

Natalie Yaffe  
3 Collard Place  
London  
NW1 8DU

**Ref:** LR01-23505-R0

**Date:** 29 September 2023

Dear Mrs Yaffe,

## **RE: PLANT NOISE IMPACT ASSESSMENT**

### **Introduction**

This report sets out the assessment and results of a noise impact assessment of the two chiller units associated with the air conditioning system serving 3 Collard Place. The units are located at first floor level on the flat roof to the rear of the property and are approximately 2m from the nearest noise sensitive window of the adjacent residential property.

### **Assessment Criteria**

BS4142:2014+A1:2019 – *Methods for rating and assessing industrial and commercial sound* (hereafter BS4142) can be used to assess the impact of noise from external mechanical plant noise sources on nearby sensitive receptors.

The BS4142 assessment methodology can be summarised as follows:

1. Measure the existing background noise levels (LA90,T dB) at the locations of nearby noise sensitive receptors during the quietest periods when the noise source(s) under investigation will operate
2. Predict or measure the noise emissions (LAeq,T dB) from the noise source(s) under investigation at the location(s) of the nearby sensitive receptors, and add corrections for any distinguishable acoustic features (e.g. tones, whines, screeches, hisses etc)
3. Subtract the measured background noise levels (item 1 above) with the measured or predicted rating noise levels (item 2 above) at each sensitive receptor. BS4142 states that:
  - a) *Typically, the greater this difference, the greater the magnitude of the impact.*
  - b) *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.*
  - c) *A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.*

*d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.*

*NOTE Adverse impacts include, but are not limited to, annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact.*

In line with BS4142 guidance, if the plant does not generally exceed a level at which adverse impact (depending on context) would be likely to occur then it is considered that the noise impact has been sufficiently mitigated and the plant is suitable for use as proposed.

### **Site Context and Noise Environment**

Background noise levels (LA90) at the site were measured as part of the site noise survey undertaken from 15<sup>th</sup> to 19<sup>th</sup> September 2023. The measured background noise levels have been used as a basis of comparison against the measured plant noise levels in accordance with the BS4142 assessment methodology.

Plant noise levels were also measured as part of the site noise survey at a position representative of the nearest window of the adjacent noise sensitive receptor. The plant was not observed to feature any impulsivity, tonality or noticeable intermittency and so no rating corrections for these features are necessary. However due to the nature of the noise emissions when compared to the background noise environment it is considered that the plant would be subject to the following guidance from BS4142:

*“Where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.”*

The unrated noise emissions from the plant were measured to be 44 dB LAeq,T. Therefore the rating noise level is:

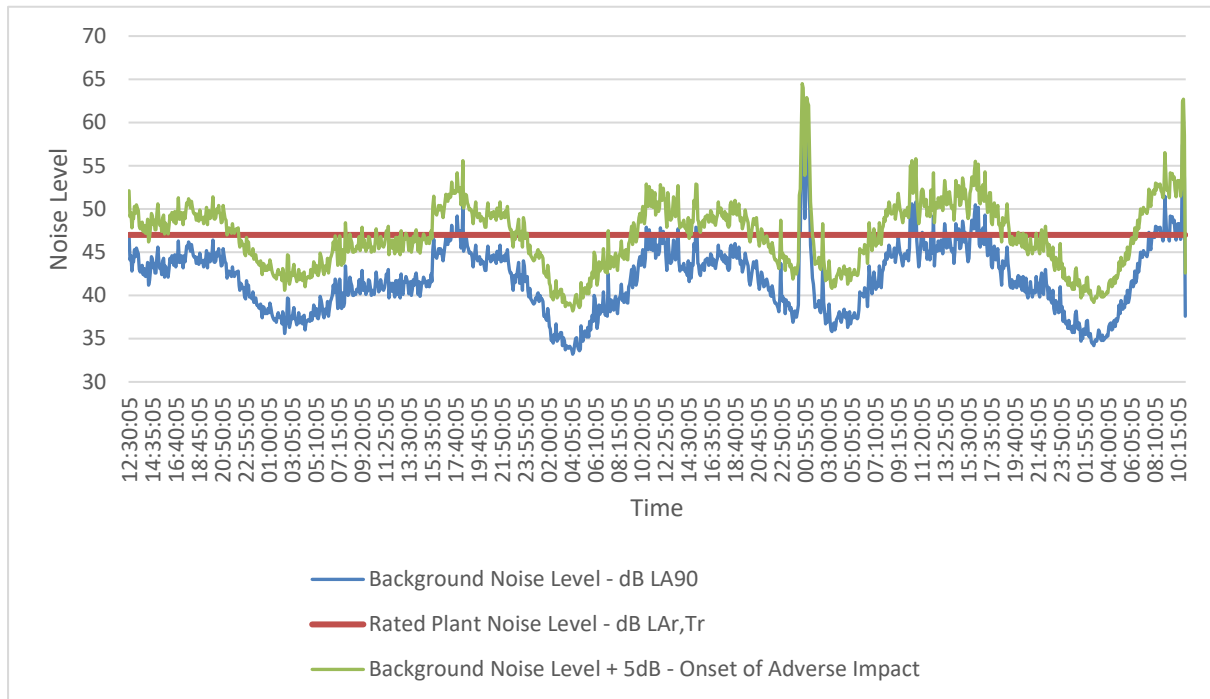
- 47 dB LAr,Tr – at nearest noise sensitive window

Due to the nature of the plant it is envisaged that this noise level will be consistent throughout the day and is therefore equally applicable to night-time operations as daytime.

### **Plant Noise Impact Assessment**

Figure 1 below presents the background noise levels (blue line) measured over the survey period along with a second grey line representing a value 5 dB above the background noise levels which is, in accordance with BS4142 the level at which the onset of adverse impact (depending on context) would occur. Also presented is a straight red line representing the rating noise level of the plant.

**Figure 1 Rated Plant and Background Noise Levels**



It can be seen from the above that the plant noise levels are generally below the onset of adverse impact between 0630 and 2230hrs. As such it is recommended that, in order to protect the amenity of nearby noise sensitive receptors, the hours of use of the plant are limited to between those times.

Restriction of hours of use can be readily controlled through a suitably worded planning condition and as such it is our view that there are no noise related reasons why planning permission should not be granted for the use of the external plant, subject to that condition being imposed.

Yours sincerely,

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**Director**

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#### Quality Assurance

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