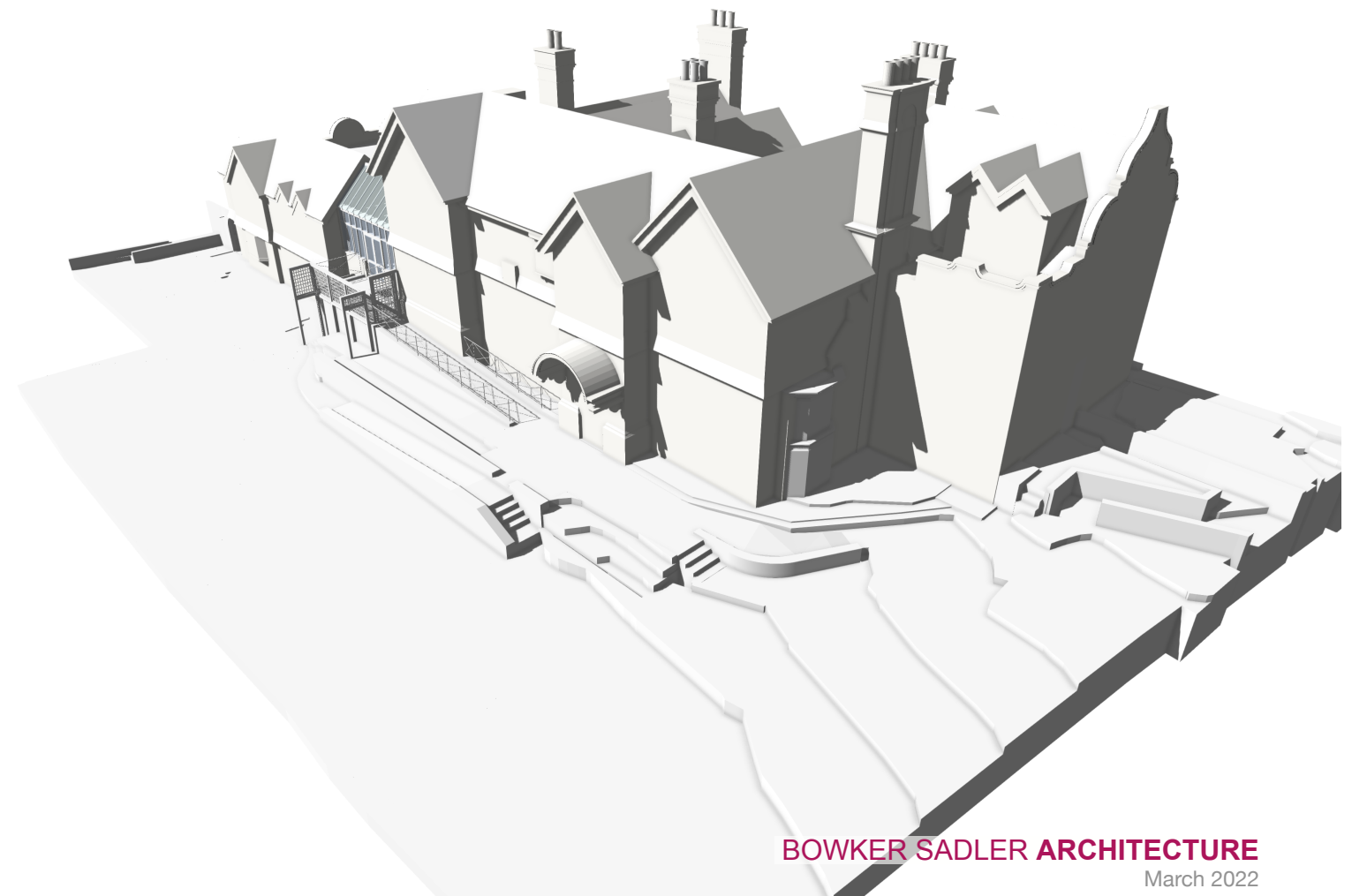


The Hoo, Hampstead

Design and Access Statement: Dormer Extension
REVISION A



1.0 Introduction

The Hoo was built in the 1890s as a single private dwelling for Charles Wood, and designed by Horace Field. In the 1980s, an extension was added to the West end by the then owners, the NHS.

