

5 ST. STEPHEN'S CLOSE CAVERSHAM

READING, BERKSHIRE, RG4 8BX
PROPORTIONATE NOISE ASSESSMENT
REV.A



GARETHCOTTER
ARCHITECTURE

MAY 2026

CONTENTS

- 01** INTRODUCTION
- 02** EXISTING & PROPOSED ARRANGEMENT
- 03** RELEVANT PLANNING POLICY
- 04** LOCAL ACOUSTIC CONTEXT
- 05** MANUFACTURER'S NOISE DATA
- 06** INDICATIVE NOISE LEVEL AT DISTANCE
- 07** PROPOSED ENCLOSURE & INSTALLATION
- 08** ASSESSMENT AGAINST LOCAL POLICIES
- 09** CONCLUSION

01 INTRODUCTION

This domestic noise assessment has been prepared in response to the Planning Officer's request for further information regarding the proposed relocation of the existing external air conditioning unit at 5 St Stephen's Close.

The statement considers the likely noise impact of the relocated unit and explains why the proposal is considered acceptable having regard to Reading Borough Local Plan Policies CC8: Safeguarding Amenity and EN17: Noise Generating Equipment.

The proposal relates to a single domestic-scale external air conditioning unit. It is not a commercial plant installation or a grouped mechanical equipment arrangement.



Above View of front facade showing the current location of the AC unit

02 EXISTING AND PROPOSED ARRANGEMENT

An external Mitsubishi air conditioning unit is currently present on the front elevation of the property at first-floor level. The proposal is to relocate the unit from this elevated and visually prominent position to a lower-level position beneath the existing kitchen window.

The relocated unit would be positioned approximately 500mm above ground level and enclosed within a purpose-made timber louvred enclosure. The proposed enclosure would measure 950mm wide x 700mm deep x 1100mm high. This would visually screen the unit while retaining the airflow required for the unit to operate correctly.

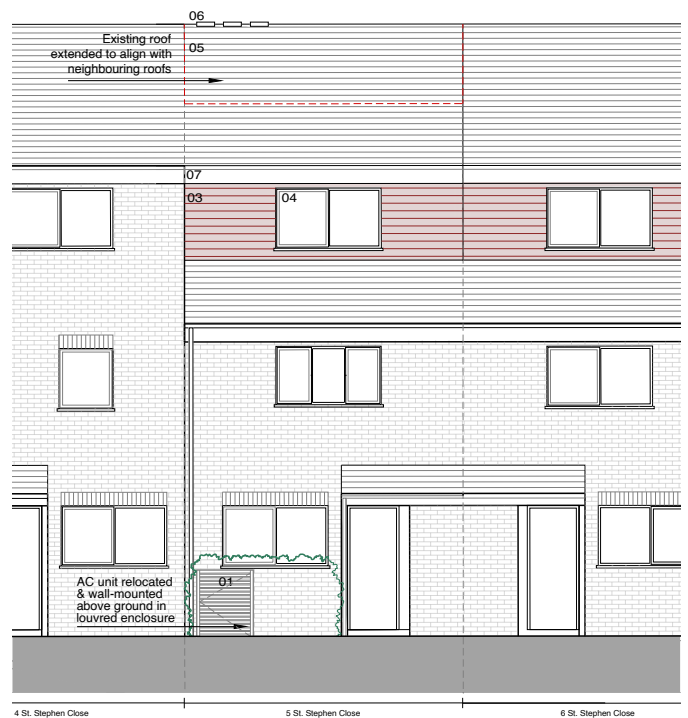
The proposed position is approximately 4 metres from the public pedestrian path to the front of the property and is orientated towards the existing single-storey garages opposite. The nearest neighbouring ground floor window is set back from the proposed unit location, as noted in Section 06.

The proposed arrangement is considered an improvement over the current arrangement, as the unit would be moved from a more exposed first-floor position to a lower, screened location.

Existing Front Elevation



Proposed Front Elevation



03 RELEVANT PLANNING POLICY

Policy CC8: Safeguarding Amenity seeks to ensure that development does not cause unacceptable impacts on the living conditions of neighbouring occupiers, including through noise, disturbance or vibration.

