

TECHNICAL MEMO

Our Ref: SRP1029-AAL-ZZ-ZZ-T-J-0003



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SUBJECT: GREENWAY JUNIOR SCHOOL – NOISE IMPACT ASSESSMENT – SUMMARY STATEMENT

1 INTRODUCTION

This technical memo establishes plant noise criteria to ensure the amenity of nearby residential receptors is protected. The criteria have been informed by a background noise survey and local authority guidance. Furthermore, this report uses manufacturer's noise data of proposed items of plant to determine the predicted noise levels at the nearest noise sensitive receptors. For the full details of this assessment refer to Noise Impact Assessment (doc ref. SRP1029-AAL-ZZ-ZZ-T-J-0002)

2 ASSESSMENT CRITERIA

2.1 PLANT NOISE EMISSIONS TO RESIDENTIAL RECEPTORS

Established typical background sound levels at the nearest noise sensitive receptor are:

- **Daytime:** 42 dB $L_{A90,15min}$
- **Night-time:** 35 dB $L_{A90,15min}$

Local authority guidance requires noise limits at residential receptors 5 dB below typical background levels. As such, noise limits have been set out in table 2-1 below.

Table 2-1: Plant Noise Limits

Position	Time Period	Proposed Noise Limit at Receptor, dB $L_{A,r,Tr}$
NSR 1 (55 Greenway)	Daytime (07:00 – 23:00)	42
	Night-time (23:00 – 07:00)	35

It is understood that plant will be operational during the night-time period in a setback mode to maintain internal temperatures. A 50% set back has been assumed for the night-time operation.

3 PROPOSED PLANT

7 items of fixed plant are proposed at rooftop level, as specified on the M&E schedule provided. Table 3-1 details the proposed unit and corresponding Sound Pressure Level measured at 1 m, as provided by the manufacturer.

Table 3-1: Proposed items of plant

Description	Sound Pressure Level, Octave Band Frequency (Hz)								
	63	125	250	500	1k	2k	4k	8k	dBA
7 CAHV-R450YA-HBP	64	66	67	60	54	52	52	48	74

Plant Locations have been based on drawings provided by M&E (doc ref. SRP1029-ECE-XX-RF-D-A-0102).

4 PROPOSED MITIGATION

A 2.5 m acoustic louvred screen is proposed around the VRF units. The following insertion loss has been assumed for the louvred element.

Table 4-1: Louvre Insertion Loss

Description	Insertion Loss, Octave Band Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
305 mm Depth Louvre	4	5	8	9	12	9	7	6

5 RESULTS

5.1 PLANT NOISE EMISSIONS TO RESIDENTIAL RECEPTORS

Results indicate that the established plant criteria can be achieved at each receptor location during the daytime and night-time periods. Plant is also not expected to be tonal, or intermittent in nature so not penalty for acoustic character has been applied.