Planning Permission was granted to our Clients in April 2021 for a substantial change to the Hoo to divide the buildings into three separate dwellings.

The subject is application includes alterations to 1980's western extension, specifically its northern pitched roof.

2.0 Proposal

In our previously approved scheme the design of the link included a series of measures to control the heat build up through the south facing glass facade including: tinted glazing, retractable awnings and mechanical extraction in the Link areas only.

An air handling unit (AHU) was placed inside the northern pitch with access from the Link terrace. The unit drew fresh air which was distributed to a series of ceiling and wall mounted comfort cooling units.

However, during the technical design phase peak cooling loads were calculated to prevent the Link from overheating and it became clear that a significant issue remained.

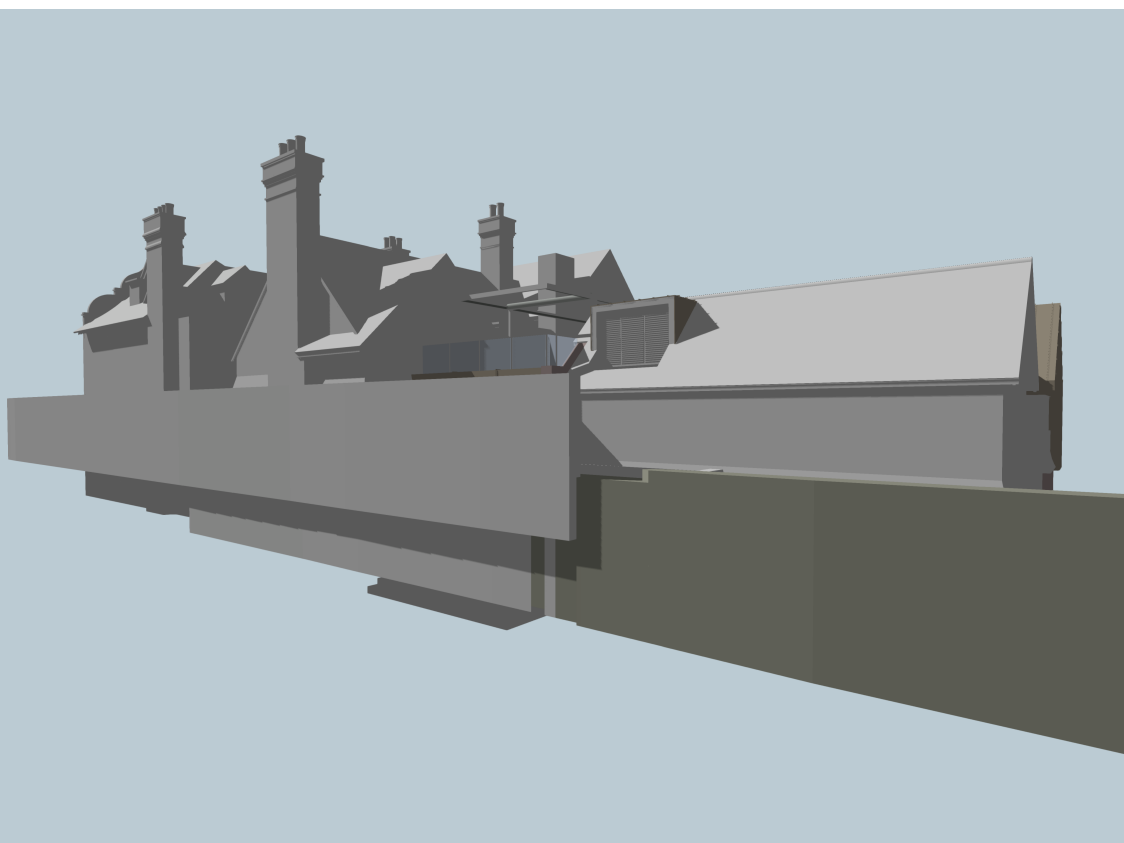
A more sophisticated mechanical design is proposed. Space is found in the roof to house and Air Conditioning Unit (ACU) and a Mechanical Ventilation with Heat Recovery unit (MVHR).

