

MPF/PR0669/L02

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Dear Lee

CROWN STREET SCHOOL, MANCHESTER – PLANNING CONDITION 96

We write with confirmation of the measured external noise levels due to emergency and non-emergency plant at Crown Street Primary School, Manchester.

INTRODUCTION

Fisher Acoustics Ltd has been commissioned by Renaker Limited to measure the external noise levels due to operation of external plant installed at Crown Street Primary School and to compare the noise levels to the requirements of Conditions 96 of the planning approval for the development.

PLANNING CONDITIONS

In relation to building services plant, the planning approval for Crown Street Primary School (planning application number 126668/FO/2020) states:

Condition 96:

- '96) Prior to first occupation of Phase C, the educational facility building, together with any externally mounted ancillary equipment, shall be acoustically insulated in accordance with a scheme submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the equipment. Upon completion of Phase C of the development a verification report to validate that the work undertaken throughout Phase A of the development conforms to the recommendations and requirements in the approved acoustic consultant's report shall be submitted to and approved in writing by the City Council as local planning authority. The verification report shall include post completion testing to confirm that acceptable criteria has been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria and timescales for the implementation of those measures.

Reason - To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy.'

BUILDING SERVICES PLANT AND LOCATIONS

The following externally-mounted building services plant has been installed at Crown Street School:

- 1 no. Air Source Heat Pump (ASHP) – roof mounted

Figure 1 identifies the location of the roof top plant area at Crown Street School and the surrounding residential buildings (identified as C1, C2, C4 and C5) of the Crown Street development.

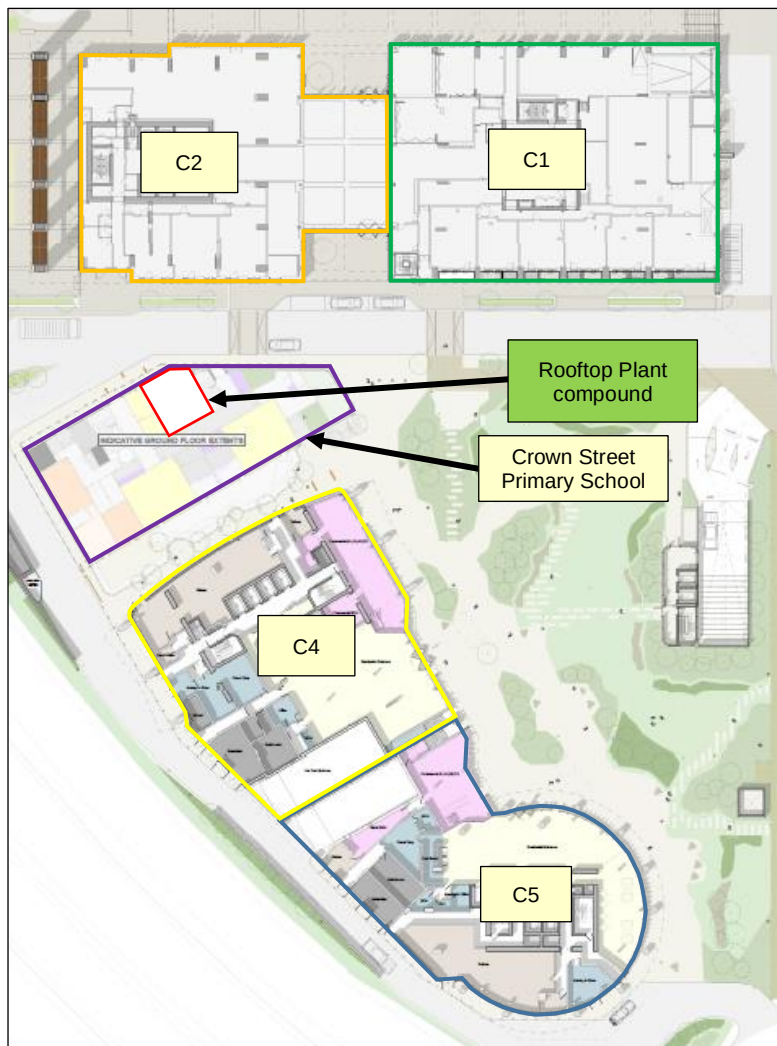


Figure 1: External plant compound and surrounding residential buildings, Crown Street

Figure 2 identifies the location of the ASHP within the rooftop plant compound.