Policy EN17: Noise Generating Equipment requires noise-generating equipment to be controlled so that it does not materially affect nearby noise-sensitive receptors. Reading Borough Council's supporting note to Policy EN17 explains that equipment noise should be at least 10 dB(A) below the existing background noise level at the nearest noise-sensitive receptor.

04 LOCAL ACOUSTIC CONTEXT

The site is within an established residential area of Caversham. Although Christchurch Meadow and the River Thames are nearby, the immediate area should not be treated as an especially quiet rural location. The wider acoustic environment includes local vehicle movements, pedestrian activity, domestic activity, distant traffic and intermittent aircraft overflight.

Publicly available DEFRA noise mapping provides useful context for the wider transport-noise environment. The mapping supports the view that the site sits within an urban/suburban acoustic environment rather than an especially quiet rural location, but it is not relied upon as a formal EN17 background noise measurement.

05 MANUFACTURER’S NOISE DATA

The existing external unit is understood to be a Mitsubishi Electric MUZ-AP25VG outdoor unit.

Operating Mode	Manufacturer’s Stated Sound Level
Cooling	47 dB(A)
Heating	48 dB(A)

The higher figure of 48 dB(A) has therefore been used as the worst-case reference level. The same manufacturer’s data identifies the MUZ-AP25VG as a small domestic unit with dimensions of 800mm wide x 550mm high x 285mm deep and a rated cooling capacity of 2.5kW.

06 INDICATIVE NOISE LEVEL AT DISTANCE

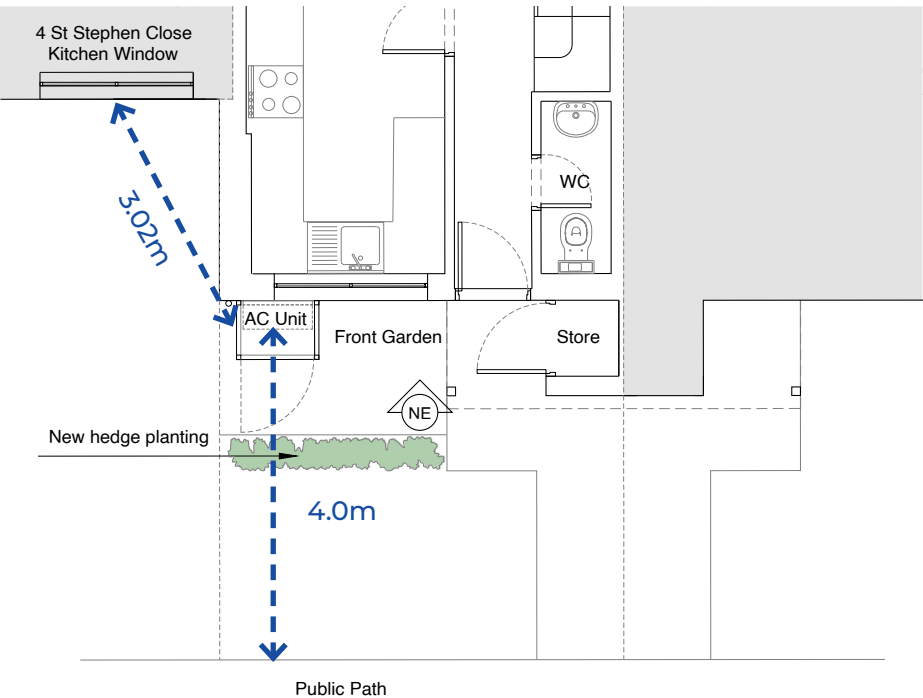
The manufacturer’s worst-case sound level is 48 dB(A), measured at 1 metre from the outdoor unit. The 1 metre distance is the manufacturer’s reference measurement distance and does not represent the actual distance to the nearest neighbouring window.

