined by the local planning authority.

5.2 Camden Council has advised that noise arising from fixed plant installations should not cause an increase in the existing minimum background noise level (as expressed as a L_{A90}) at the nearest noise affected property. In practical terms, this means that the noise arising from the plant should be at least 10 dB(A) below the minimum background noise level. The local authority also confirmed that if the plant contains a tonal component, the rating level shall be 15dB(A) below the minimum background noise level.

5.3 To conform to the above criteria, and in accordance with the minimum background noise levels measured during the survey (summarised in 4.3 above), noise from the proposed plant installations should not exceed the following value.

Daytime plant operation (07:00 to 23:00hrs)	- 38.1 dB L_{Aeq}
24 hour plant operation	- 30.3 dB L_{Aeq}

Note: These levels must be achieved cumulatively with all plant operating, and as measured at 1 metre from the window of the nearest affected property.

6.0 Conclusion

6.1 A background noise level survey has been carried out at the site of the dis-used public conveniences in Guildford Place, London WC1.

6.2 Based upon the survey results and discussions with the local planning authority, criteria applicable to noise from the mechanical services plant have been established.

6.3 All future mechanical plant installations shall be designed to ensure the above design noise criteria are achieved, and suitable noise control measures employed where necessary. Providing these are adhered to, the planning requirements will be met in full.

Appendix 1 - Glossary of Terms

Decibel, dB	A unit of level derived from the logarithm of the ratio between the value of a quantity and a reference value. For sound pressure level (Lp) the reference quantity is $2x10^{-5}$ N/m^2. The sound pressure level existing when microphone measured pressure is $2x10^{-5}$ N/m^2 is 0 dB, the threshold of hearing.
L	Instantaneous value of Sound Pressure Level (Lp).
Frequency	Is related to sound pitch; frequency equals the ratio between velocity of sound and wavelength.
A weighting	Arithmetic corrections applied to values of Lp according to frequency. When logarithmically summed for all frequencies, the resulting single "A weighted value" becomes comparable with other such values from which a comparative loudness judgement can be made, then, without knowledge of frequency content of the source.
$L_{eq,T}$	Equivalent continuous level of sound pressure which, if it actually existed for the integration time period T of the measurement, would possess the same energy as the constantly varying values of Lp actually measured.
$L_{Aeq,T}$	Equivalent continuous level of A weighted sound pressure which, if it actually existed for the integration time period, T, of the measurement would possess the same energy as the constantly varying values of Lp actually measured.
$L_{n,T}$	Lp which was exceeded for n% of time, T.
$L_{An,T}$	Level in dBA which was exceeded for n% of time, T.
$L_{max,T}$	The instantaneous maximum sound pressure level which occurred during time, T.
$L_{Amax,T}$	The instantaneous maximum A weighted sound pressure level which occurred during time, T.
Background Noise Level	The value of $L_{A90,T}$, ref. BS4142:1997.
Traffic Noise Level	The value of $L_{A10,T}$.
Specific Noise Level	The value of $L_{Aeq,T}$ at the assessment position produced by the specific noise source, ref. BS4142:1997.
Rating Level	The specific noise level, corrected to account for any characteristic features of the noise, by adding a 5 dBA penalty for any tonal, impulsive or irregular qualities, ref. BS4142:1997.
Specific Noise Source	The noise source under consideration when assessing the likelihood of complaint.
Assessment Position	Unless otherwise noted, is a point at 1 m from the façade of the nearest affected sensitive property.