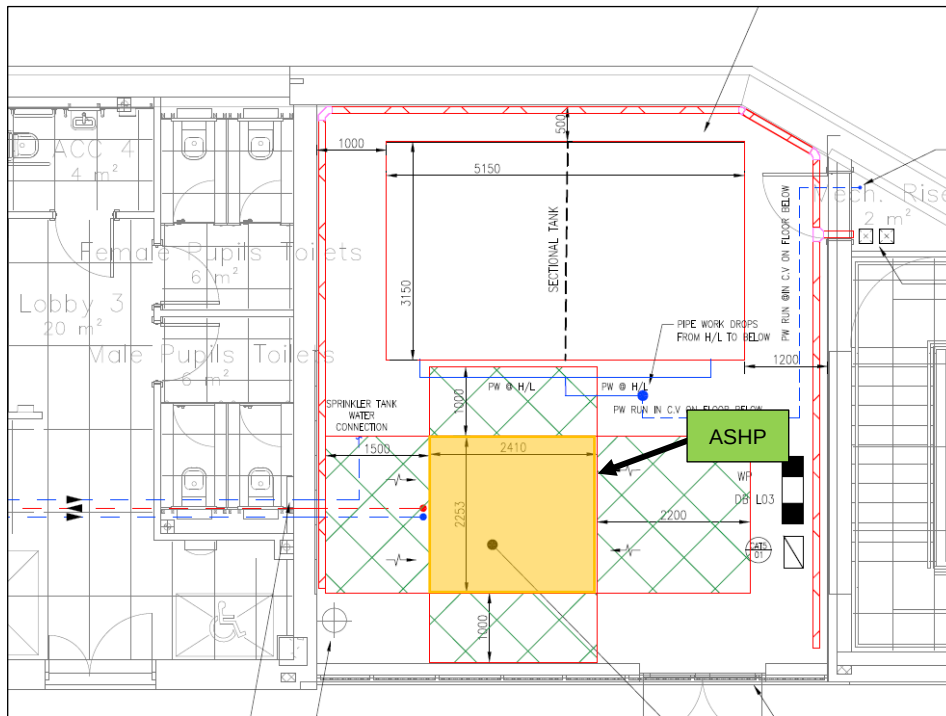


Figure 2: Roof level plant location, Crown Street Primary School

NOISE LIMITS FOR NON-EMERGENCY BUILDING SERVICES PLANT

'Planning & Noise, Technical Guidance', dated October 2022 has been issued by the Environmental Protection, Environmental Health and The Neighbourhoods Service sections of Manchester City Council. The document provides guidance to applicants and consultants concerning the assessment and prediction of environmental noise associated with a particular development. Reference is also made in the document to the relevant supporting information and guidance documents that Developers are expected to refer to when submitting a planning application.

With regard to external noise due to fixed building services plant and equipment, Section 3.7.1.5 of 'Planning & Noise, Technical Guidance' states:

- 'Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location'

The environmental noise study submitted as part of the Reserved Matters application for Crown Street Primary School (planning reference 133516/MO/2022) detailed the results of an environmental noise survey and 3D acoustic modelling studies to determine the prevailing noise levels at the closest residential receptors to the school. From the noise study, the prevailing background noise levels at the nearest residential receptors have been determined.

The residential apartments within Buildings C2 and C4 are the nearest noise sensitive receptors to the installed plant.

The background noise level at the façades of Buildings C2 and C4 that face the school decreases as distance from the A57(M) increases. The applicable building services noise limits for Buildings C2 and C4 to comply with the recommendations of Manchester City Council therefore reduces as distance from the A57(M) increases.

Table 1 identifies the plant noise limits at the nearest noise sensitive receptors to comply with the criterion of Manchester City Council relating to building services plant.

Location	Rating Level (dB LAeq)	
	Daytime (07:00 hrs to 23:00 hrs)	Night time (23:00 hrs to 07:00 hrs)
Building C2 South-east Façade (Closest to A57)	63	60
Building C2 South-east Façade (Mid-point)	59	56
Building C2 South-east Façade (Furthest from A57)	57	54
Building C4 North-west Façade (Nearest to A57)	66	63
Building C4 North-west Façade (Mid-point)	63	60
Building C4 North-west Façade (Furthest from A57)	56	53

Table 1: Environmental noise limits for non-emergency building services plant

EXTERNAL NOISE MEASUREMENTS AND ASSESSMENT

Measurements of noise from the ASHP have been carried out to determine the specific noise level from the unit when operating at its design load. Figure 3 identifies the locations of the measurement positions on the roof of the school.

