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20 February 2023

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Dear Will

**AS11762 28-34 FORTESS GROVE, LONDON**

**Additional HRU Plant**

Planning permission is being sought for the installation of two new Heat Recovery Units (HRUs) at 28-34 Fortess Grove. CSA has reviewed the proposed HRU selections together with the issued mechanical ventilation services drawings. Noise levels to external areas have been assessed based on the criteria set in Camden Council's Planning Condition 6 for the already consented plant items (detailed below), compared against noise survey data acquired in February 2023 on the completed site with the existing consented plant in operation.

*"Noise levels at a point 1 metre external to sensitive façade shall be at least 10dB(A) less than the existing background measurement (LA90), expressed in dB(A) when all plant/equipment (or any part of it) is in operation unless the plant/equipment hereby permitted will have a noise that has a distinguishable, discrete continuous note (whine, hiss, screech, hum) and/or if there are distinct impulses (bangs, clicks, clatters, thumps), then the noise levels from that piece of plant/equipment at any sensitive façade shall be at least 15dB(A) below the LA90, expressed in dB(A)."*

It is understood that the proposed HRUs will be switched off between the hours of 11pm – 7am.

A survey of the current background noise levels was undertaken at the location shown in the attached site plan AS11762/SP1. Measurements of consecutive 5-minute  $L_{Aeq}$ ,  $L_{Amax}$ ,  $L_{A10}$  and  $L_{A90}$  sound pressure levels were taken between 10:30 hours on Thursday 2<sup>nd</sup> February and 08:30 hours on Monday 6<sup>th</sup> February 2023. The following equipment was used during the course of the survey:

- Rion data logging sound level meter type NL32;
- Rion sound level calibrator type NC74.

The calibration of the sound level meter was verified before and after use. No significant calibration drift was detected.

The weather during the survey period was generally dry with light winds, which made the conditions suitable for the measurement of environmental noise. Figures AS11762/TH1-TH5 show the  $L_{Aeq}$ ,  $L_{Amax}$ ,  $L_{A10}$  and  $L_{A90}$  sound pressure levels as time histories at the survey position.

The site is primarily affected by noise from the surrounding road network.

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Monitoring Period	Typical Background* L <sub>A90,5min</sub>	Average L <sub>Aeq,T</sub>
07:00 – 23:00 hours	39	56
23:00 – 07:00 hours	32	51

\*Typical background is derived from the 10<sup>th</sup> percentile of the L<sub>A90,T</sub> dataset [dB ref. 20µPa]

The fresh air intake ductwork for both HRUs terminates via a louvre on the southern gable end of the "Workshop A" building. Maximum noise levels generated by these units have been confirmed by the manufacturer as follows.

Frequency (Hz)	63	125	250	500	1k	2k	4k	8k
HRU 1 & 2 Fresh Air Intake (L <sub>w</sub> )	82	74	62	49	44	39	34	33

[dB ref. 20µPa]

The following silencer insertion losses have been included in the calculations for both HRUs:

Frequency (Hz)	63	125	250	500	1k	2k	4k	8k
Silencer Insertion Loss	4	8	13	20	30	26	22	14

The cumulative noise level at the nearest off-site noise sensitive receptor has been calculated using the noise data for the HRUs above, based on the architectural and building services drawings available at the time of writing, and compared to the typical background L<sub>A90</sub> noise levels on site. Despite the confirmed daytime operating scenario, the 24-hour criterion is shown to ensure a robust assessment.

Receptor	Cumulative External Noise Level (L <sub>Aeq,T</sub> )	24-Hour Design Criterion
20 Fortress Grove	22 dB	22 dB

The calculations suggest that the absolute noise levels generated by the HRUs will meet the design criterion as specified in planning condition 6 of the existing consent for this site. A summary of the acoustic calculations is shown in Appendix A.

The HRU exhaust ductwork benefits from further in-duct silencers and terminates within the existing louvred plant room containing the already consented plant items on the eastern side of the site. On this basis, CSA is satisfied that this complies with the relevant planning condition.