The ACU is connected to a series of fan cool units that introduce low velocity cold air at ceiling level. The MVHR provides fresh air at room temperature, warmed by the heat exchanger, and draws stale air away from the Link.

Both the ACU and the MVHR require a plenum box design, to be efficient in drawing and distributing fresh air, and removing exhaust air. The size and shape of the boxes are critical to the design to ensure that air flows are sufficient for the units to work effectively and that the air circulation is well distributed.

In essence the dormer structures operate as the plenum boxes for both the ACU and the MVHR in this design.





3.0 **Amount**

The front face of the northern dormer measures 2690mm wide x 1780mm high. 1300mm of the dormer projects above the roof plane, the remaining 480mm is recessed into a socket built into the roof angle.

The south facing dormer is more simply formed above the plane of the roof. It measures 2690mm wide and 1300mm high on its front face.

4.0 **Layout**

The box dormers are simply formed above the roof plane. The ACU requires greater airflow and therefore faces north. The enclosure of the MVHR faces south towards the flat roof portion of the Annexe.

5.0 **Appearance**

Both dormer structures are formed in lightweight softwood framing sheathed in ply and clad in bronzed metal cladding with standing seams, to match precisely the cladding panels that can be found on the south elevation of the Annexe. The fascia forming the goal post edge to the dormers are formed in powder coated aluminium, colour to closely match.

Both dormers are fitted with powder coated louvered panels that allow air into the roof space. The louvres have a 300mm deep construction allowing high acoustic attenuation.

The plant within the dormer structures serve the glazed Link only.

