

APPLICATION FOR LISTED BUILDING CONSENT

The Malthouse, The Green, Biddestone, Chippenham, Wiltshire SN14 7DG

STATEMENT OF TECHNICAL NECESSITY

1. INTRODUCTION & SCOPE OF NECESSITY

This separate statement details the physical, thermal, and structural necessity for replacing the modern single-glazed landing window (W1), bedroom window (W2), kitchen window (W3), and the snug door set (D4).

The existing single-glazed units have reached the end of their functional lifespan. Redecorating and localized repairs have failed to halt their physical decline. Full replacement is necessary to prevent ongoing water damage to the surrounding historic wall fabric, eliminate severe drafts, and resolve a destructive condensation cycle.

2. THERMAL INEFFICIENCY & HEAT LOSS

The existing sashes are thin timber frames fitted with single glazing, providing virtually no thermal insulation. Because of this lack of a thermal barrier:

- The landing, bedroom, kitchen, and snug suffer from severe draughts and rapid heat loss during the autumn and winter months, making these spaces cold and difficult to heat.
 - To maintain habitable temperatures, the building requires excessive heating energy, running counter to modern energy conservation and carbon-reduction objectives.
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3. SEVERE CONDENSATION CYCLE & WALL DECAY

The primary physical driver for this application is a persistent condensation cycle that is actively destroying the surrounding wall fabric:

- During cold weather, the extreme temperature difference between the heated indoor rooms and the uninsulated, cold single glass causes heavy condensation to form on the inner surfaces of the panes.

- This condensation runs down the glass and pools continuously at the bottom of the timber frames, cills, and sashes.
 - This standing water has caused **extensive timber rot, soft-rot, and warping** of the modern 1980s frames, causing the joints to fail.
 - Furthermore, water run-off regularly spills over the timber sills onto the surrounding historic internal walls. This has caused **extensive paint blistering, paint peeling, and damp staining** on the surrounding internal reveals.
 - Most seriously, the moisture is penetrating the surrounding historic lime plasterwork and adjacent masonry, threatening localized plaster deterioration and damp ingress into the main rubble-stone walls if left unaddressed. Regular repainting is an ineffective, short-term cosmetic fix because the cold-bridge on the glass is never resolved.
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4. EVALUATION OF ALTERNATIVE OPTIONS

In accordance with Historic England's advice, alternative conservation treatments were fully evaluated before deciding on replacement:

1. **Repair and Draught-Proofing:** Draught-stripping and timber splicing were considered. However, splicing would only repair the rotten wood temporarily; it would not address the cold glass surface. The destructive condensation cycle would continue to pool water and rot the timber and adjacent plaster. Additionally, to fit double glazing into the existing 1980s frames, the glazing rebates would have to be deeply cut. An assessment by Peter Love, Director of Oakwrights Bath Ltd, confirmed that **there is insufficient rebate depth and width in the existing 1980s frames** to safely accommodate insulated glass units. Attempting to rebate them would compromise the structural integrity of the frames, leading to premature failure.
2. **Internal Secondary Glazing:** Secondary glazing was explored but rejected as unviable. The addition of secondary internal frames would block access to the primary windows, making opening, cleaning, and maintenance highly restrictive. Crucially, secondary frames would protrude significantly into the historic room spaces. On the landing and within the snug, this protrusion would disrupt the clean lines, spatial proportions, and internal aesthetic character of these historic spaces.

5. PROPOSED SPECIFICATION & TECHNICAL ADVANTAGES

The only sustainable, long-term solution is to replace these modern, deteriorating units with bespoke, double-glazed timber units.

The new windows and door set will be built to the following technical specifications:

- **Premium FSC Sapele Hardwood:** Naturally durable and stable timber, treated with a factory-applied three-coat microporous paint finish in brilliant white to protect against moisture.
- **High-Performance Double Glazing: 24 mm Pilkington K S low-emissivity double-glazed units** with argon-filled cavities and brilliant white warm-edge spacer bars, using the Hodgson B6 glazing system.
- **Provisionally Quoted U-Value: 1.4 W/m²K** (a major thermal upgrade from the single glazing).

Technical Benefits:

- **Eradication of Condensation:** The high-efficiency double glazing raises the internal glass surface temperature, completely eliminating the cold bridge. This prevents moisture from condensing, permanently halting the water pooling that rots the frames and dampens the plaster.
- **Protection of Historic Fabric:** By permanently arresting the water run-off, the new units protect the surrounding original rubble-stone masonry, historic stone cills, and interior lime plaster from water ingress and damp decay.
- **Improved Energy Efficiency:** Achieving a U-value of 1.4 W/m²K dramatically reduces heat loss and draughts, improving residential liveability and energy efficiency in full accordance with NPPF Policy CC2(2) and Policy HE6(4).