Appendix 2 - Environmental Noise Monitoring Data

Date	LAeq	LA90
(2017/04/27 11:35:44.00)	62.6	56.6
(2017/04/27 11:50:50.00)	62.4	56.4
(2017/04/27 12:05:57.00)	61.4	56.7
(2017/04/27 12:21:04.00)	61.2	55.9
(2017/04/27 12:36:10.00)	61.1	57
(2017/04/27 12:51:17.00)	62.4	56.5
(2017/04/27 13:06:23.00)	61.6	57.1
(2017/04/27 13:21:30.00)	61.6	56.9
(2017/04/27 13:36:37.00)	62.2	57.7
(2017/04/27 13:51:44.00)	61.5	57.3
(2017/04/27 14:06:50.00)	64.1	57.6
(2017/04/27 14:21:57.00)	64.9	57
(2017/04/27 14:37:04.00)	63.5	57.1
(2017/04/27 14:52:11.00)	62	57.5
(2017/04/27 15:07:17.00)	63.8	57.9
(2017/04/27 15:22:24.00)	63.2	56.9
(2017/04/27 15:37:31.00)	62.1	58
(2017/04/27 15:52:38.00)	62.1	57.7
(2017/04/27 16:07:45.00)	63.4	58.5
(2017/04/27 16:22:52.00)	64	58.5
(2017/04/27 16:37:59.00)	63.3	58.7
(2017/04/27 16:53:06.00)	62.1	58.2
(2017/04/27 17:08:13.00)	61.1	56.6
(2017/04/27 17:23:20.00)	59.9	55.6
(2017/04/27 17:38:27.00)	61.6	56.6
(2017/04/27 17:53:34.00)	61.7	57.4
(2017/04/27 18:08:41.00)	62.2	57.8
(2017/04/27 18:23:47.00)	61.9	56.9
(2017/04/27 18:38:54.00)	62.6	57.2
(2017/04/27 18:54:02.00)	68.6	57
(2017/04/27 19:09:09.00)	61	57.1
(2017/04/27 19:24:16.00)	61.3	57.2
(2017/04/27 19:39:23.00)	60.6	56.1
(2017/04/27 19:54:30.00)	60.3	55.8
(2017/04/27 20:09:37.00)	59.5	55
(2017/04/27 20:24:44.00)	59.1	53
(2017/04/27 20:39:51.00)	57.7	50.3
(2017/04/27 20:54:58.00)	60	50
(2017/04/27 21:10:06.00)	58.3	49.9
(2017/04/27 21:25:13.00)	58.1	50.6
(2017/04/27 21:40:20.00)	62.8	49.8
(2017/04/27 21:55:27.00)	57.1	49.9
(2017/04/27 22:10:34.00)	58.5	48.2
(2017/04/27 22:25:41.00)	57.8	49.3

Date	LAeq	LA90
(2017/04/27 22:40:48.00)	57.1	48.1
(2017/04/27 22:55:55.00)	56.7	48.9
(2017/04/27 23:11:02.00)	56.5	47.6
(2017/04/27 23:26:09.00)	56.3	45.9
(2017/04/27 23:41:16.00)	56.9	45.4
(2017/04/27 23:56:23.00)	56.7	45.9
(2017/04/28 00:11:34.00)	55.6	44.4
(2017/04/28 00:26:41.00)	54.5	41.6
(2017/04/28 00:41:48.00)	54.3	41.8
(2017/04/28 00:56:55.00)	58.7	41.4
(2017/04/28 01:12:01.00)	54.8	42.2
(2017/04/28 01:27:08.00)	52.5	41.5
(2017/04/28 01:42:15.00)	49.9	41.2
(2017/04/28 01:57:21.00)	52.4	41.1
(2017/04/28 02:12:28.00)	51	40.8
(2017/04/28 02:27:34.00)	49.7	40.6
(2017/04/28 02:42:41.00)	51.4	40.8
(2017/04/28 02:57:47.00)	49.8	40.6
(2017/04/28 03:12:54.00)	48.6	40.7
(2017/04/28 03:28:01.00)	50	40.3
(2017/04/28 03:43:08.00)	52.5	40.4
(2017/04/28 03:58:15.00)	51.1	40.5
(2017/04/28 04:13:21.00)	53.8	40.6
(2017/04/28 04:28:28.00)	48.7	40.6
(2017/04/28 04:43:35.00)	53.4	41
(2017/04/28 04:58:42.00)	52.7	41.3
(2017/04/28 05:13:49.00)	54	41.7
(2017/04/28 05:28:56.00)	55.1	41.7
(2017/04/28 05:44:03.00)	56	42.3
(2017/04/28 05:59:10.00)	56.5	42.7
(2017/04/28 06:14:17.00)	57.4	46.8
(2017/04/28 06:29:24.00)	58.3	47.6
(2017/04/28 06:44:31.00)	60.2	48.2
(2017/04/28 06:59:38.00)	60.5	49.8
(2017/04/28 07:14:45.00)	59.6	51.2
(2017/04/28 07:29:52.00)	59.4	50.5
(2017/04/28 07:44:59.00)	58.9	51.5
(2017/04/28 08:00:06.00)	59.4	52.6
(2017/04/28 08:15:13.00)	62.8	55.9
(2017/04/28 08:30:20.00)	66.6	58.1
(2017/04/28 08:45:27.00)	72.4	60.4
(2017/04/28 09:00:34.00)	71.7	58.3
(2017/04/28 09:15:42.00)	62.7	57.2
(2017/04/28 09:30:48.00)	63.1	56.5
(2017/04/28 09:45:56.00)	62.1	56.8