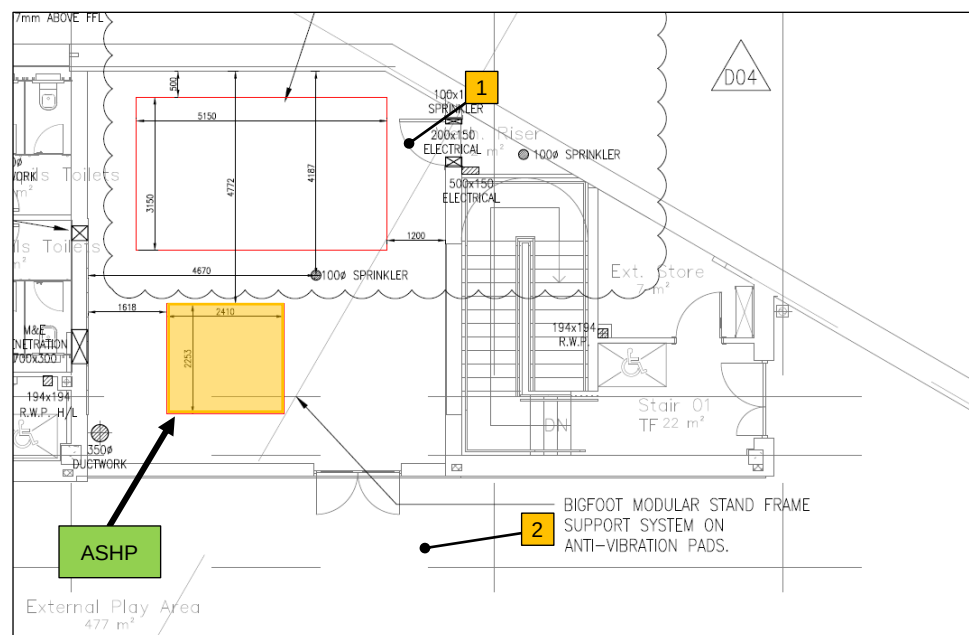


Figure 3: Ground floor measurement locations, Crown Street Primary School

The measurement locations were as follows:

- Location 1: At a plan distance of 4 metres from the ASHP at a microphone height of 7 metres above roof level
- Location 2: At a plan distance of 4 metres from the ASHP at a microphone height of 7 metres above roof level

During the site visit, both the total noise level during operation of the plant and the ambient noise level in the absence of noise from the plant was measured. The specific noise level due to operation of the plant has then been derived.

From the measurement results, the noise level at the closest residential receptors due to the operation of non-emergency plant has been determined.

Table 2 identifies the derived noise levels at the closest residential receptors due to the ASHP.

Location	Free-field Sound Pressure Level (dB LAeq)		
	ASHP rating level	Noise Limit	
		Day Time	Night Time
C2 South-east Façade (Closest to A57)	56	63	60
C2 South-east Façade (Mid-point)	57	59	56
C2 South-east Façade (Furthest from A57)	54	57	54
C4 North-west Façade (Closest to A57)	52	66	63
C4 North-west Façade (Mid-point)	54	63	60
C4 North-west Façade (Furthest from A57)	52	56	53

Table 2: Specific noise levels due to Crown Street Primary School plant operation

It can be seen that the derived non-emergency plant noise levels identified in Table 2 comply with the applicable noise limits, with the exception of the potential plant noise level at the mid-point of the south east façade of C2 at night time. However, the calculated excess over the applicable noise limit is 0.8dB. This excess is within measurement tolerance of precision sound level meters, and so it cannot be stated that there would be a non-compliance with the noise limit.

It is therefore considered that compliance with the requirements of planning condition 96 has been achieved in relation to the assessed building services plant.

If there is any aspect of the above that you would like to discuss then please do not hesitate to contact the undersigned.

Yours sincerely



MATT FISHER BEng(Hons) CEng MIOA
For and on behalf of Fisher Acoustics Limited