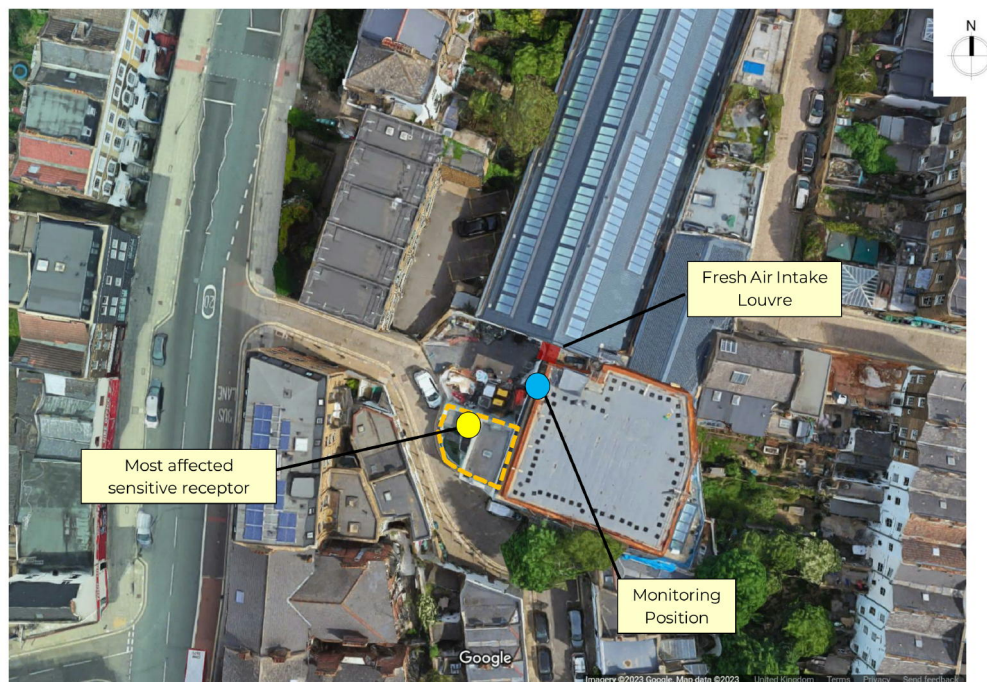
#### Summary

CSA has measured current environmental noise levels at the application site. Manufacturers data and acoustic calculations has shown that with the inclusion of acoustically specified in-duct attenuation the new HRU intakes comply with the Local Authority's plant noise emissions requirements.

Yours sincerely  
for CLARKE SAUNDERS ASSOCIATES



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**APPENDIX A**  
**AS11762 - 28 - 34 Fortess Grove, London**  
**Plant Noise Assessment**

<b>HRU 2</b>		<b>63 Hz</b>	<b>125 Hz</b>	<b>250 Hz</b>	<b>500 Hz</b>	<b>1 kHz</b>	<b>2 kHz</b>	<b>4 kHz</b>	<b>8 kHz</b>	<b>dB(A)</b>
HRU 2 FAI	Lw	82	74	62	49	44	39	34	33	<b>61</b>
Silencer Attenuation		-4	-8	-13	-20	-30	-26	-22	-14	
Duct Losses		-2	-5	-7	-5	-5	-5	-5	-5	
End Reflection		-6	-3	-1	0	0	0	0	0	
Directivity		1	2	2	2	3	4	4	4	
Propagation		-5	-5	-5	-5	-5	-5	-5	-5	
Distance loss	14m	-23	-23	-23	-23	-23	-23	-23	-23	
Level at Receptor	Leq	42	32	15	0	0	0	0	0	<b>19</b>
<b>HRU 1</b>		<b>63 Hz</b>	<b>125 Hz</b>	<b>250 Hz</b>	<b>500 Hz</b>	<b>1 kHz</b>	<b>2 kHz</b>	<b>4 kHz</b>	<b>8 kHz</b>	<b>dB(A)</b>
HRU 1 FAI	Lw	82	74	62	49	44	39	34	33	<b>61</b>
Silencer Attenuation		-4	-8	-13	-20	-30	-26	-22	-14	
Duct Losses		-4	-7	-9	-7	-7	-7	-7	-7	
End Reflection		-6	-3	-1	0	0	0	0	0	
Directivity		1	2	2	2	3	4	4	4	
Propagation		-5	-5	-5	-5	-5	-5	-5	-5	
Distance loss	14m	-23	-23	-23	-23	-23	-23	-23	-23	
Level at Receptor	Leq	40	30	13	0	0	0	0	0	<b>18</b>
Total noise level at Receptor		45	34	17	0	0	0	0	0	<b>22</b>

24-hour Design Criterion    22 dB(A)