Date	LAeq	LA90
(2017/04/28 10:01:02.00)	64.4	56.5
(2017/04/28 10:16:10.00)	65.6	59.3
(2017/04/28 10:31:17.00)	65.1	58.7
(2017/04/28 10:46:24.00)	60.7	55.2
(2017/04/28 11:01:31.00)	61.2	54.8
(2017/04/28 11:16:38.00)	61.1	54.5
(2017/04/28 11:31:45.00)	60.3	54.4
(2017/04/28 11:46:52.00)	61.4	54.8
(2017/04/28 12:02:00.00)	61.8	56.4
(2017/04/28 12:17:07.00)	62.5	58.3
(2017/04/28 12:32:14.00)	63.9	58.1
(2017/04/28 12:47:21.00)	61.5	56.9
(2017/04/28 13:02:28.00)	61.2	55.4
(2017/04/28 13:17:35.00)	61.7	56.8

Figure 1

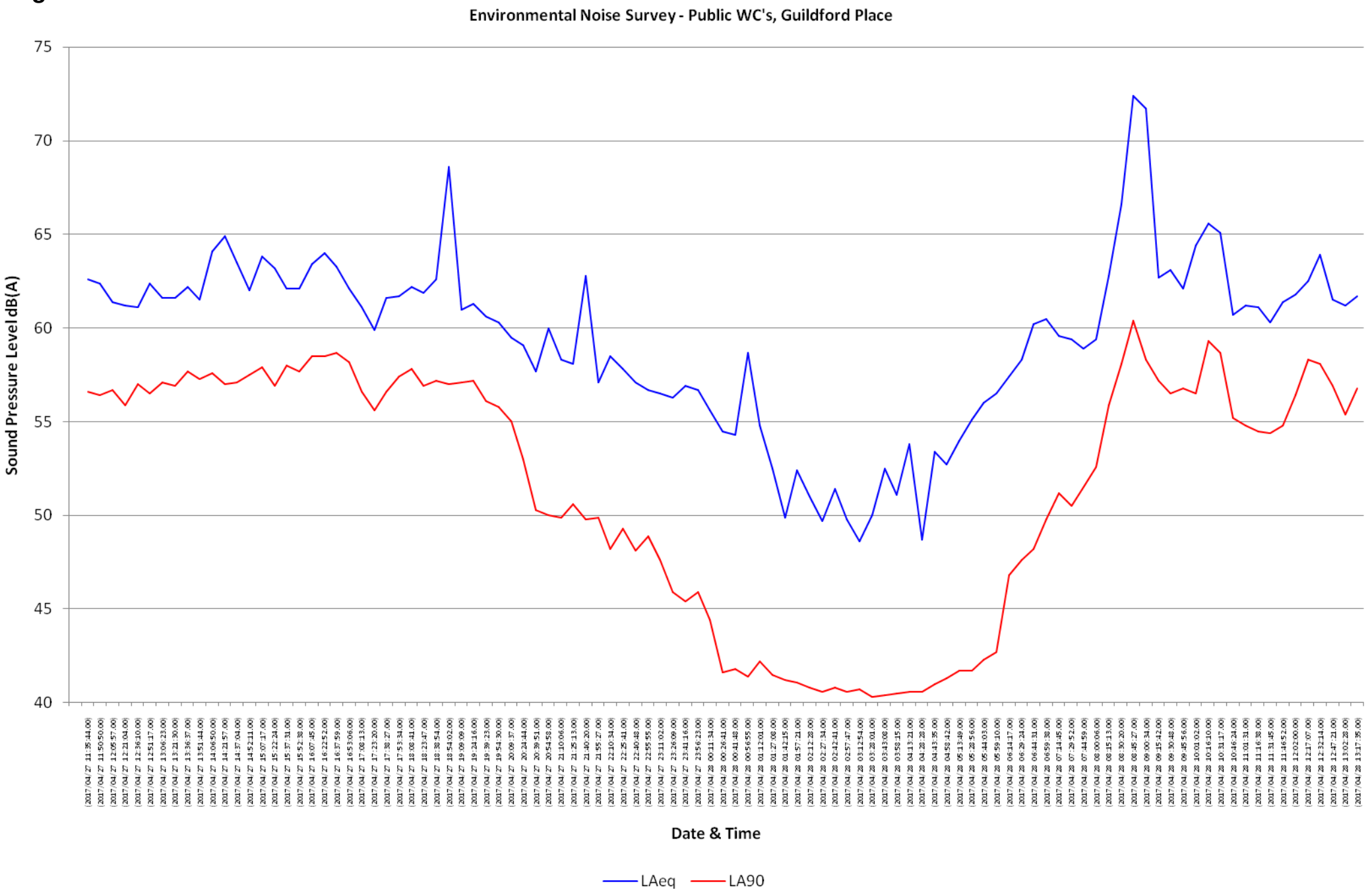
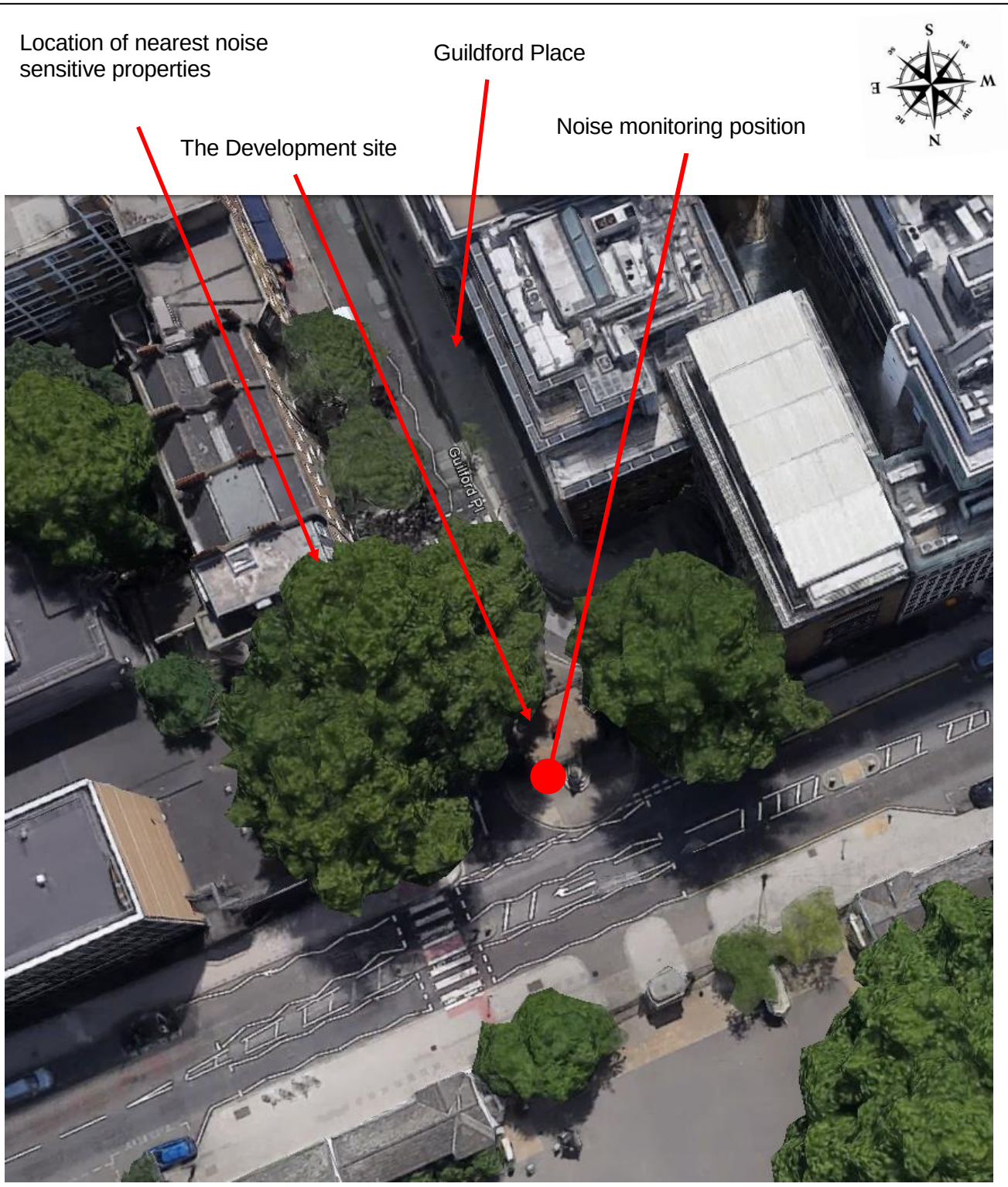

Environmental Noise Survey - Public WC's, Guildford Place
Sound Pressure Level dB(A)
75
70
65
60
55
50
45
40
Date & Time
LAeq
LA90

Figure 2



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