As a general rule, sound from a small external source reduces by approximately 6 dB each time the distance from the source doubles. This is a standard principle of sound propagation, often referred to as the inverse square law. Using that simple rule:

Distance from Unit	Indicative Sound Level
1 Metre	48 dB(A)
2 Metres	42 dB(A)
3.02 Metres (neighbour’s window)	38.4 dB(A)
4 Metres (public footpath)	36 dB(A)

The nearest neighbouring ground floor window is set back from the proposed AC unit location and is approximately 3.02 metres away, measured to the centre of the window. On this basis, the indicative unmitigated sound level at the neighbouring window would be approximately 38.4 dB(A).

This is below the 42 dB(A) threshold on the simple distance calculation alone, without relying on any further reduction from the proposed louvred enclosure or anti-vibration mounts. Actual received levels will be influenced by the louvred enclosure, local reflections, screening, background noise and the real operating speed of the unit.



07 PROPOSED ENCLOSURE & INSTALLATION

The proposed timber louvred enclosure will provide visual screening and will also help interrupt the direct line of sight between the unit and the public path / wider street scene.

The enclosure, lower-level siting and orientation towards the garage block are expected to improve the acoustic relationship when compared with the current exposed first-floor position.

While the public path is approximately 4 metres away, it is acknowledged that the nearest noise-sensitive receptors are likely to be neighbouring residential windows. The unit would not, however, be positioned as an exposed first-floor item, and the proposed enclosure would help interrupt direct line-of-sight noise. The proposed use of anti-vibration mounts would also reduce the risk of structure-borne vibration transfer through the building fabric.

08 ASSESSMENT AGAINST LOCAL POLICIES

The indicative level at the nearest neighbouring ground floor window, measured approximately 3.02 metres from the proposed unit location, is calculated to be around 38.4 dB(A). This is below the 42 dB(A) threshold. With the proposed lower-level siting, louvred enclosure and careful installation, the perceived noise level is expected to be lower than the current exposed first-floor arrangement.

While an assessment against Policy EN17 can utilise a site-specific LA90,T background noise survey to establish baseline conditions, it is respectfully suggested that such a formal survey would be disproportionate in this specific instance. This application incorporates the relocation of an existing domestic unit from an exposed first-floor position to a lower-impact location, with physical screening and anti-vibration measures. The proposal is expected to provide an improved arrangement when compared with the current exposed first-floor position.

The assessment indicates that the relocated unit would operate at a modest indicative external noise level. The proposal also improves the relationship between the unit, the public path and neighbouring residential receptors by relocating it to a lower, screened position facing towards the existing garage block. In planning terms, the proposal is considered acceptable for the following reasons:

- It relates to a single domestic-scale unit
- The manufacturer's stated sound level is modest
- The unit would be lower and less visually prominent
- The enclosure will screen the unit and help reduce direct line-of-sight noise
- Anti-vibration mounts would reduce the risk of structure-borne vibration

09 CONCLUSION

The proposed relocation of the existing Mitsubishi external air conditioning unit represents an improvement over the current arrangement. It removes the unit from a visually prominent elevated position and places it at lower level within a purpose-made louvred timber enclosure.

Based on the manufacturer's noise data, the approximate distance to the public path, the proposed enclosure, the orientation towards the garage block and the use of anti-vibration measures, the relocated unit is expected to operate at a low external noise level.

The proposal is therefore considered to provide a proportionate and acceptable response to Reading Borough Local Plan Policies CC8 and EN17, and is not expected to result in unacceptable harm to neighbouring residential amenity.

SOURCES

Mitsubishi Electric Service Manual OBH789 - MUZ-AP25VG / MUZ-AP35VG / MUZ-AP42VG / MUZ-AP50VG Outdoor Units

https://www.mitsubishitech.co.uk/Data/M-Series/MSZ/2019/MUZ-AP-VG/MUZ-AP25-50VG_SM_OBH789.pdf

Reading Borough Council - Local Plan Examination Note on Noise Level in Policy EN17

https://images.reading.gov.uk/2019/12/EC024_Note_on_EN17_Noise_Requirements.pdf

DEFRA / GOV.UK - 2022 Strategic Noise Maps

<https://www.gov.uk/government/publications/strategic-noise-mapping-2022/explaining-the-2022-noise-maps>



GARETHCOTTER
ARCHITECTURE

WWW.GARETHCOTTER.COM
GARETH@GARETHCOTTER.COM