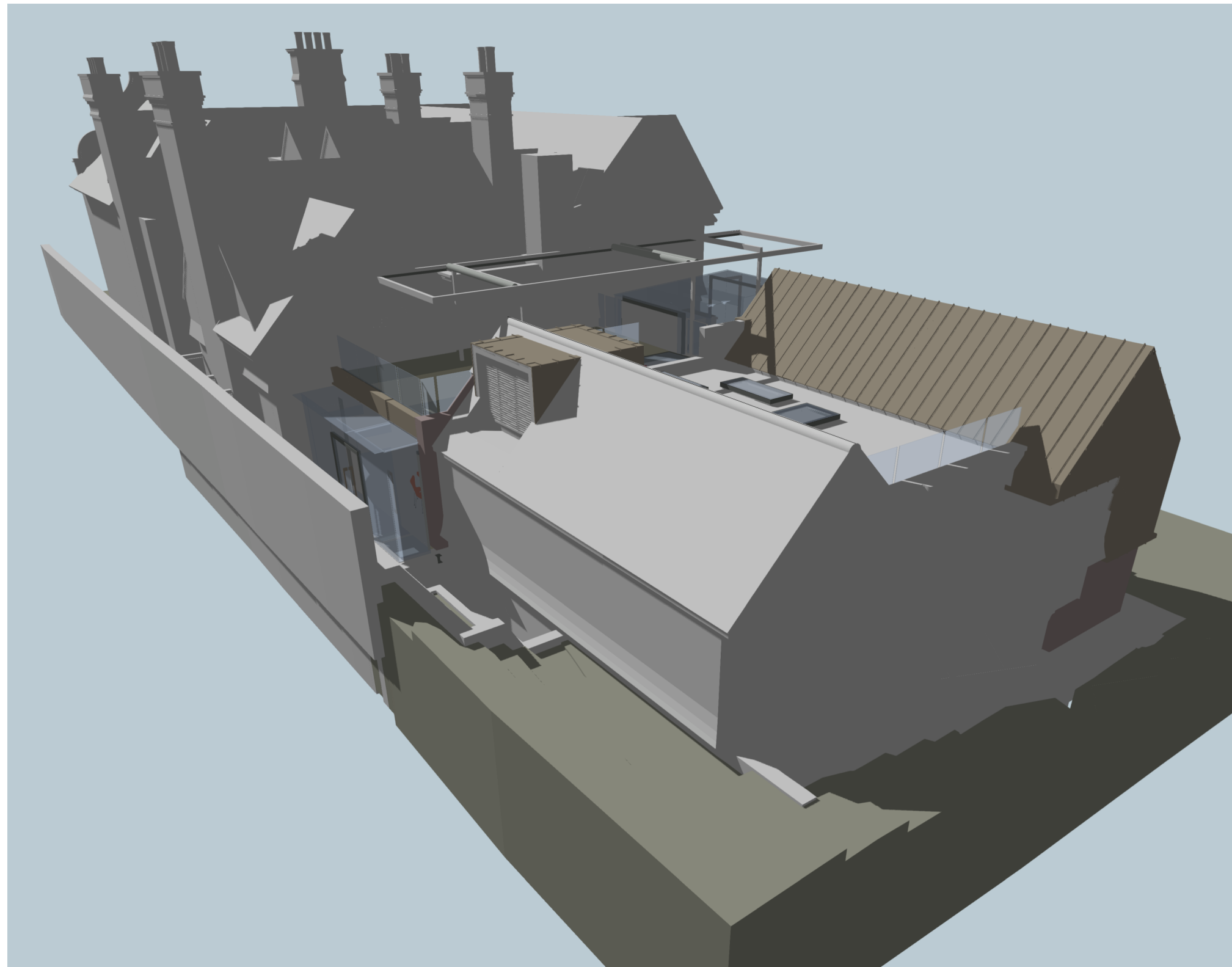


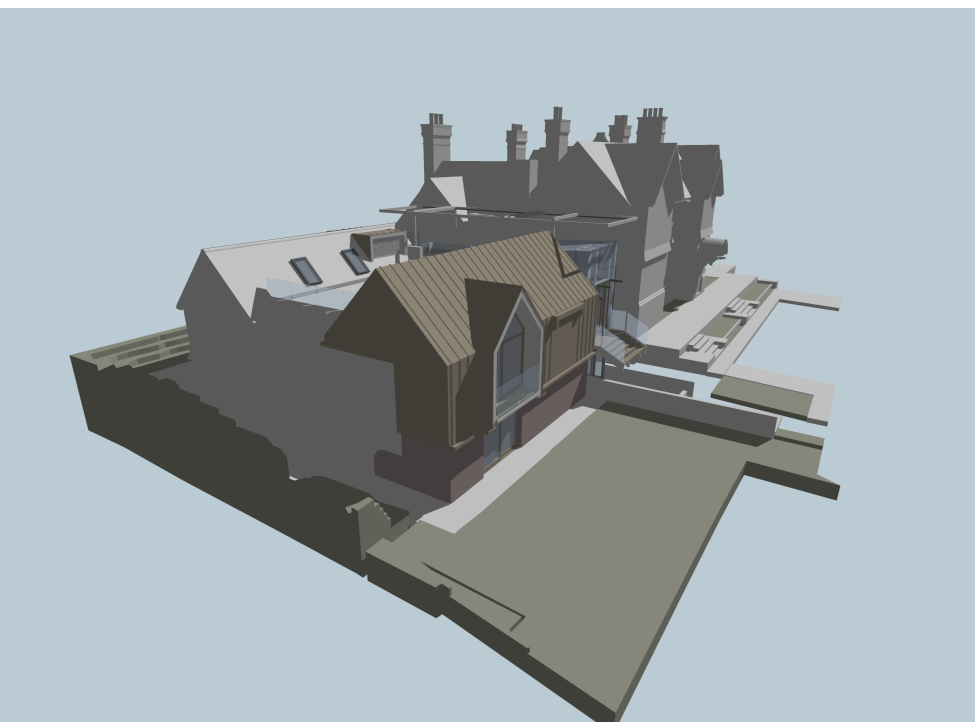
6.0 Summary and Conclusion

It has been established through the evolution of the technical design of the proposals that the mechanical provisions in the approved scheme are insufficient to achieve the level of comfort required by the client.

A more sophisticated scheme providing more efficient heating and better cooling is proposed, but requires more ventilation compared to the previously approved scheme.

The proposed dormer structures are located above the 1980' Annexe roof. They are well separated from the historic original building by the glass Link and well concealed by the dense planting along the boundary wall.





views showing the smaller south facing box dormer and some examples of modern attenuated louvered screens